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THE LIVED EXPERIENCES OF GRADE HEAD TEACHERS AS EMPOWERED EDUCATIONAL LEADERS: AN INQUIRY

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ABSTRACT

This qualitative-phenomenological study aimed to explore and understand the lived experiences of grade head teachers as educational leaders. This also elaborates on how these experiences empower them, as well as how do they cope with the challenges they encounter in the delivery of their duties as educational leaders. There were fourteen (14) participants who took part in this study selected through purposive sampling technique. Of these 14 participants, seven (7) grade head teachers underwent in-depth interview and the remaining seven (7) were grade head teachers underwent focused group discussion. The data gathered were analyzed through thematic analysis. The study was conducted in three (3) selected public secondary schools in Sto. Tomas East district, Division of Davao del Norte. Results revealed six (6) major themes on their experiences: creating best practices as an educational leader, difficulty with the additional workload, managing different roles, maintaining a supportive and conducive environment, providing technical support, and collaborating with stakeholders. To respond to the challenges encountered, participants revealed five (5) coping mechanisms: delegating tasks to colleagues, maintaining collaboration within the team, strategizing on achieving the goals, keeping an open and honest communication and engaging on professional development. Lastly, they have cited five (5) insights that can contribute to better implementation of distance learning modality. These includes: opportunity for personal growth, necessity to adjust to situations and people, provide relevant support to the school, help implement quality and effective education and prioritize self-care. These insights, extracted from participants' reflections on their experiences and challenges, provide a holistic perspective on the multifaceted roles of grade head teachers and their key takeaways.

KEYWORDS: *Educational leaders, grade head teachers, quality of education, qualitative-phenomenological study, thematic analysis, Sto.Tomas East District, Division of Davao del Norte*

INTRODUCTION

Grade head teachers collaborate with colleagues at their department level to set educational goals and seek ways to achieve them. To successfully carry out these roles, grade head teachers need to receive the necessary training to become effective educational leaders (UNESCO, 2019). However, not everyone received these learning avenues to enhance themselves. While some grade head teachers improve through years of experience, others remain to lack in knowledge and skills to juggle their different priorities and become effective role as effective educational leaders in the school (Miao, 2018).

In Malaysian schools, grade head teachers are empowered to identify problems and provide interventions on their own level, though some of them failed to appropriately contextualize the situations (Sampat, 2020). Due to unfamiliarity of pandemic-related school lockdowns, some grade head teachers were unable to boost students' academic performance. Likewise, in China, there was a need to promote teacher leadership to mobilize school improvement and effectiveness (Supovitz, 2018), especially on resolving conflict and addressing problems in school (Miao, 2018). Likewise, in Thailand, some grade head teachers were reported ineffective in addressing situational challenges and contributing to learning-centered leadership (Kulophas & Hallinger, 2021).

In the Philippines, a study conducted in Nueva Ecija revealed that grade head teachers needed to develop adequate supervisory and leadership skills, not just interpersonal skills, to better solve problems in their grade level (Villanueva et al., 2021). Likewise, in Schools Division of Antique, grade head teachers were urged to maintain their managerial skills while focusing on the key result areas outlined in the performance standards, especially given that some find it difficult to balance their managerial responsibilities and their instructional responsibilities (Songcayawon et al., 2022).

A study was conducted in Sto. Tomas Municipality revealed that among the factors of crisis leadership, grade heads scored lowest in situation factor. Relevant training on solving school issues is necessary as most of the grade head teachers lack knowledge and experience. Grade head teachers are that their solution is not always the best especially on situations that are new or unfamiliar to them (Eñano, 2022).

The topic of the experiences of grade head teachers is not a common topic among researchers as most study centers on school heads. But it cannot be ignored that grade head teacher contributes to managing teachers and learners in their own grade level, and to school achievement. By investigating on this topic, grade head teachers can receive proper attention and training for them to enhance their leadership skills and

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contribute better to the success of the school. Findings of this study may help craft necessary institutionalized program that will empower the grade head teachers, and further uplift educational quality.

PURPOSE OF THE STUDY

The purpose of this phenomenological study is to explore and understand the lived experiences of grade head teachers as empowered educational leaders. This also elaborates on how these experiences empower them, as well as how do they cope with the challenges they encountered in the delivery of their duties as educational leaders.

At this stage of research, the experiences of grade head teachers as empowered educational leaders will be generally defined as to include their experiences, coping mechanism, and their insights gained from their experience. Their experiences were described both their functions and challenges encountered as educational leaders. Their coping mechanism explained how they were able to surpass and adjust to their encountered challenges, and their insights reflect their valuable lessons gained from their experiences which were deemed worthy to be shared to others.

RESEARCH QUESTION

The study aims to answer the following research questio

1. What are the lived experiences of grade head teachers as empowered educational leaders in the school?
2. How do grade head teachers cope with the challenges encountered as empowered educational leaders in the school?
3. What are the insights of grade head teachers as empowered educational leaders in the school that can be shared to others?

METHODS

This study employed qualitative research particularly using the phenomenological approach which sought to explore the lived experiences of grade head teachers as empowered educational leaders. Phenomenological study was used to describe and understand the lived experiences of grade head teachers as empowered educational leaders. Besides, phenomenological study could interpret the perception and beliefs of the grade head teachers.

The participants of this study were the 14 selected grade head teachers of Sto.Tomas East district, Sto. Tomas Davao del Norte. According to Creswell and Poth (2019), in order to produce a thorough and comprehensive description of the phenomenon under inquiry, the sample size for a phenomenological study may range from three to 25 people. I purposefully selected fourteen (14) research participants for this study, representing grade head teachers as educational leaders. Seven participants would undergo In-Depth Interview (IDI) and seven participants would have the Focus Group Discussion (FGD). The interview was done face to face in the selected large schools in Sto. Tomas East district. The participants of this study were chosen through a purposive sampling technique. The following criteria was used in selecting the participants: they are designated grade head of their respective schools for at least a year, they are regular teacher, and they are teaching in public secondary school in Sto. Tomas- East District.

Furthermore, thematic analysis is a qualitative data analysis method that involves reviewing a data collection and looking for patterns in meaning throughout the data to extract themes.

REVIEW OF RELATED LITERATURE

Grade Head Teachers as Educational Leaders

Educational leadership enables leaders, such as grade head teachers, to connect with other teachers and their roles in school (Bush, 2020). Grade head teachers, having less authority than school administrators, are in constant contact with teachers in their departments to fulfill their responsibilities as educational leaders. Similarly, they also become a contributing member that encourages collaborative school culture as they encourage teachers in their department to help the school achieve its educational goals (Lin et al., 2018).

Furthermore, as educational leadership, grade head teachers have formal duties and authority that contributes to students' learning and the school's organizational structure (Miao, 2018). To illustrate, grade head teachers' responsibilities encompass both leadership (such as goal-setting or teacher evaluation) and management duties, such as resource management, designation of task within the department (UNESCO, 2018).

In the same way, grade head teachers contribute in establishing an organizational culture necessary to provide quality teaching (World Bank, 2018). They can help provide educational tools and activities that every student needs. This allows provide them opportunity to think out of the box and be flexible within their actions in solving the problems. As such, grade head teachers as educational leadership is important in promoting school equality and equity (Spillane et al., 2019).

Moreover, as grade head teachers become actively involved in school as educational leaders, they also become motivated to make a difference. Their role is important in impacting the students and teachers in their department (Burns, 2019). Thus, they need to be wise on making decision and in deciding what is best depending on existing conditions (Chen et al., 2020). Likewise, they also need to carefully weigh their actions and their potential outcome as there are a lot of people that will be affected (Bagwell, 2020).

Furthermore, grade head teachers, as problem solvers, are expected to develop the right mindset, knowledge and skills to address the many challenges in their role as educational leaders. Also, they need to have wider perspectives so that they can come up with a sound judgement based on the situation that they need to handle (Netolicky, 2020).

Accordingly, Republic Act 9155, known as the Governance of Basic Education Act of 2001, serves as a legal basis for the designation of grade head teachers. This provides school heads the discretion to create school-based management allowing them to designate teachers and staff to contribute to the leading goals. This aims to enhance administrative efficiency in delivering educational services (Official Gazette, 2001).

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Furthermore, the decentralization put grade head teachers an increasingly important role in serving as educational leaders in the school. Grade head teachers contribute to managing colleagues and improving the quality of learning of the students by facilitating programs, and services that fit the needs of the department or grade level. This culture of shared governance allows grade head teachers the opportunity to participate in decision-making at their department level (Calvo, 2021).

Challenges Encountered by Grade Head Teachers

Grade head teachers must feel at ease with their position. If they are not satisfied with their designation as educational leader in school their willingness to perform for the school is affected (Ihnatiuk et al., 2023). Grade head teachers who are happy with their jobs are also committed to their work. They are enthusiastically doing their function to professionally grow and advance their careers (Zulkifli et al., 2022).

In connection, grade head teachers also need to motivate their colleagues to participate in achieving educational objectives. They should know how to navigate across diverse and differing personalities and guide their colleagues to contribute in improving plans and executing them to achieve the deliverable (Alviz, 2019). Giving support and showing concern to struggling colleagues will help boost their moral and satisfaction to stay committed to the aims of the organization (Gonzales-Morales et al., 2018).

Another struggle that grade head teachers may encounter is conflict within their department. As grade head teachers they must make their members united and supportive with each other (Petriglieri, 2020). Grade head teachers must be able to create a team for them to set goals and collectively achieve them (Bagwell, 2020). If group are more inclusive and coherent, they can actively positive outcomes as they are more organized and they help one another to achieve organizational success (Rigby et al., 2020).

Grade head teachers could better comprehend not only the issues and objectives of the organization but also spot members' requirements for personal growth and gaps in their knowledge and abilities. They could fill the gaps by mentoring to improve the performance of their colleagues (Fernandez & Shaw, 2020).

Grade head teacher contribute in building organizational resilience and self-efficacy through teamwork, where their colleagues to feel competent and contented with their work. By Interacting with colleagues, grade head teachers could inquire about their contributions, ideas, and innovations (Crawford, 2018). Fostering a coherent and inclusive culture will allow the organization to better address the problems that they will encounter (Heath & O'Hair, 2020).

Grade Head Teachers Empowerment

Empowerment includes professional development, autonomy, and decision-making (Snodgrass, 2020). Grade head teachers must be free to switch between different roles, skills, and leadership modalities in order to serve the needs of the school (Harris, 2020). Through this, they can adapt based on the context to choose the strategy that will be most effective (Southern Cross University, 2019).

Consequently, the capacity to make independent decisions about issues is one of the aspects of empowerment (Jiang et al., 2019). They could contribute to school issues, which helped them feel more effective in their profession (Ahrari et al., 2020). They could work with others and use resources to make sure everything is in line with the strategy (Sampat, 2020). This also entailed having knowledge of the operating procedures that work best for the group's and the school's continual improvement (Southern Cross University, 2019).

Supportive learning environment allows effective guidance and training for grade head teachers (UNESCO, 2019). As schools become also empowered through efficient school-based management, greater autonomy for grade head teachers allows them to contribute to the decision-making (Garcia-Moreno et al., 2019). For instance, Chinese Ministry of Education mandates training of high-quality teachers who were innovative and with deep educational feeling to develop lifelong learning education leaders (Chinese Ministry of Education, 2018).

However, there are some barriers to empowering grade head teachers which may include, such as structural barriers, personal barriers, and relational barriers (Almanthari et al., 2020). It is important that grade head teachers know their role and are given support in terms of adequate knowledge and skills for them to navigate on their duties as educational leaders (Wang & Zhao, 2020)

ESULTS AND DISCUSSIONS

Table 1
Major Themes and Core Ideas on the Experiences of Grade Head Teachers as Educational Leade

Major Themes	Core Ideas
Creating Best Practices as an Educational Leader	• providing innovative teaching strategies • having the opportunity to impact student success and professional development • making a meaningful difference in the education and development of students and educators • developing inclusive classroom and giving support to cater the needs of the students and teachers • dedicating oneself to offering support • committing to foster a positive and inclusive learning environment • collaborating with fellow teachers to share best practices and building teamwork

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	• developing one's personal skills through active listening and communication • prioritizing open communication and collaboration among teachers, staff, students, and parents
Difficulty with Additional Workload	• taking time away from direct instruction and classroom contact due to administrative duties • having a heavy workload that constraints time to function in nurturing the learners as a classroom teacher • being stressed with more responsibilities than as regular teachers • having activities competing with time for classroom preparations • challenging to balance many priorities • having difficulty in balancing administrative tasks other than teaching
Managing Different Roles	• managing not only one's class but also other sections • performing different tasks within the grade level • helping the principal to carry out certain tasks and facilitating certain activities • creating meaningful impact in school
Maintaining a Supportive and Conducive Environment	• keeping a clean environment and harmonious relationship with one another • giving support to teachers especially those who are struggling with academic functions • fostering a positive and inclusive environment that prioritizes growth and development. • promoting diversity and inclusion within the school • making an environment supporting the students' needs
Providing Technical Support	• supporting teachers who are struggling with academic functions • sharing knowledge for colleagues to be updated on the use of technology • mentoring and motivating teachers and students to realize their potential • guiding the teachers to assist students with academic difficulties
Collaborating with Stakeholders	• encouraging teachers to participate actively in achieving the goal of the school • needing to hear the voice of your colleagues on matters relevant to school concerns • communicating and collaborating with fellow teachers to participate in group discussions to solicit feedback • communicating with parents, teachers, and students through homeroom meetings and parent assembly • collaborating with stakeholders on decision-making • engaging with parents and the community

Creating Best Practices as an Educational Leader

It provides me with innovative teaching strategies, fostering a more effective and engaging learning environment IDI-07
Being designated as a grade head teacher offers advantages, including leadership experience, the opportunity to impact student success. FGD-01
In order to support teachers in developing inclusive classrooms that cater to the many needs of our students. IDI-04

Grade head teachers shape innovative teaching methods and fostering a culture of continuous improvement. They are also socially responsible in providing guidance and support, particularly to students facing challenges. Through these efforts, grade head teachers contribute to the development and implementation of best practices that enrich the educational experience for both educators and students.

In connection, Anderson (2019) in his study supported this statement that being grade head teachers is a dynamic and influential duty. They have the opportunity to shape the educational landscape by promoting innovation in teaching, leading professional development and fostering inclusivity within the school community.

In addition, collaboration and effective communication are identified as critical components of successful educational

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leadership. Cooper (2023) stressed the importance of collaborative efforts among teachers, the sharing of best practices, and the cultivation of a strong sense of teamwork and unity.

Difficulty with Additional Workload

It can be difficult to balance administrative tasks with teaching, and this could result in a greater workload. IDI-04
If I rate the seatbacks, top of it is the heavy workload.IDI-06
Conflict of your workloads.FGD-03

Grade head teachers confirmed that the designation of being a grade head were challenging on their part, especially that they were still performing duties as classroom teachers. Being assigned as a department leader, they take on responsibilities to not only manage their respective classes but also the academic situations within their grade level.

Moreover, Lambert (2023) supported this finding in his study stressing that lack of time and increasing workloads among middle leaders, such as grade head teachers were key source of stress. This challenges when continuous to dissatisfied middle leaders who were soon to assume higher leadership position will disappoint them, and will lead them not accepting the administrative responsibilities

Likewise, Lipscombe et al., (2023) added that middle leaders, such as grade head teachers, may often felt uncomfortable as they are set to mediate between teachers and their school administrator. Their main duty is to influence their colleagues while also impose change that were sometimes directed by the higher authority. It is on their responsibility on how to translate the task and motivate their colleagues to work and participate on the achievement of these educational goals.

Managing Different Roles

LAC Sessions were conducted to discuss instructional matters in order to cater students and teachers concerns. IDI-01
I would create a conducive learning environment and promote overall growth and development of students. FGD-02
I can lead in the development and implementation of innovative teaching strategies. IDI-07
Grade head teachers had been subjected to many and different roles which were often in conflict to their other duties. They are often tasked with fulfilling responsibilities that encompassed both instructional and administrative. These lead them to loss focus on what to prioritize and be confused on how to hit the educational targets.

Accordingly, Sampat (2020) also shared the same idea saying that as educational leaders, grade head teachers were expected to plan. The planning does not only cover their classes handled but to plan for the productivity of their entire grade level being managed. The task does not end in just planning but there are also challenges on how to execute this plan for the student's achievement and the enhancement of their colleagues in the department. Thus, it is a challenge for them to acquire the necessary skills and knowledge on these different roles that they will take up so that they can translate ideas into actions, and actions into relevant and sustainable outcomes.

Furthermore, Wang and Zhao (2020) emphasized that as grade a head teacher, one must know their role to effectively involve in the operations and development of the school. However, since not all grade heads had been trained prior to their designation, most of them learn through experience on how to manage these different roles as educational leader. Their duties had been recognized to affect operational efficiency, student's achievement and engagement of teachers under their department.

Maintaining a Supportive and Conducive Environment

Fostering a positive and inclusive learning environment that prioritizes the growth and development of both students and staff. IDI-04
Create a conducive learning environment and promote overall growth and development of students. FGD-02
Keep our environment clean, having a harmonious relationship to one another IDI-02

One of the duties of a grade head teacher is to maintain a supportive and conducive learning environment. A supportive environment is where teachers are encouraged to contribute meaningfully in achieving the collective educational goals. While conducive environment pertains to keeping a learning environment that is motivating and supportive of students' achievement and success. Thus, grade head teachers are expected to assess and study the situations concerning their managed grade level, and if they can address the issue on their level.

Woods and Robert (2019) also explained that grade head teacher contribute in maintaining order within their grade level and in the entire school. They can develop a workplace that upholds ethical issues and connects school's vision and values by monitoring the actions and practices of their teachers and students. By doing this, they can ensure that the learning environment nurture positive impact not just for the students, but also for the teachers under their team.

Murphy and Louis (2018) additionally stated that grade head teachers establish a favorable learning environment by finding ways on how to improve the situations in school, especially those that requires immediate intervention since they are the one that were exposed that the school administrators. Their role includes monitoring and evaluating the performance of their department, which is a good basis for improving the conditions and identifying key educational objectives.

Likewise, Heath and O'Hair (2020) furthermore mentioned that grade head teachers as educational leaders contribute in fostering a coherent and inclusive culture which translate into a better working condition for their teachers and a supportive learning space for their students. They are key to encouraging and communicating with students and teachers in their department to take their part in achieving the educational goals.

Providing Technical Support

We are also expected to give support to teachers. FGD-03
I set an example by incorporating technology into their teaching.FGD-07

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Encourage a culture of continuous learning and reflection and helping one another to stay updated with the latest trends in education. IDI-07

Grade head teachers are also expected to provide technical support to their colleagues, especially those are struggling to deliver their academic functions. They conduct school-based seminars, activities and meetings that enhance and give support to their teachers so they improve in the delivery of their duties and impact greatly the academic achievement of their learners. Since grade head teachers were deemed knowledgeable, they were looked up for innovations and strategies that improves the conditions of the school and provide viable alternative when their will be issues encountered.

In connection, Murray et al., (2021) expressed that similar to school heads, they provide teachers under their grade level necessary support for them to improve their teaching practices. This ensures that teachers contribute effectively to the academic quality and success of the school. Grade head teacher plan and organize professional developmental plan for their teachers, especially that they know what are the needs of the teachers in their respective department.

Moreover, McDonald (2020) also emphasized that grade head teachers should focus on initiatives that improves the teaching capacity of their colleagues and the learning outcomes of their students in their department. This can be done by disseminating learning resources and enlisting the aid of grade head teachers during teacher observation and evaluations.

Several new innovations in education may have resulted in broad adoption of online learning by the year 2020. The absence of Internet availability in some places, mainly rural areas, and the fact that various family members have changing expectations for how to use technology at home are just two examples of the persistent challenges this sector faces. Yet, creative approaches have emerged to provide students and families with the tools they need to engage in and successfully complete academic work (Darling et al., 2020).

In general, embracing change enhances the likelihood that it will be implemented effectively. Students must also consider change as a realistic way to accomplish educational goals in today's world and act as change agents if they want to develop professional abilities (Du et al., 2020).

Collaborating with Stakeholders

I always communicate with my fellow teachers to collaborate especially in decision making. FGD-05

I frequently participate in group decision-making processes. IDI-04

This means regularly meeting with stakeholders like Homeroom meetings and General Parent Teachers Association Assembly to address concerns, share ideas, and ensure everyone feels heard and valued IDI-07

De Nobile (2018) findings is related to the result of this study as it emphasizes that since grade head teachers were mostly skilled in instruction and are more aware of teacher and classroom culture, they can better translate educational mandates to be suitable based on the context of the team they managed. They firsthand experience and observe problems and they know what will work and not.

Furthermore, Supovitz (2018) also added that the role of grade head teachers in improving the school includes being able to communicate the goals to their colleagues and learners. Since they were exposed to the people in their grade level, they effectively influence them to contribute to the achievement of these educational goals.

Similarly, grade head teachers quickly respond because of the important information that they have about their grade level. This results to mediate issues which might not necessarily be needed to escalate to the school heads if they can resolve it within their department. This calls for grade head teachers to discuss matters effectively, solicit suggestions and hear feedbacks (Parker, 2019).

Table 2
Major Themes and Core Ideas on the Coping Mechanism of Grade Head Teachers on the Challenges Encountered as Educational Leaders

Major Themes	Core Ideas
Delegating Task to Colleagues	• prioritizing tasks and delegating them when possible • designating tasks to fellow teachers and communicating with them for a good output • sharing duties and looking for assignments with team members • dividing the tasks by assigning work to teachers • designating the tasks to the teachers to lighten the work
Maintaining Collaboration within the Team	• collaborating with colleagues to share insights and best practices • seeking solutions together with colleagues • sharing best practices, resources, and strategies to address the demands at work. • establishing a shared vision and encouraging teamwork • seeking clarification from superiors and collaborating with colleagues to make the tasks more manageable
Strategizing on Achieving the Goals	• assessing the situation to have a focus on one's effort • adopting a proactive approach to manage the situation effectively • creating a list of responsibilities and priorities • prioritizing what is the most important task to be done to avoid stress
	• establishing a regular check-in process with the principal

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Keeping an Open and Honest Communication	• encouraging colleagues to express opinions and concerns • establishing open lines of communication, especially during regular meetings • encouraging colleagues to voice their ideas, concerns, and question • establishing openness in communication • placing a high value on open and honest communication
Engaging on Professional Growth	• participating in professional development to advance skills • engaging in education and training to learn • investing time in professional training to acquire necessary knowledge and skills • seeking mentorship, and professional development • attending professional workshop sessions • mentoring and coaching valuable source of support and guidance

Delegating Task to Colleagues

I designate the task to my fellow teachers and communicate them as well so that we can come up a good outcome or output. FGD -04

I look for assignments that may be given to team members at other grades or work with other educators to share duties IDI-04

You must delegate task to your teachers within your grade (level) to make the task easy FGD-07

Grade head teachers employed in resolving the challenges they encountered through delegation. This means that they identified the task, divide it into smaller tasks and assigned members to do it. Through this, grade head teachers encourage involvement with her teachers under her department while also giving them opportunity to discover and enhance their potentials.

In connection, Scroggins (2019) also mentioned that it is important for grade head teachers to know how to set up groups n-charge of planning for the entire grade level and not just own most of the responsibilities. This will enable colleagues to develop different and novel interventions to a problem, while also making sure communication and cooperation within their grade level.

On the other hand, Hoff (2018) added that delegation led to maximizing output and efficiency as there are more task that get done because of the engagement of teammates. Grade head teachers should be able to make members know their responsibilities clearly and delegate the right people for a certain task, along with the proper timeline attached. By this, teachers can focus on a same task and keep a steady line of productivity.

Moreover, Bursch (2020) also shared the same concept saying that it is important for teachers to know exactly what they should be doing and if in case there is confusion or lack of competence, they should be trained or assisted. Delegation allows teachers to come up with solution as they engage on a task and face challenges, instead of fully depending on instruction from their grade head teacher.

Maintaining Collaboration within the Team

I collaborate with colleagues to share insights and best practices, and I stay updated on new educational updates IDI-07

Collaborate with colleagues to find better strategies or provide additional support to teachers. IDI-05

Collaboration and sharing the best practices, resources, and strategies for managing the demands of the role. FGD-01

This theme is in line with the idea of Lysberg and Rusk (2022) explaining that actions and decisions should be made together with their team. Through collaboration, ideas flow easily and there is variety of suggestion on how to resolve a problem. Likewise, this is also related to Di Mario's (2022) concept on the importance of instilling a sense of community among teachers and students. With this, they can drive members of the department toward attainment of a common goal.

Furthermore, enhancing involvement supports innovations, academic standards and positive change as everyone in the grade level realize their part on the attainment of institutions' objectives. Grade head teachers' vision should be translated among each member so that they may understood it and take part in achieving educational success (Ocampo, 2019). Grade head teachers can influence the school culture by reinforcing cooperation and collaboration with colleagues, especially in sharing ideas and best practices (Wang & Zhao, 2020).

On the other hand, Lowery et al., (2018) also emphasized on the relevance of managing a group to have a greater effect on student's achievement. Grade head teachers have the influence to encourage support, unity and collaboration within their team. Moreover, Haslam et al., (2020) also added that despite the challenge of developing the same enthusiasm among each member towards work, grade head teachers should at least develop teachers' willingness to work as a team and participate actively.

Strategizing in Achieving the Goals

I first take a step back to assess the situation whether it is a complex disciplinary issue or struggling pupils. IDI-07

I create a clear list of my responsibilities and prioritize them based on importance and urgency. IDI-04

For me, I am going to prioritize task. FGD-07

Mahdzir et al., (2022) explained that as grade head teacher, they are expected to handle issues in their department. With this they should be consistent in their actions and look for avenues to create an impact. Likewise, they should be able to connect their actions to the personality of the entire group, and if solutions leads to a greater good (Bush, 2020).

Likewise, Lin et al., (2018) also added that since they serve as middle leaders between the teachers under their department and

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the school administrator, grade head teachers should be able to find strategy to influence and encourage teachers in their department to contribute in achieving the educational objectives.

Furthermore, grade head teachers are deemed problem solvers and are expected to have the right mindset to address the challenges in their department. For them to be able to do this, they should use their experiences, skills and knowledge and transform them into effective direction for the group to follow (Hodge, 2019). Likewise, grade head teachers contribute to decision-making as they were given the autonomy to identify approaches based on the context of their team and the department that they are managing (Garcia-Moreno et al., 2019).

Keeping an Open and Honest Communication

I will establish open lines of communication. IDI-07
It is also a good practice to schedule regular team meetings to discuss progress, challenges, and opportunity.FGD-02
If there are problems, they need to also be open to share the issue. FGD-03

Maintaining communication is essential in creating a positive learning environment. Grade head teachers impact others if they are good in communication as it allows their members to trust and build confidence on them. Allowing colleagues to share their thoughts also offer solutions to problems. By taking time to listen to their idea, grade head teachers can glean valuable insights leading a more prudent decision. This also makes members felt validated and part of the group (Parker, 2021).

On the other hand, Pandey (2022) also mentioned that grade Head teachers should be good communicators to be able to inspire and empower their colleagues. By clearly communicating desired goals and responsibilities to their members they ensure better productivity. This also devoid miscommunication and quarrels as thoughts are transform into clear instructions for members to fulfill. Patel (2023), on the other hand, shared that communication skills among grade head teachers can also boost organization's resilience as it unites the group.

Furthermore, Mousena and Raptis (2021) emphasized that effective communication of educational leaders promotes positive school climate. When teachers and students felt heard, the more they become satisfied and willingly participate in the activities and program of the school.

Engaging in Professional Growth

I invest time in professional development. IDI-04
I seek mentorship, professional development, and use available resources. IDI-05
I may attend professional development workshops or training sessions. IDI-07

Ihnatiuk et al., (2023) supported this theme, expressing that grade head teachers can only grow if they engage in professional development programs to develop their potentials. Through this, they gain essential leadership skills and expand their knowledge. Moreover, Sorensen et al., (2022) also added that they can better deal with problems they encounter if they are knowledgeable of leadership strategies. By having adequate competence from experience and education, they continue to improve their capacity as educational leader and perhaps go further in their career.

Consequently, Nsabayezu (2023) also shared that as grade head teachers continue to engage and actively participate in leadership trainings, they create new set of goals and understand better the landscape of their function as educational leader. These activities unlock their full potential as they continue to improve in knowledge and competence.

On the other hand, Grade head teachers should also be equipped with existing and current technologies and approaches in leadership. By knowing these various techniques, they manage people and resources efficiently. Current leadership trends help them manage both human resources, and allocate material resource to achieve productivity while maximizing what is readily available (McDonald, 2020).

Table 3
Major Themes and Core Ideas on the Experiences of Grade Head Teachers as Educational Leaders

Major Themes	Core Ideas
Necessity to Adapt to Situations and People	• develop skills to adjust to people and become flexible in handling situations • acquire the ability to actively listen and be adaptable to changes • be open-minded to other people's suggestions and opinions • remain calm despite the challenging demands • foster strong relationships with teachers, students, and other people • develop a good attitude towards colleagues
Opportunity for Personal Growth	• professional development opportunity that enhances leadership skills • access to additional professional development opportunities • grow professionally with learnings and experiences • develop professionalism and capability to handle a situation • opportunity to be better and create impact in the school
	• guide the educational journey of specific grade level

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Provision of Relevant Support to the School	• help in the proper and religious implementation of programs and projects • provide essential leadership and coordination within assigned grade level • contribute to the school's mission of providing quality education
Aide in Implementing Quality and Effective Education	• help maintain high standard of education • ensure curriculum is effectively delivered • manage alignment of curriculum with standards • advocate best educational practices • assess teaching methods and classroom environment
Prioritizing Self-Care	• taking care of own well-being • keep a healthy work-life balance • maintain general well-being • take a break and relax • cope with stress and unload burdens

Necessity to Adapt to Situations and People

I can develop my social and emotional skills because everyone has a different personality gauge FGD-06

Effective leadership demands empathy and the ability to listen actively. IDI-04

Be open-minded when there's a time that you need to ask for suggestions, opinions from your fellow teachers.FGD-04

Chen (2018) stated that in coming up with wise decision, assessment of situation is necessary to adjust the actions to be taken. this ensures that approaches consider what possible limitations set by the existing conditions that the team will have to deal. Likewise, Bagwell (2020) also added in doing these actions should be carefully laid out and weighed as it may have impact not just on their productivity but to the people who will be facilitating the action.

Likewise, Netolicky (2020) also explained that as a grade head teacher, one must have a wider perspective to handle different situations and come up with a sound judgement. As a grade head teacher, you may have to deal with a different situation, which also require a different approach, a different perspective. Likewise, Snodgrass (2020) also added that these opportunities where grade head teacher's flexibility and adaptability is put into a test, is a chance to be empowered as they were given autonomy in decision-making.

Aide in Implementing Quality and Effective Education

We provide essential leadership and coordination within their assigned grade level, ensuring consistency in teaching methods, curriculum delivery, and student assessments. IDI-07

Grade head teachers often serve as mentors and advocates for their students. FGD-02

Aligning curriculum with standards, providing targeted support for teachers, and implementing effective instructional strategies. IDI-04

Calvo (2021) shared that the role of grade head teachers is essential in improving the quality of instruction. They lead programs and services to enhance learning based on what is needed by their department. They also provide technical support for their teachers. All of these is due to their knowledge on what is required by their department and that may be need may be different from each grade level. Grade head teachers participate in decision-making and crafting necessary changes while putting into consideration what seem to be relevant to improve their department.

While not all grade head has equal knowledge and skills in leading, they must respond quickly to the different demands in their department. As grade head teacher, they must take part in the educational procedures and monitor the performance of their department of grade level. Through constant and relevant evaluation, they can establish their positive impact to the school and to the learners (Polatcan & Cansoy, 2019).

Opportunity for Personal Growth

I could say it develops my professionalism and second, it helps develop my personality as a person. FGD-04

You became able to know like how to manage time, develop management skills and become organized because of your responsibilities, like managing your time as a subject teacher and a grade head. FGD-05

The (grade heads) can also direct professional development, assisting teachers in staying up to date with best practices and adjusting to changing educational demands. IDI-04

As grade head teachers immerse to their role as educational leaders, they gain authentic leadership activities that can help them grow professionally. They acquire firsthand knowledge and skills, especially when they participate in decision-making and managing people in their department. These activities are different when you read and learn it from books and trainings than when you put the idea and concepts in real-life situations and practice. This is because sometimes what is taught may need to be adjusted depending on the existing circumstances (Eggleston, 2019).

Similarly, Alviz (2019) shared that being a grade head is essential, especially when you want to assume a higher leadership position in the future. The first-hand experiences will allow them to test their theoretical knowledge in actual situations. These experiences help them build necessary leadership skills and behaviors. Parker (2019) also added that they can better address situations if they have experience with it. These meaningful experiences will help them grow as a leader as it will give them opportunities to learn more strategies and approaches in educational leadership, which sometimes were not taught in books.

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Furthermore, Sorensen et al., 2022) also explained that grade head teachers should actively look for opportunities to demonstrate their skills. They can actively involve in activities that test their decision-making skills, managerial skills and even how they allocate resources. These experiences will help them test which skills they lack and improve.

Provision of Relevant Support to the School

Grade head teachers guide the educational journey of a specific grade level, ensuring curriculum alignment, effective teaching practices, and student progress. IDI-04
Grade heads are the partners of school heads and master teachers in the development and implementation of curriculum and instruction. IDI-06
We provide essential leadership and coordination within their assigned grade level, ensuring consistency in teaching methods, curriculum delivery, and student assessments IDI-07

Grade head teachers help in facilitating activities and supervising the teachers and students in their department are relevant support provided to school administrators as it improves delivery of quality service and enhance academic success.

This school-management that allows the designation of grade head teachers to take on leading role enhances the efficient delivery of educational services as reflected in Republic Act 9155. It can be noted that since grade head teachers are more exposed to instructional roles, they help school administrators craft necessary programs and activities by suggesting what will work considering the educational situations they encountered as teachers in the field. This was also supported by the findings of Vecaldo (2019) sharing that grade head teachers can encourage major innovations in school and can also shape the school governance.

Moreover, Comeros (2019) also stressed that assigning grade head teachers help school heads to organized and supervise as grade level and department. In the past, operations were coming from the higher authority but now schools can create a selection committee, or have a faculty meeting to assign teachers in important leadership functions in school.

Furthermore, as grade head teachers have the knowledge of the operating procedures that work best for the group's, they ensure the department and the school's continual improvement (Southern Cross University, 2019). Likewise, they actively involve in school as educational leaders by simply becoming motivated to make a positive difference to the teachers and students. Their role is important in impacting the students and teachers in their department (Burns, 2019).

Prioritizing Self-Care

I recommend prioritizing self-care, seeking support when necessary, and consistently investing in your professional development to excel in your role. IDI-05
Take care of your own well-being to avoid burnout. FGD-02
I will also prioritize self- care and stress management techniques. IDI-07

The report of getting burn-out and struggling on mental health is also observed among educational leaders. At worst, this lead for some to reconsider their job and leave because of the dissatisfaction they get (Education Support, 2020). On the other hand, Santiago (2023) also suggested that grade head teachers should take break time as a coping mechanism to the pressure of work. This will give them time to recharge and gain more clarity of their work.

Furthermore, Jackson and Fransman (2018) reported that high work pressure lead to poor physical, psychological and emotional well-being which may o reduced productivity and increased absenteeism. A healthy work-life balance is necessary to provide better well-being. Stress coping strategies are also necessary to be taught to teachers such as mindfulness and emotional intelligence.

CONCLUSION

This exploration into the experiences of grade head teachers as empowered educational leaders has been incredibly enlightening for me. By delving into the varied and insightful narratives provided by these teachers, I've gained valuable understanding of the obstacles they encountered, how they dealt with them, and the beneficial results they achieved through this distinctive educational journey.

Grade head teachers faced challenges due to a heavier workload and expressed worries about handling extra duties. It's crucial to foster a supportive atmosphere conducive to learning, shedding light on factors that nurture a positive educational environment. Moreover, grade head teachers must offer technical assistance in adapting to the technology-driven educational landscape. Engaging in conversations about critical educational issues highlights their role in shaping decisions. These observations underscore the importance of grasping the particular challenges grade head teachers confront in their roles.

Grade heads have the opportunity to undergo personal growth, highlighting how their roles serve as catalysts for professional development. This necessitates the ability to adapt to various situations and interact effectively with different individuals, demonstrating the adaptive skills crucial for navigating diverse challenges and interpersonal dynamics within the educational sphere. By providing pertinent support to the school, grade head teachers underscore their pivotal role in contributing to the overall welfare and functionality of the educational institution. Moreover, their focus on facilitating the implementation of quality and effective education reflects their dedication to enhancing the educational experience for students. Additionally, prioritizing self-care underscores the acknowledgment of the significance of personal well-being amidst the demanding nature of their roles.

In summary of the above, this study has served as a profound revelation, illuminating the myriad experiences of grade head teachers as influential leaders in education. The insights gleaned underscore the imperative of ongoing personal and professional development, crucial for providing pertinent support to schools in delivering quality education effectively. The coping mechanisms employed by grade head teachers offer invaluable lessons in resilience and perseverance, pertinent for

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all entities invested in the educational journey. Moving forward, it is imperative for all stakeholders within the education sector to unite efforts in implementing measures that address the challenges outlined in this study and to enhance the support structures for grade head teachers which ultimately contribute to the improvement of the overall educational environment.

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DANCE SKILLS EXECUTION HESITATION OF TERTIARY EDUCATION PHYSICAL EDUCATION (PE) INSTRUCTORS OF DAVAO DEL NORTE: A PHENOMENOLOGICAL STUDY

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ABSTRACT

This research study employed a qualitative research design, specifically phenomenological approach, with the aim of uncovering and understanding the lived experiences of tertiary education PE instructors concerning dance skills execution hesitation. The study involved 14 PE instructors who were selected through purposive sampling technique in accordance with the inclusion criteria, and the data were analyzed using coding and thematic analysis. The findings of the study revealed the experiences of the participants, including difficulty in dance demonstrations, experiencing doubt and uncertainty, strengthening the foundation of dance, mastering dance techniques, poor foundation in dance education, and confidence and positivity in dancing. Conversely, the participants employed the following coping mechanisms to get through the challenges they have faced: utilization of online teaching materials, seeking help from others, nurturing dance proficiency through multiple strategies, mastering the fundamentals before instruction, and continuous learning of dance skills. Additionally, the following insights were drawn from their experiences: provision of professional development about dance skills, nurturing positive mindset and attitude, cultivate confidence and self-esteem, having constant practice for proficiency, and learning through research. The findings of the study suggest that a holistic approach to supporting PE instructors in overcoming dance skills execution hesitation should include continual training, psychological support, and pedagogical innovation to ensure effective delivery of dance education in tertiary education.

KEYWORDS: *Physical education, PE instructors, dance skills, execution, hesitation, tertiary education, Davao del Norte*

INTRODUCTION

Dance is a captivating art form that enables people to communicate their feelings, thoughts, and cultural identities through movement. It is a vital part of physical education curricula and has several advantages for students, including increased physical fitness, coordination, and creativity. However, despite the significance of dance education, there are physical education teachers who experience a pervasive problem that hinders their ability to effectively teach dance—their own hesitation in executing certain dance skills as well as their limited dance experience and lack the skills, knowledge, and confidence to teach dance in their respective institution (El-Sherif, 2016).

In the United States, as cited by Levenberg et. al (2020), physical education instructors frequently experience uneasiness when asked to teach dance and music in the physical education context. Some physical education instructors claim that they lack rhythm, have never received formal training in teaching dance, and are hesitant about the proper way to structure a dance unit. Similarly, in China, Zhang (2019) revealed that the issue with dance education is the lack of excellent dance instructors and low teaching quality. The majority of instructors are teaching only a few types of dances and failing to impart fundamental concepts. Moreover, in the United Kingdom, Vincent et. al (2021) also raised challenges of instructors delivering a quality dance education. Many teachers are known to be hesitant to teach dance because they do not feel qualified. It also suggests that dance instructor's knowledge of dance pedagogy is primarily derived from their teaching experiences rather than formal studies and since the instructor's training only covered the bare minimum of the art form, instructors hesitate to teach the arts.

Meanwhile, in the Philippines, a study conducted by Garcia (2020) in Cebu City, revealed that physical education instructors have limited knowledge of instructing folk dances. The lack of seminar workshops in the nation, the limited opportunities for different dance workshops, and the limited amount of printed dance literature accessible through published books were the main causes of the lack of knowledge.

Further, in Malaybalay, Bukidnon, a research result from Silvestre and Itaas, (2020) that 20 out of 60 PEHM teachers had poor performance in Physical Education topics during the analysis of their lived experiences as PEHM teachers in the school as these were gathered through Individual Performance Commitment and Review Form (IPCRF) of the researcher. They also highlighted that most of the teachers lack of competencies to teach PEHM topics to students. Similarly, in the Philippines, the change from online education to limited face-to-face instruction is also experienced by the students. Throughout this shift, it became clear that the loss of cooperation and instructional time, the difficulty

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understanding the courses and activities, and the adjustment period were the key challenges for students in having limited face-to-face classes (Bordeos et al., 2022).

Also, based on my firsthand observation as a Physical Education instructor in one of the private institutions in the province of Davao Del Norte, some of the Physical Education instructors in Tagum City were hesitant in dancing as well as teaching dance due to lack of experience and training. Several of the Physical Education instructors I know dislike dancing because they believe they are bad at it and find it embarrassing. An additional fact about these people is that they failed to acquire dance skills in physical education classes very well, most likely because they were exceptional athletes.

Given these results and other related literature, the researcher found a shortage of studies in terms of the lived experiences of PE teachers on their hesitation in dance skills execution. In my literature reading, there were a few studies that have explored the challenges faced by PE instructors in relation to dance skills execution such as the study of Ripalda (2019) and Brandon (2020). The first mentioned study was quantitative in nature and focused mainly on the competence of PE teachers in doing dance choreography. The second study was limited to the experiences and attitudes of physical education instructors about Zumba instruction for students with impairments in the classroom. However, there is a lack of research that has specifically examined the qualitative factors that influence the hesitation of PE instructors in dance skills execution in teaching their students. Moreover, I have not come across any studies that have looked at the accounts of instructors' lived experiences in dance skills execution hesitation. It is for this mandate that this humble research is conceived in response to the continuing and ever-changing challenges that our educational system has confronted with, particularly in dance skills execution hesitation.

This study bears great significance especially to the Tertiary Education PE instructors because this study would give additional insights into problems relating to dance hesitation and may help improve the quality of their teaching performance. This study would also pave the way to increase the students' engagement when they see their instructors confident and knowledgeable of what they are doing. Additionally, the findings would be shared by giving lectures, exhibiting the findings at national and international conferences, and conducting seminars to my fellow PE teachers focusing on how the results are obtained and how they can incorporate it in their teaching methods. Lastly, it would be disseminated through partnerships with PE research-related organizations in local, national, and global aspects.

PURPOSE OF THE STUDY: This phenomenological study aimed to explore and thoroughly understand the lived experiences of Tertiary Education PE instructors on dance skills execution hesitation and to understand the reasons behind the skills execution hesitation of Tertiary Education PE instructors in the field of dancing in some schools in Davao Del Norte. Further, the goal of the study aimed to generate results that may guide the instructors in designing appropriate interventions for the hesitation of skills execution in dancing.

At this stage in research, dance skills execution hesitation was generally defined as the act of hesitating or temporarily holding back from executing dance movements due to a lack of confidence and fluidity in doing so.

RESEARCH QUESTION

The study aims to answer the following research questions:

1. What are the lived experiences of tertiary education PE instructors in dance skills execution hesitation?
2. How do tertiary education PE instructors cope with their hesitations in executing dance skills?
3. What insights can tertiary education PE instructors draw from their experiences in their hesitation in executing dance skills that can be shared to others?

METHODS

This study employed a qualitative phenomenological approach in exploring the lived experiences of Tertiary Education Physical Education (PE) instructors in executing dance skills. According to Creswell (2013), and as cited by Diaz (2015), claim that qualitative research is an expressway to discovering and understanding individuals or groups ascribed to a social or human issue. It requires gathering and interpreting non-numerical data in order to grasp the concepts, opinions, and experiences required for research (Bhandari, 2020).

This phenomenological inquiry involved a number of 14 participants. Seven (7) were interviewed in-depth, while the remaining (7) participated in focus-group discussions. Both groups were related to PE Instructors from selected higher education institutions in Davao del Norte. Moreover, in determining the number of participants, I adhered to Creswell's (2013) suggestion that the studied group should consist of three to fifteen members. I believe that this number of participants was sufficient to saturate all the data needed. Equally important, purposive sampling was used to select the participants in this research study. According to Guetterman (2015), purposive sampling is also known as judgment sampling since it is a deliberate choice of participants due to the participants' qualities. Furthermore, the participants of this study were selected based on the following criteria, the PE instructors must be: (a) employed in private higher education institutions in Davao del Norte; (b) must have experience at least two years of teaching PE, and (c) must have the willingness to participate in the conduct of the study. These qualifications are required to ensure that the participants have adequate and firsthand experience with the phenomenon studied. Conversely, the exclusion criteria are as follows: non-PE instructors, not employed in a private higher education institution in Davao del Norte, and not willing to participate. I selected five (5) schools to surely gather the needed number of participants.

Furthermore, thematic analysis is a method for qualitative data analysis that involves looking through a data set (for example, transcripts from in-depth interviews or focus groups) and identifying similarities in meaning throughout the data to generate themes. Thematic analysis is an active process of reflexivity in which the researcher's subjective experience is central to deriving meaning from data (Delve, 2020).

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REVIEW OF RELATED LITERATURE

Dance Skills Execution

According to Ripalda (2019), it is vital that PE teachers be proficient in dance and choreography, though teachers can progress to different levels in both disciplines. Similarly, Rodriguez and Abocejo (2018) emphasized that it is of utmost importance that skills be acquired in dance, which can be attained through the skills and expertise of teachers in various dance forms of their fields of specialization. The Department of Education (DepEd) has a significant role in the skills that students gain, notably in senior high school, where these skills are carried over when they get to university (Abocejo, 2017).

Additionally, as stated in a study conducted by Varea and González-Calvo (2021), dance is a performance-based course in physical education courses 3 and 4 at the university level, wherein students' basic skills have been learned. In the tertiary PE-based curriculum approach, these skills are honed even more into the advanced level. The genre of hip-hop, folk dance, contemporary dance, cheer dance, and other dances are examples. Moreover, in the study published by Ripalda (2019), it was mentioned that the ability of the dance instructors to teach dance skills to their students helps their learners enhance their dancing skills. Although teachers can obtain varied levels of expertise in dance and choreography, it essential for PE teachers to be competent in both areas.

Challenges Encountered in Executing Dance Skil The study conducted by Ripalda (2019), sheds light on the difficulties that come with teaching dance specifically for PE teachers who lack foundational training or background in the subject but on the other hand it is also extremely fulfilling. As a teacher, you must continually adapt and develop new strategies and ideas to keep your students interested. Many physical educators have little experience teaching dance and may not have the expertise, abilities, or confidence to do so in their curricula. The inclusion of dancing lessons in physical education curricula, however, can benefit students who may not enjoy traditional instruction.

Notwithstanding the difficulties students faced while switching from traditional classroom instruction to online instruction, the digital divide continues to be the primary barrier to students accessing quality e-learning. Additionally, even though there may be a number of obstacles preventing students from fully utilizing e-learning, other strategies seem to be the best option in the context of COVID-19, including providing free data bandwidth, making both physical and online resources easily accessible, and using a blended learning center (Mpungose, 2020).

Correspondingly, according to Contant (2015), teaching dance can be challenging especially for teachers who lack the fundamental dance background or expertise. This is particularly true for teachers who were not exposed to dance during their formative years and who did not view themselves as dancers, preferring instead to play sports. Additionally, for some physical educators, teaching the students to dance may be the most nerve-racking activity. Teachers who approach dance with a good attitude and enthusiasm will succeed more than those who are hesitant about teaching dance (Newnam, 2002).

Lundvall (2022) also emphasized, many physical education teachers feel that their ability to teach dance is limited and that they are uncertain of their own proficiency in the subject, which causes them to doubt their ability to actually teach it. This is congruent with the findings of Bowies (2013), who made generalizations about dance instruction in schools. To put it simply, we think that many PE instructors spend less time dancing because they themselves are not very skilled at it, which limits their capacity to instruct it.

Strategies in Teaching Dance Skills

According to Ripalda (2019), it is important for the dance teachers to be knowledgeable about the dance style they are teaching in order to be considered competent choreographers. One must be able to familiarize the dance genres before teaching it to the students to ensure quality instruction. For dance teachers to teach dances efficiently and effectively, there are several methods for learning dance. A few methods include watching dance performances, reading books on dance technique, or just being involved in a dance performance to pick up the steps and technique (Cherry, 2018).

Moreover, when preparing a lesson, the teacher must take into consideration a variety of factors, including the students' level of topic knowledge, their attitudes toward dance as a subject and those of the community, administration, parents, and students. The instructor must also take into account the facilities and materials that will be used in the lesson. For instance, dance facilities can range from an exclusive studio area to multipurpose for dance vary from a specific studio space, to multipurpose spaces, to trailers. Planning and managing lessons will be impacted by the nature and size of the area. The type and size of the facility will impact the lesson preparation and administration. The instructor quickly understands that every class is different in terms of the students' expectations, backgrounds, learning styles, ages and stages of development, and learning preferences (Gardner, 1985). Each of these elements has an impact on planning and, ultimately, effective classroom management. Cherry (2018) highlighted a few key strategies including the following: be clear about the subject matter of the class; the teacher must ensure that the learning experiences and educational objectives are consistent with the subject matter; work backward from a unit of instruction to determine the best way to pace and structure each student; practice the lesson material before delivering it if is unfamiliar; and spend time reflecting on the transitions between tasks. Effective management of the dancing class will result from planning the activities' transitions and organizing so that there will be little downtime.

Consequently, Julian (2015) mentioned that the PE instructors need to possess both theoretical and practical teaching competence and must be mindful about keeping instructions, including the broadening, and refining of tasks, brief and on point. The students must be encouraged to dance for as long as possible given the briefness of the lesson hours. The task must be thoroughly clarified by the instructor. For instance, if the instructor is mirroring students, they can be informed of the process by saying, "I'm going to mirror you while I'm demonstrating. As previously stated, the teacher must be familiar with the dance. It is necessary to know the music and

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tempo, to have the combinations committed to memory, and to be certain of the phrasing. The instructor must be able to count the music and cue the steps in the appropriate tempo and rhythm for the students. Lack of familiarity with the music and combination rules causes a sense of disorganization and unpreparedness. The teacher will be perceived as ineffective by the students, which will lead to management crisis.

Perceptions of PE Instructors in Dance Educati According to Wilson (2019), the teaching of dance is dependent on the availability of teacher's abilities and knowledge when they teach different dances based on their field of expertise. Therefore, the instructor should dedicate time practicing and executing the steps of a dance as the dance leader. The ability to understand and carry out each phase expertly gives the instructor the ability to identify transitions and call out the following step in the sequence. Once the teacher has mastered the dance's steps, she can mirror them while facing the students, which enables her to keep track of the students' progress as she teaches them.

In addition, Sharma (2019) emphasized that a dance instructor or choreographer needs to be creative, athletic, persistent, have strong interpersonal skills, have physical stamina, be fun-loving, and be able to work in a team in order to make dancing interesting and enjoyable. Moreover, Smuka (2012) stated that when the teacher participates in the activity with the students, student participation increases by an average of 15%. It also takes a lot of preparation to teach dance in physical education, which is made more difficult if the teachers are hesitant in their own dancing skills. Most teachers would certainly agree that practicing a dance and showing pupils how to do the moves takes a lot of time. It is truly labor-intensive to be a teacher. According to Russell-Bowie et al. (2013), the uncertainty that many teachers have can cause them to concentrate more on performing the dance than on really teaching. As a result, teachers may purposefully limit the amount of dance they teach in PE classes

RESULTS AND DISCUSSIONS

Table 1
Major Themes and Core Ideas on the Experiences of Tertiary Education Physical Education (PE) Instructors in Dance Skills Execution Hesitation

Major Themes	Core Ideas
Encountering Difficulty in Dance Demonstrations	struggling in demonstration and application having a hard time to teach social dances having unfamiliarity of different dance genre facing challenges with less engaged and interested students. struggling to teach dance outside one's forte specifically ballroom dances having trouble to execute some dance genres finding it hard to teach international dances particularly ballet steps
Experiencing Doubt and Uncertainty	being hesitant to teach due to unsureness of executing dance correctly encountering reluctance due to differing specialization particularly hip-hop dance lacking confidence caused by prioritizing sports over dance doubting capacity if it falls outside one's genre having uncertainty when teaching dance skills
Having Poor Foundation in Dance Education	not learning enough while still studying as a student due to a sudden shift in the mode of learning having a poor foundation or background in dance lacking in seminars and training to strengthen the dance background being unfamiliar to dance

Encountering Difficulty in Dance Demonstrations

It is hard when it comes to the application because you will be the one to demonstrate, and I, not being a dancer, really hesitate to teach, and I also doubt if I am teaching it correctly. IDI-04

The most challenging part for me is the execution because if it is not your genre, you might doubt whether your performance is correct or what you teach them is right.FGD-04

It is not easy to teach dances that are not your forte. For example, social dance is so complex to teach students, and it is difficult for me because dance sports are more about precise movements, whereas I am not skilled in dance, as I am into sports IDI-03

One of the central challenges highlighted by the narratives of tertiary education PE instructors is the difficulty with executing and applying dance skills, particularly outside one's comfort zone. This difficulty extends to teaching dance genres that instructors may not be familiar with, leading to hesitation and potential limitations in effectively conveying the material to students. This is consistent with one of the findings of the study conducted by Contant (2015) who revealed that teaching dance can be difficult, especially for teachers who lack basic dance knowledge or skill. This difficulty is compounded for those who did not have exposure to dance during their formative years and may have prioritized sports over dance.

Similarly, another challenge faced by PE instructors in dance execution as anchored in the study of Better (2020) is the concept of learning and teaching dance itself. Dance can be difficult to learn and teach.

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Experiencing Doubt and Uncertainty

They expect me to be good at teaching because it is my specialized field, but they do not realize that deep inside my mind and heart, I feel hesitant to teach because I am not sure if I am doing it right. IDI-04

I am not confident in teaching dance. I have a background and was part of a dance group in high school, but when I got to college, I did not focus much on dance because I am into sports. IDI-06

According to the experiences of Physical Education (PE) instructors, they frequently struggle with self-doubt when it comes to performing dance routines, particularly when their specialization lies in other areas within the discipline. This hesitation may originate from a lack of experience or ability in the dancing forms they were forced to teach. Furthermore, their confidence was undermined by a proclivity to favor sports-related activities above dancing, leading to feelings of inadequacy when it came to teaching or performing dance routines.

Lundvall (2022) revealed that many physical education teachers believe that their capacity to teach dance is restricted, and they are unsure of their own skill in the subject, leading them to doubt their abilities to teach it.

Many PE instructors spend less time dancing since they are not very adept at it, limiting their ability to teach it. Furthermore, it was shown that teaching dance skills and concepts frequently causes doubt among instructors, particularly those who lack specialized training or considerable expertise in dance education. Similarly, this anxiety stems from a variety of issues, including a lack of confidence in their own dance abilities, uncertainty about how to effectively teach complicated concepts, and concern about serving students' unique needs (Bowies, 2013).

Having Poor Foundation in Dance Education

There is a lack of foundation. That is one of the factors why I am not confident enough to teach; my foundation in dance is too weak IDI-03

It was a pandemic then, and we were only learning online. We do not know those dance steps, moves, or techniques, like in Latin dance, because we rely only on YouTube. No teacher teaches us one by one and step by step. IDI-04

A weak foundation in dance education can significantly influence progress and confidence. Participants in the study revealed a variety of problems and experiences that contributed to this. One important barrier identified by participants was a rapid shift in the method of learning, which frequently resulted in insufficient learning during their studies. This sudden transition, whether caused by curriculum changes or teaching methods, disrupts learning continuity, and leaves them with insufficient information and abilities. Furthermore, one research revealed that teachers lack experience attending seminars and trainings to improve their background in dance execution.

Participants noted that many educators enter dance education with a poor foundation or background in the discipline. This lack of prior experience, according to a study by Backman (2020) can hinder their ability to grasp fundamental concepts and techniques, creating barriers to progress and achievement. Additionally, participants highlighted the scarcity of seminars and training opportunities aimed at strengthening students' dance backgrounds. Without access to supplementary education and resources, students may struggle to develop the necessary skills and knowledge to succeed in dance (Almusawi, 2021).

Table 2
Major Themes and Core Ideas on the Coping Mechanisms of Tertiary Education PE instructors in Dance Skills Execution Hesitation

Major Themes	Core Ideas
Utilizing Online Teaching Materials	• browsing and watching video tutorials from YouTube. • acquiring dance steps from YouTube videos to teach students • showing YouTube videos to students while teaching dance • researching and looking for more dance ideas in YouTube • using online resources, such as videos, to teach unfamiliar dance genres • searching more information in Google
Seeking Help From Others	• inviting professional dancers to conduct workshops and demonstrations • seeking help from student dancers in performing dance skills properly • asking help to skilled dancers in executing dance skills correctly and making them as an example • soliciting help from colleagues • seeking guidance from experts
Nurturing Dance Proficiency through Multiple Strategies	• reading dance literatures and teaching only the basics • memorizing proper basics repeatedly • asking the students to demonstrate while teaching the basics • practicing consistently both at home and at school • thoroughly reading through step-by-step process • researching first the topic before teaching • studying and practicing dance material before presenting to students

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	• preparing and demonstrating the skills before instructing to students
Having Continuous Learning of Dance Skills	• enrolling workshops for improving dance skills • mastering dance skills through studying and practicing • continuous learning and studying dance skills

Utilizing Online Teaching Materials

One of the resources I used was the YouTube platform, where I can watch tutorial videos. IDI-03
We do brainstorm with my classmates to share ideas about the topic. IDI-02
I look for ways, like playing YouTube videos with them; in that way, I can cope IDI-04

The participants reported often browsing and viewing video tutorials on platforms such as YouTube, which they found essential for learning new skills and approaches. Specifically, this supports the findings of Aguilera's (2020) study, which found that in dance education, instructors routinely use YouTube videos directly into their courses, offering visual aids that promote comprehension and skill development. Furthermore, educators were encouraged to emphasize the value of research and discovery on YouTube, using internet tools to uncover new ideas and techniques, particularly when teaching unfamiliar dance genres.

Comparatively, this result is aligned to the study conducted by Jogezai (2021) who covered a proactive approach to research, which frequently involves using web resources to investigate unfamiliar dance styles and seek out novel ideas. Teachers also recognized Google's value as a supplementary tool for getting new material and improving their knowledge base.

Seeking Help From Others

So what I did was I invited professional dancers aligned on it. We did a workshop and demonstration. While they are demonstrating, I am also observing and learning to learn more about that. IDI-02
During class, I use skilled dancers as examples, including myself, for performing skills correctly. IDI-03
Then I ask help to the experts. FGD-01

The collaborative aspect of dance education and the numerous ways in which teachers use the expertise of others to enhance student growth and success. Peer expertise, whether from fellow educators or skilled dancers, was emphasized as a key resource for enhancing educational approaches and practices. (White et al., 2021).

Identically, this is consistent in the study conducted by Baena-Morales and González-Víllora (2023), the result further highlighted the significance of tapping into the expertise of proficient dancers to refine and elevate the quality of dance instruction. Teachers emphasized the invaluable insights and practical advice provided by skilled dancers, which contributed to the development of more accurate and polished dance techniques among students.

Nurturing Dance Proficiency through Multiple Strategies

I am implementing strategies such as reading literature on various dances and focusing on the basics. IDI-04
Then at the same time I memorize the proper basics repetitively. FGD-01
One of the things I do is research it first before teaching. IDI-03

Hasanov and Mamataov's (2022) research stressed the need of repetitive repetition in understanding concept fundamentals, encouraging students to memorize suitable practices through regular rehearsal.

Similarly, one of the findings of a study conducted by Perron and Downey (1997) demonstrated that while developing successful management approaches for dancing classes, it is critical to be proactive rather than reactive. Being proactive includes booking the dancing class far ahead of the start of the school year. Furthermore, Freiburg (2002) noted that understanding the school, community, and students is an important initial step in planning. The next step is to design an idea for a unit or lesson, which continues the process of successful classroom management. Content (or what is taught) is a crucial aspect of management.

Having Continuous Learning of Dance Skills

Currently, I am enrolled in a beginner dance sports workshop. IDI-02
To overcome challenges, I acquire new skills, study, and practice. IDI-03
It is important to not only learn the basics of a specific dance, but also to continually evolve and gain more knowledge about it. FGD-03

Through workshops and seminars, teachers learn dance and choreography skills that can be applied to PE instruction. (Chatzestifani, 2017).

In addition, to ensure that students receive a high-quality education and that school instructors are considered qualified in their field, they must take professional development courses to advance their own knowledge and skills (Cardin and Denysschen, 2018)

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Table 3
Major Themes and Core Ideas on the Insights of Tertiary Education PE instructors in Dance Skills Execution Hesitation

Major Themes	Core Ideas
Provision of Professional Development about Dance Skills	• provision of specialized trainings to refine and improve teaching • participate in trainings and seminars to learn proper execution from experts • attend conferences and seminars for exposure to different dance skills • refresh one's knowledge and skills through workshops on a particular dance genre • attend cultural events to watch and learn various dance steps
Nurturing Positive Mindset and Attitude	• be more patient and understanding diverse learning needs • practice continuously for maintaining and improving skills in dance. • be teachable • step out of one's comfort zone to become more effective teachers. • have an open mindset and being willing to learn • keep the passion and enthusiasm in teaching dance.
Cultivating Confidence and Self-Esteem	• believe in one's abilities and skills to perform better. • be confident in what you do • believe in oneself and have the willingness to learn as a dance teacher.
Constant Practice for Proficiency	• continuously practice dance skills • spend more time in practicing dance • rehearse dance skills to teach efficiently • learn the basics by practicing in front of the mirror for accuracy • engage more in dancing to be better and more effective dance teachers.
Learn through Research	• research and practice more other than music • start learning and researching the basics • expand knowledge and skills by researching the topic

Provision of Professional Development about Dance Skills

We teachers need to constantly refresh our skills. Until now, I still join workshops and seminars, focusing on specific genres. FGD-03
I hope there are specialized trainings that will polish our skills. Experience in college life is helpful, but specialized training enhances it further. IDI-02
Let us attend conferences and seminars, for example, participating in 2-3 days national Folk Dance seminars to learn new skills. FGD-01

The findings agreed on the study of Amado et al. (2020) who proposed that there is really a need to expand teachers' professional training in dance in order for them to become more effective dance teachers. They also mentioned that through these opportunities, it will help teachers improve their understanding of the concepts and applications needed in teaching dance executions.

Moreover, the findings align closely with Ripalda's (2019) study that emphasized the importance for Physical Education (PE) instructors to actively participate in dance-focused training sessions and workshops, ensuring they remain knowledgeable of the evolving trends and techniques in choreography. By doing these actions, it can cultivate educators the sense of versatility not only in sports education but also in the realm of dance instruction.

Nurturing Positive Mindset and Attitude

To become a better dance teacher, I need to work on expanding my patience and understanding the diversity of my students. Sometimes I overlook certain points, as I tend to assume that all my students are highly skilled in dancing. IDI-01
You need to step out of your comfort zone and explore new skills to improve your teaching skills particularly your dance skills. IDI-03
Be open-minded and willing to learn, as everything can be understood through step-by-step process. IDI-04
We must keep the flame of passion burning in our hearts and the desire to teach. FGD-01

The findings of this study align with Herber's (2019) research, which explores the influence of Physical Education (PE) teachers' growth mindset on student performance and self-belief in physical education. By examining how a growth mindset can positively impact student attitudes and accomplishments, the study highlights the significant role of mindset in varied learning environments, particularly in PE classes. By cultivating a growth mindset among dance teachers, they can motivate students to embrace challenges, persist through obstacles, and perceive effort as a pathway to mastering dance executions. This can also enhance their self-belief, motivation, and ultimately lead to improved academic outcomes in physical education.

Furthermore, the study findings are consistent with Spinner's (2021) concept that promoting a positive mindset among teachers is essential yet challenging. He highlighted the necessity to reflect on one's progress in order to foster appreciation for the dedication to the art of dancing. Also, he added that there is a need to replace negative thoughts with

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positive affirmations which can help nurture a healthier self-image. Lastly, through embracing gratitude, it can help teachers focus their improvement on more opportunities while enhancing their resilience in the face of challenges.

Cultivating Confidence and Self- Esteem

Believe in yourself and your abilities because you have come this far. The challenges you are facing can be overcome with the help of the resources available in the world. It is important to take advantage of these resources and make the most of them. IDI-02

It is essential to believe in one's ability to learn and the willingness to learn as a teacher. For instance, if you attend a seminar and listen attentively, you will undoubtedly learn course. IDI-04

Physical Education instructors must have self-belief and awareness to help other students develop confidence as well and the proficiency of their dance movement (Powers, 2019).

Moreover, Kang et al. (2023) also stressed the significance of self-belief and skill mastery for enhancing dance instruction. They emphasized the needed balance between technological application and human skill, emphasizing that confidence, expertise, and self-assurance which they believed are key elements for successful dance teaching in a modern digital educational environment.

Further, Steatham and Barnes (2023) underscored the vital contribution of dance teachers in cultivating confidence and self-esteem to improve one's capabilities and effectiveness in conducting successful dance instructions.

Constant Practice for Proficiency

If you are only learning things by reading or studying, but not putting them into practice, you will not see the desired results. To effectively teach others, you should practice the material yourself. The common saying is that practice makes perfect, but even if you do not achieve perfection, at least you made an attempt on your own. IDI-07

When practicing, it is important to learn the basics and consistently practice, then demonstrate your skills. I found it helpful to look in the mirror during my practice sessions. FGD-04

Regular and consistent practice is very important for developing expertise in dance instruction. Consistent dedication to refining dance skills through frequent rehearsals and practice sessions is essential. As highlighted by Secor (2018), the consistent practice, repetition, and critical assessment within the dance classroom, particularly focusing on educators, have a transformative impact. The research underscores the significance of ongoing practice and rehearsal in improving dancing skills. Through regular practice sessions, deliberate repetition of movements, and critical self-evaluation of performances, both educators and dancers can enhance their techniques, deepen their comprehension of dance execution, and elevate their overall proficiency in dance.

LEARN THROUGH RESEARCH

Start by researching the basics to continuously learn. Research more and focus on the fundamentals. IDI-01

Researching the topic is vital because you cannot teach what you do not know. IDI-07

When Physical Education (PE) teachers explore into dance instruction, engaging in research or conducting additional information about the dance execution become crucial for enhancing one's co

This finding is consistent with Marques et al.'s (2023) study who identified a significant gap in PE teachers' understanding of physical activities emphasizing the need for continuous learning and professional development to enhance teaching standards in PE, especially in dance instruction. The researchers also highlighted that PE teachers can improve their dance teaching skills through ongoing learning and professional growth initiatives. This underscores the importance of PE teachers actively engaging in research to enhance their expertise, refine teaching approaches, and ultimately enhance the quality of dance instruction in physical education.

Furthermore, Ripalda (2019) also emphasized the importance of PE teachers utilizing other resources and innovative strategies to ensure effective learning despite the challenges. She added by doing this action by researching, one may be able to retain and improve one's information. It can also help teachers stay updated on what applicable teaching ways can be used to improve one skill in teaching dance.

IMPLICATION FOR TEACHING

The results of the study on the experiences of physical education (PE) instructors in higher education on dance skills execution hesitation have significant implications for various stakeholders in dance sector. The study highlights the significance of professional development for higher education physical education instructors in the field of dance education. It emphasizes the necessity of continuous training and support to improve the instructors' confidence as well as their skills to teach dance. It highlights how important it is to have a positive outlook on dance education and how practice is essential to maintaining skill competence. The study also emphasizes how using internet resources and professional and peer support can augment teaching methods and enrich the educational experiences of students.

For students, the study's implications have to with the quality of their dance education experiences. Competent PE instructors who have continued their professional development and have undergone thorough training are better equipped to provide high-quality instruction, which improves students' understanding of dance principles and techniques. The study emphasizes how exposure to diverse teaching methods and the motivation provided by proficient instructors are crucial for students' overall success in dance education.

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CONCLUSION

This research study has shed light on the experiences of tertiary education PE instructors in dance skill execution hesitation, revealing multifaceted issues and coping mechanisms in the field of dance education. The results highlight the significance of continuous support, innovative pedagogy, and professional growth for PE instructors to enhance their teaching proficiency and efficacy as well as their confidence in teaching dance. The study also emphasizes how important it is to use technology, foster a positive learning environment, and embracing cross-cultural perspectives in order to improve dance education practices.

Notably, as a PE instructor deeply immersed in this field, conducting this study provided me with significant insights into the difficulties encountered by other instructors and the multifaceted nature of dance instruction. It emphasized the value of empathy, patience, and continual self-reflection in recognizing and meeting the needs of both teachers and students in the classroom. Furthermore, taking part in this research journey highlighted the value of collaboration, interdisciplinary dialogue, and ongoing professional growth in enhancing teaching techniques and promoting excellence in dance education. As a physical education instructor, this research has not only expanded my knowledge and understanding of dance pedagogy, but it has also inspired me to commit to lifelong learning and growth in order to build an engaging and supportive learning environment for the students. Through this research endeavor, I have developed a new understanding for education's transformative power and the significant impact it can have on molding lives and communities.

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OVERVIEW OF PRESSURE ULCERS: PATHOPHYSIOLOGY, EPIDEMIOLOGY, RISK FACTORS, PRESENTATION AND TREATMENT

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SUMMARY

Introduction: *Skin alterations or lesions called pressure ulcers (PUs) encompass localized areas of ischemia with subsequent tissue necrosis, which are generated by prolonged compression, shear or friction of soft tissues between bony prominences and the external surface.*

Objective: *to detail current information related to pressure ulcers pathophysiology, epidemiology, risk factors, presentation and treatment.*

Methodology: *a total of 24 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 17 bibliographies were used because the other articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish, Portuguese and English were: pressure ulcers, skin lesions, decubitus ulcers.*

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Results: *The creation of pressure ulcers is multifactorial. The prevalence of pressure ulcers reported globally according to WHO is around 5 to 12%. Despite increased attention to prevention over the last 20 years, the prevalence of pressure ulcers has remained virtually unchanged, yet the related values of care continue to increase. Two-thirds of ulcers occur in people over 70 years of age.*
Conclusions: *due to the high prevalence worldwide, especially in patients over 70 years of age, the recognition, presentation and pathophysiology of pressure ulcers should be clearly understood, with the aim of preventing their occurrence. Prevention consists of maintaining and improving tissue tolerance and adequate offloading. Both internal and external factors have to be evaluated because they play a major role in pressure ulcer formation. Special attention should be paid to epidemiological risk groups. Proper hydration, together with adequate nutrition are essential in the treatment of this condition, in addition to close monitoring and corresponding wound management.*
Key words: *ulcers, pressure, lesions, skin, decubitus.*

INTRODUCTION

In the past, pressure ulcers were considered an inevitable consequence of being sick and bedridden. It is now known that this is not the case; pressure ulcers have come to be seen as an indicator of the quality of care provided by health personnel, which is why they occupy a notable place in the political agenda, as well as in the health agenda(1).

Skin alterations or lesions called pressure ulcers (PU) encompass localized areas of ischemia with subsequent tissue necrosis, which are generated by prolonged compression, shearing or friction of soft tissues between bony prominences and the external surface(2,3).
The appearance of PUs in hospitalized individuals constitutes a notable health problem, because, in addition to showing physical discomfort in the affected individual, it increases the treatment values, especially in the context of intensive care, increases the hospitalization time, as well as there is an increased risk of generating extra complications such as the need for corrective surgery, increasing the mortality rate(4,5).

In this study we will focus on providing an overview of pressure ulcers, especially their pathophysiology, epidemiology, risk factors, presentation and treatment.

METHODOLOGY

A total of 24 articles were analyzed in this review, including review and original articles, as well as cases and clinical trials, of which 17 bibliographies were used because the information collected was not important enough to be included in this study. The sources of information were Cochrane, PubMed and Google Scholar; the terms used to search for information in Spanish, Portuguese and English were: pressure ulcers, skin lesions, decubitus ulcers.

The choice of bibliography exposes elements related to pressure ulcers; in addition to this factor, pathophysiology, epidemiology, risk factors, presentation and treatment of the condition are presented.

DEVELOPMENT

Concept

A pressure ulcer also called decubitus ulcer is a wound that forms in the upper layers of the skin as a consequence of sustained pressure exerted externally, which subsequently extends both radially and into deeper tissue layers(6).

Pathophysiology

The creation of decubitus ulcers is multifactorial, however, these ulcers present a directionality to present as a consequence of ischemia and necrosis. Tissues can carry an abnormal amount of external pressure, however, constant pressure maintained for a prolonged period of time is the root cause. The external pressure must be greater than the arterial capillary pressure of 32 mm Hg to impede blood flow, and the pressure must be greater than the venous capillary closing pressure of 8 to 12 mm Hg to impede venous blood return. Sustaining a pressure above these numbers generates ischemia and tissue necrosis. This significant pressure may be due to compression by a firm mattress, hospital bed rails or any hard area in direct contact with the affected individual(7).

There are studies linking the pathophysiology of COVID-19 and the development of pressure ulcers. The research group assigned the proinflammatory cytokines interleukin-6 and tumor necrosis factor-alpha, numerous in individuals with COVID-19, as contributors to the occurrence and maintenance of inflammation following cell death and the creation of a pressure ulcer. Friction from skin rubbing against surfaces such as clothing or bedding can also develop ulcers by contributing to breaks in the surface layers of the skin. Moisture can cause new ulcers and worsen pre-existing ulcers through tissue degradation and maceration(8).

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Figure 1. Pressure ulcers of the foot and ankle.



Source: The Authors.

Epidemiology

Pressure ulcers are considered a major health problem in all regions of the world, affecting many individuals worldwide every year. The World Health Organization (WHO) reports that 1 out of every 10 patients living in industrialized countries presents these adverse events while being treated in health care facilities; this inadequate behavior in the quality of the individual being treated results in increased medical expenses for hospitalization, nosocomial infections, in addition to the disability it generates. There are data that in several countries present an average value between 6,000 million and 29,000 million dollars per year. The prevalence of pressure ulcers reported globally according to the WHO is around 5 to 12%, more specifically in America around 7%(9).

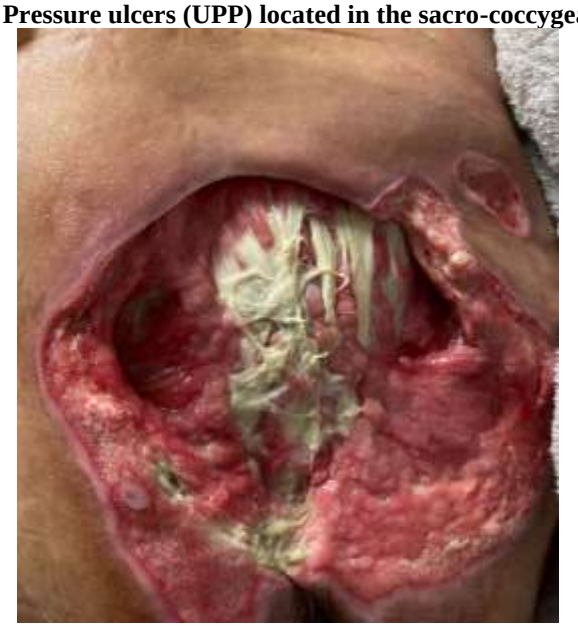
Some other bibliographies show that the prevalence was 12.9%. The most representative sociodemographic characteristic related to the origin of ulcers in individuals is the level of education of the caregiver. In addition, there is evidence of the connection of certain variables of the patient's state of health with the appearance of pressure ulcers(10).

Even though it is possible to prevent most cases, pressure ulcers remain a significant burden for the patient and society as a whole. There is data that approximately 3 million adults in the United States are affected annually. Despite increased attention to prevention over the past 20 years, the prevalence of pressure ulcers has remained virtually unchanged, yet the related values of care continue to increase(11).

Sacral decubitus ulcers usually occur in older individuals. Incontinent, paralyzed or debilitated individuals are more prone to develop them. Individuals with normal sensory status, mobility and mental status are less likely to form these ulcers because their regular physiological feedback system leads to periodic changes in physical position. As mentioned before, older individuals are more likely to present sacral decubitus ulcers, the literature shows that two thirds of ulcers occur in people older than 70 years, as well as some studies showing that about 83% of hospitalized patients formed ulcers within 5 days after hospitalization(7).

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Figure 2. Pressure ulcers (UPP) located in the sacro-coccygeal region.



Source: The Authors.

Risk Factors

The formation of pressure sores is complex and multifactorial. Several external as well as internal factors coincide to generate these ulcers. Internal factors such as malnutrition, endothelial dysfunction and anemia can accelerate the evolution of tissue damage. External factors such as pressure, shear force, prolonged friction and humidity can trigger tissue deformation and ischemia(6,12).

In a meta-analysis involving 19,363 individuals admitted to intensive care units, the risk factors that appeared as the most important predictors of pressure ulcer development were: length of stay in the ICU, diabetes, age, MAP time <60-70 mmHg, intermittent hemodialysis or continuous veno-venous hemofiltration therapy, turning, vasopressor support, sedation, mechanical ventilation and its duration(13).

Reduced mobility, poor nutritional status, skin moisture and loss of sensory perception stand out as the most common risk factors, as well as advanced age, cognitive impairment and comorbid conditions that affect tissue healing. The pressure maintained on the tissues can generate occlusion of the capillary bed, reducing the amount of oxygen in the area, as time progresses the ischemic tissue accumulates toxic metabolites, which in the future generates ulceration and necrosis of the tissue. Immobility of only two hours in a bedridden or post-surgical individual is enough to create the basis for a pressure ulcer. The alteration of the nervous regulatory mechanisms in charge of controlling the local blood flow is also to some extent responsible for the constitution of these ulcers(7,12,14).

Individuals with the conditions described below are predisposed to pressure ulcers:

- Dehydration.
- Malnutrition.
- Hypotension.
- Cardiovascular disease.
- Neurological disease.
- Surgical patients.
- Prolonged anesthesia.

Presentation

In individuals with unaltered sensation, mobility and mental state, prolonged pressure causes discomfort and pain, resulting in a change in body position. However, most individuals with pressure ulcers do not have these characteristics. The clinical manifestations may be different for each body site because the skin, soft tissues and muscles resist external pressure differently. The most common anatomical sites are the sacrum, ischial tuberosity and greater trochanter, although they can also be found in places such as the occiput, scapula, heel, lateral malleolus, elbow, shoulder and even the ear. The muscle can become ischemic and necrotic before skin breakdown occurs, which can be difficult to discern on medical ectoscopy, weakening the diagnosis as to the depth or extent of the ulcer. It is therefore emphasized that a complete medical history, together with a proper overall assessment of the individual at risk, is essential when assessing aspects of the wound, it is essential to keep in mind the risk assessment tools to reduce the risk of pressure ulcer incidence, for which several risk assessment scales can be used, such as the following: Waterlow, Norton and Braden(7,11).

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Figure 3. Trochanteric pressure ulcers.



Source: The Authors.

Treatment

Before describing the multiple treatments for pressure ulcers, it is crucial to clarify that preventive intervention is the best treatment. Prevention consists of maintaining and improving tissue tolerance and adequate offloading. This could be obtained through excellent skin care, turning schedules, support surfaces, proper hydration, adequate nutrition and pressure dispersion cushions. The skin should be clean and dry. Proper hydration, accompanied by adequate nutrition are essential, nutritional supplements help benefit individuals with limited oral intake. Redistribution of pressure can be achieved by means of beds and chairs designed to avoid direct pressure on areas of anatomical risk. Studies show that turning every 4 hours on a viscoelastic foam mattress or surface generates fewer pressure ulcers than turning less frequently, in the case of 2 hours, on a standard mattress. Support surfaces should be adopted according to the level of risk, ulcer stage, mobility, patient comfort and microclimate control requirements. Following the formation of a pressure ulcer, the anatomical area involved should be actively offloaded, ensuring adequate drainage, and if infection is present, devitalized tissue should be debrided and proper wound care should be provided. Pressure should be redistributed through active positioning of the individual, special bandages, immersion beds and reconditioning of prostheses for unloading. In case of abscess, it should be drained. Temporary application of silver sulfadiazine, iodine, hydrogen peroxide or Dakin solution is recommended in case of suspected infection, bearing in mind that they may delay wound healing in the long term. Antibiotics should only be an alternative when there is significant cellulitis or systemic signs of infection. On the contrary, when there is exposed bone in sacral decubitus ulcers, studies report a low incidence of osteomyelitis(7,15,16).

Mechanical debridement may be required to get rid of devitalized tissue and biofilms that do not allow adequate wound healing. It should not be indicated in cases of dry eschar without fluctuations or secretion of purulent material. Dressings can be used differently, always taking into account the stage of the ulcer, the infection and the presence of exudate. However, there are studies that support the use of silicone foam dressings as well as Allevyn Life silicone adhesive dressings for any pressure ulcer with a Braden score of 14 or less(7,17).

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Figure 4. Pressure ulcers on the foot and ankle, in the process of treatment.



Source: The Authors.

CONCLUSIONS

Due to the high prevalence of pressure ulcers worldwide, especially in patients over 70 years of age, the recognition, presentation and pathophysiology of pressure ulcers should be clearly understood, with the aim of preventing their occurrence. Prevention consists of maintaining and improving tissue tolerance and adequate offloading. Both internal and external factors have to be evaluated because they play a major role in pressure ulcer formation. Special attention should be paid to epidemiological risk groups. Proper hydration and adequate nutrition are essential in the treatment of this condition, in addition to close monitoring and corresponding wound management.

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ENVIRONMENTAL IMPACTS OF COVID-19 HOSPITALS AND ARCHITECTURAL REMEDIES

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ABSTRACT

Pandemics, with their potential for widespread devastation and global impact, have historically been a critical concern for public health and society. the historical impact of pandemics on the environment underscores the interconnectedness of human lives and health, societal systems, and the environment, highlighting the need for holistic approaches to public health and environmental management. The COVID-19 pandemic has brought about significant changes in healthcare facilities worldwide, particularly in hospitals designated for COVID-19 patients to counter and serve the impact on humans which universally led to the rapid establishment of specialized hospitals to manage the surge in patients. However, such hospitals not only posed significant challenges to healthcare systems worldwide but also highlighted the need for sustainable practices in designing and operating healthcare facilities along with their significant environmental impacts. In response to these challenges, architects, designers, and healthcare professionals have explored innovative architectural and other remedies to mitigate the environmental impacts of COVID-19 hospitals. This paper explores these potential environmental impacts and proposes architectural planning strategies that include sustainable practices and green design principles through which, by implementing, COVID-19 hospitals or similar hospitals can minimize their environmental footprint and contribute not only to a more sustainable healthcare system but also create healthier and more sustainable environments for patients, healthcare workers, and the community at large.

KEYWORDS: *Hospital Environmental Impact, Hospital Environment Relation, COVID-19 Hospital Impact on Environment, COVID-19 Hospital Impact, Environmental Impact of Pandemics, Pandemic Hospital Impact on Environment*

INTRODUCTION

The COVID-19 pandemic has brought unprecedented challenges to healthcare systems worldwide, which has led to the rapid construction and adaptation of healthcare facilities to meet the surge in patient demand (WHO, 2020; Ezekiel J. Emanuel, 2020). It has passed its pandemic stage but now it has been predicted to become an endemic disease (Antia, 2021) which makes it important to study every aspect of science to not only counter its impact but also to learn from it but also to apply its learnings in future similar situations to collectively reduce its impact on the world. While hospitals played a crucial role in managing the pandemic and saving lives, their operations had significant environmental impacts (Ana L. Patrício Silva, 2021). It is important to extract and highlight these environmental impacts of COVID-19 so that they can be utilized and implemented in similar future situations. Hospitals can implement such strategies to not only reduce their environmental impact but also improve the health and resilience of patients, healthcare workers, and the community in such situations. After carefully reviewing the literature, the environmental impact of hospitals requires a comprehensive approach for the assessment that considers various aspects of their operations and activities. Several key parameters can be used to evaluate and measure this impact:

1. **Waste Generation**: Hospital waste generation is a significant environmental concern due to its complex and potentially hazardous nature. Hospitals produce a variety of waste types, including infectious waste, hazardous chemicals, and pharmaceuticals, which require specialized handling and disposal methods to prevent environmental contamination and public health risks. Managing hospital waste effectively is essential to minimize its environmental impact and ensure the safety of healthcare workers, patients, and the community (Elliott Steen Windfeld, 2015).
2. **Energy Consumption**: Hospital energy consumption is a critical aspect of healthcare facility operations, significantly impacting both operational costs and environmental sustainability. Hospitals are energy-intensive buildings due to the continuous operation of medical equipment, heating, ventilation, and air conditioning (HVAC) systems, and lighting. Energy consumption efficiency is essential for hospitals to reduce their carbon footprint, lower energy costs, and ensure reliable healthcare services (Spicer, 2019; Christiansen, 2015).
3. **Water Consumption**: Hospital water consumption is a key component of healthcare facility management, impacting both operational costs and environmental

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sustainability. Hospitals require water for various purposes, including patient care, sanitation, and facility operations. Water consumption is crucial for hospitals to reduce costs, minimize their environmental impact, and ensure sustainable water use practices (Balwani, 2017).

4. **Air Emissions**: Hospital air emissions refer to the release of pollutants into the atmosphere from various hospital activities and operations. These emissions can result from the combustion of fuels in boilers and generators, as well as from the use of chemicals and medical equipment. Air emission control is essential for hospitals to minimize their impact on local air quality and public health (Amin, 2021; Marco Gola, 2019).
5. **Transportation Impact**: Hospital transportation impact refers to the environmental effects of the movement of people and goods to and from healthcare facilities. This includes patient transport, staff commutes, and delivery of supplies. Efficient and sustainable transportation practices are crucial for hospitals to manage transportation impact, and reduce traffic congestion, air pollution, and greenhouse gas emissions (Solomon, 2020).
6. **Indoor Environmental Quality**: Hospital indoor environmental quality (IEQ) refers to the conditions inside healthcare facilities that affect the health, comfort, and well-being of patients, staff, and visitors. IEQ encompasses factors such as indoor air quality, thermal comfort, lighting, and noise levels. Maintaining high IEQ standards is essential for hospitals to provide a safe and healthy environment for all occupants (Marco Gola, 2019).
7. **Greenhouse Gas Emissions**: Hospital greenhouse gas (GHG) emissions refer to the release of gases such as carbon dioxide, methane, and nitrous oxide from hospital activities. These emissions contribute to climate change and global warming. Reducing greenhouse gas emissions is crucial for hospitals to minimize their environmental impact and promote sustainability in healthcare (Amin, 2021; Bozoudis, 2022).
8. **Chemical Management**: Hospital chemical management involves the proper handling, use, storage, and disposal of chemicals used in healthcare facilities. This includes cleaning agents, disinfectants, pharmaceuticals, and other hazardous substances. Effective chemical management is essential for hospitals to prevent environmental contamination, protect the health and safety of staff and patients, and comply with regulations (Charlier, 1993).
9. **Biodiversity Impact**: Hospital biodiversity impact refers to the effect of healthcare facilities on the surrounding environment's biodiversity. This impact can result from activities such as land use changes, habitat destruction, and pollution. Managing biodiversity impact is important for hospitals to minimize their ecological footprint and promote environmental conservation and sustainability (Manfred Lenzen, 2020).
10. **Sustainable Procurement**: Hospital sustainable procurement involves the purchasing of goods and services in a way that minimizes negative environmental, social, and economic impacts. This includes sourcing products that are environmentally friendly, ethically produced, and have a low carbon footprint. Sustainable procurement is essential for hospitals to promote sustainability throughout their supply chain and support the transition to a more sustainable healthcare sector (Wilburn, 2021).

METHOD

This research is based on the review of the literature which adopted a multi-phased random review approach to extract and review existing literature. The first phase of the research consisted of extracting literature related to the environmental impact of hospitals to extract the parameters that created the base to assess the environmental impact of hospitals at large. The second phase of the research consisted of extracting the literature on the environmental impacts of COVID-19 hospitals and architectural remedies which included research articles, reports, and case studies from academic and industry sources. Published Data on the environmental impacts of COVID-19 hospitals was collected from relevant sources from digital libraries searched from Google Scholar using different keywords since 2020 from which, data in English was considered. Conclusions were formulated based on relevant findings from the literature review along with the inputs from relevant professionals for healthcare facilities to implement these strategies to mitigate environmental impacts and promote sustainability.

RELEVANT FINDINGS

After conducting the literature review analysis, extracted relevant findings were divided into two main categories. Firstly, the environmental impacts, which discusses the enhanced environmental impact from such dedicated COVID-19 hospitals only as the overall impacts by other hospitals have been discussed earlier. Secondly, the architectural and other remedies for such hospitals have been discussed which will help in reducing their enhanced environmental impact.

ENVIRONMENTAL IMPACTS

1 Increased Energy Consumption: COVID-19 hospitals require intensive ventilation, heating, and cooling systems to maintain air quality and temperature control. This leads to higher energy consumption and increased greenhouse gas emissions (Wandong Zheng, 2021).

2 Waste Generation: The COVID-19 pandemic has had a significant impact on the healthcare sector, leading to an increase in the demand for hospital facilities and the generation of substantial amounts of medical waste (Water, 2020). Several studies have highlighted the environmental implications of this surge in healthcare activities. A study by Sarkodie and Owusu (2020) examined the potential increase in medical waste generation during the COVID-19 pandemic. They estimated that the global generation of medical waste could increase by approximately 600 tons per day, posing significant challenges for waste management systems (Sarkodie, 2021). Another study by Sangkham (2020) focused on the environmental impact of personal protective equipment (PPE) disposal in Thailand, highlighting the need for proper waste management strategies to mitigate the negative effects on the environment (Sangkham, 2020).

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3 Water Usage: As already witnessed, hospitals require large amounts of water for sanitation, cleaning, and medical procedures. The dedicated The increased demand for water in COVID-19 hospitals can strain local water resources, especially in areas already facing water scarcity (Othman Ahmed, 2023).
4 Chemical Usage: In response to the COVID-19 pandemic, hospitals and healthcare facilities have significantly increased their usage of various chemicals for infection control and prevention. Commonly used chemicals include disinfectants such as bleach, hydrogen peroxide, and quaternary ammonium compounds, which are effective against the SARS-CoV-2 virus. These chemicals are used to clean and disinfect surfaces, medical equipment, and high-touch areas to reduce the risk of transmission (Dewey, 2021).

ARCHITECTURAL AND OTHER REMEDIES

In terms of architectural remedies, several researchers have proposed strategies to address the environmental impact of hospitals during pandemics like COVID-19. Research advocated for the adoption of green building principles in the design and construction of healthcare facilities. They suggested incorporating features such as energy-efficient systems, water conservation measures, and sustainable materials to reduce the environmental footprint of hospitals (Capolongo, 2020). Tsai et al. (2021) explored the concept of modular and flexible hospital designs, which can be rapidly deployed and adapted to respond to surges in demand during pandemics. These modular designs allow for efficient use of resources and can be easily dismantled or repurposed after the crisis, minimizing waste and environmental impact. Beyond architectural remedies, researchers have also proposed other strategies to mitigate the environmental impact of COVID-19 hospitals. Jiang et al. (2021) emphasized the importance of effective waste management practices, including segregation, treatment, and proper disposal of medical waste. They also recommended the adoption of circular economy principles, such as waste reduction, reuse, and recycling, to minimize the environmental burden. Another architectural solution proposed by Capolongo et al. (2020) involves the implementation of infection control strategies in hospital design. Similar to the studies witnessing the strategies to control infection in hospital departments such as in the burn unit (Aziz, 2023) ,ophthalmology (Arafat Aziz T. N., 2023), dentistry (Arafat Aziz S. C., 2023), etc, dedicated COVID 19 hospital includes the incorporation of advanced ventilation systems, segregated areas for infectious patients, and materials that facilitate effective cleaning and disinfection. Such measures can help reduce the spread of infectious diseases and minimize the environmental impact associated with decontamination and waste disposal. Other remedies in context to COVID 19 are summerized:

1. Energy-Efficient Design: Designing COVID-19 hospitals with energy-efficient features such as natural ventilation, high-performance insulation, and energy-efficient lighting can reduce energy consumption and lower greenhouse gas emissions.
2. Waste Management Practices: Implementing effective waste management practices, including segregation, recycling, and proper disposal of medical waste, can minimize the environmental impact of COVID-19 hospitals.
3. Water Conservation Measures: Installing water-efficient fixtures, implementing rainwater harvesting systems, and promoting water recycling can help reduce the water footprint of COVID-19 hospitals.
4. Green Building Certifications: Seeking green building certifications, such as LEED (Leadership in Energy and Environmental Design), can ensure that COVID-19 hospitals adhere to sustainable building practices and minimize their environmental footprint.
5. Use of Eco-Friendly Materials: Choosing eco-friendly building materials and furnishings can reduce the environmental impact of COVID-19 hospitals and promote a healthier indoor environment for patients and healthcare workers.
6. Alternative Energy Sources: Integrating renewable energy sources, such as solar panels or geothermal systems, can help COVID-19 hospitals reduce their reliance on fossil fuels and decrease their carbon footprint.

CONCLUSION

The environmental impacts of COVID-19 hospitals are significant and multifaceted, requiring a holistic approach to mitigation. One of the primary environmental impacts of COVID-19 hospitals is the increased energy and resource consumption associated with their construction. The rapid construction of temporary facilities often relies on resource-intensive materials and processes, leading to higher carbon footprints. The increased demand for energy, water, and medical supplies in these facilities further strains already limited resources. Furthermore, the operational strategies employed in COVID-19 hospitals, such as enhanced ventilation and disinfection protocols, can have long-term environmental consequences. Increased both artificial ventilation and natural ventilation rates to reduce airborne transmission of the virus can lead to higher energy consumption. Architectural solutions, such as green building principles, modular designs, and infection control strategies, have been proposed to address these challenges. Additionally, effective waste management practices and the adoption of circular economy principles could further mitigate the environmental impact of healthcare activities during pandemics. The integration of green space systems can improve indoor air quality and reduce the reliance on mechanical ventilation at the same time, the use of chemical disinfectants can result in the release of harmful pollutants into the environment. To address these environmental impacts, architects and healthcare professionals are exploring various remedial strategies. These include the use of sustainable building materials and construction techniques to reduce the carbon footprint of hospitals, as well as the implementation of energy-efficient HVAC systems and renewable energy sources to minimize energy consumption.

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A COMPARATIVE STUDY ON FINANCIAL REPORTING OF SELECT NIFTY FIFTY COMPANIES USING GRAY'S COMPARABILITY INDEX

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ABSTRACT

The Institute of Chartered Accountants of India (ICAI) plays a crucial role in promoting globally recognized accounting standards in the Indian context. In this endeavor, ICAI has introduced the "Indian Accounting Standards" (Ind AS) to align with the International Financial Reporting Standards (IFRS). We aim to assess the impact of implementing the new accounting standards compared to the pre-existing standards. To achieve this, we employed Gray's comparability index model on the key items of the consolidated financial statements of selected NIFTY FIFTY companies and examined the outcomes. The analysis reveals significant alterations in the figures of current and non-current liabilities, as well as total income and total expenses. These changes are attributed to various recognition and disclosure criteria introduced by the new accounting standard.

KEY WORDS: *Ind AS, IGAAP, NIFTY FIFTY, Gray's Comparability Index*

INTRODUCTION

In an era of increasing global interconnectedness, emerging economies like India are witnessing a transformative integration with mature economies through burgeoning cross-border trade and investments. This seamless integration, facilitated by the forces of globalization, has rendered the notion of regional accounting standards obsolete. The establishment of the World Trade Organization marked a significant milestone, particularly in finance, as money became the epitome of fungibility, flowing effortlessly across national boundaries. With shareholders no longer confined to the jurisdictional boundaries of individual sovereign nations but rather dispersed across continents, the traditional justification for regional accounting standards has waned. This shifting landscape has spurred a recognized and pressing need for universally acknowledged, high-quality financial reporting. Such a global financial reporting framework aims to enhance comprehension and transparency, empowering stakeholders to make well-informed decisions in a landscape where economic interactions transcend traditional geopolitical constraints.

In response to the evolving landscape of global finance, the imperative for harmonizing accounting standards has given rise to a concerted effort towards establishing a universal framework. This pursuit has materialized in the form of International Financial Reporting Standards (IFRS), a globally recognized accounting standard issued by the International Accounting Standards Board (IASB). Comprising International Accounting Standards (IAS) and International Financial Reporting Standards (IFRSs), along with interpretations issued by the Standing Interpretations Committee, this comprehensive set of guidelines transcends geographical boundaries.

Adopting a singular, high-quality accounting standard, such as IFRS, is pivotal to expedite cross-border investment and facilitate informed economic decision-making. The IFRS framework enhances market efficiency by providing a common language for financial reporting across diverse jurisdictions. Additionally, it holds the potential to mitigate capital-raising costs, further incentivizing international economic interactions. As the global business landscape continues to evolve, implementing IFRS is a critical step toward fostering transparency, comparability, and efficiency in financial reporting on a truly international scale.

According to Istrate, Costel. (2013) transition to International Financial Reporting Standards (IFRS) brings forth many benefits, prominently evident in the enhanced consistency of financial statements, reduced capital costs, and elevated quality of public information. One of the mechanisms through which this transition is executed is outlined in IFRS 1, which mandates the disclosure of information regarding the effects of the shift to IFRS on various financial elements, including assets, debt, equity, revenues, and charges.

IFRS in India

The Institute of Chartered Accountants of India (ICAI) is pivotal in advancing the cause of globally recognized accounting standards within the Indian context. In this pursuit, ICAI has introduced "Indian Accounting Standards" (Ind AS) to align with the International Financial Reporting Standards (IFRS). This proactive measure underscores the commitment to harmonizing financial reporting practices in India with global standards, enhancing comparability and transparency.

The concept of convergence becomes central to this alignment process. It involves the harmonization of accounting standards

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that are established by various regulatory authorities. In essence, convergence signifies the alignment of standards set by multiple entities, often requiring a certain level of compromise in the form of full or partial adoption of the criteria laid out in those standards. In India's alignment with IFRS, convergence entails achieving a harmonious relationship with IFRS and formulating and maintaining national accounting standards by the International Accounting Standards.

This convergence reflects a commitment to international best practices and facilitates a seamless flow of financial information across borders. By embracing a convergence strategy, India aims to integrate its financial reporting framework with global norms, contributing to greater consistency, comparability, and understanding in the increasingly interconnected world of international finance.

The Ministry of Corporate Affairs (MCA) took a significant step towards aligning India's accounting standards with global practices on February 16, 2015. On this date, the MCA formally notified the 39 Companies (Indian Accounting Standards) Rules, 2015.

Gray Index of Conservatism

The Gray Index of Conservatism, developed by Stephen Gray, is a metric designed to measure conservatism in financial reporting. Conservatism in accounting refers to recognizing potential losses or liabilities sooner than gains, emphasizing a cautious and prudent approach to financial reporting. The Gray Index assesses financial statements based on the degree to which they exhibit conservative accounting practices, considering factors such as the recognition of contingent liabilities and the timely recognition of losses. A higher Gray Index score indicates a more conservative financial reporting approach, reflecting a preference for understating rather than overstating financial performance. This index is a valuable tool for analysts, researchers, and investors seeking insights into the reliability and risk-averse nature of financial reporting within an organization.

REVIEW OF LITERATURE

In 2018, Pramanick conducted a comparative analysis of financial statements under two accounting standards, namely Indian Generally Accepted Accounting Principles (IGAAP) and Indian Accounting Standards (Ind AS). The study employed the Gray Conservatism Index to assess the impact of the two standards on financial reporting. The findings of the study indicated that, in most cases, the adoption of Ind AS did not significantly impact the profit and loss statement or balance sheet when compared to the outcomes under IGAAP. This suggests that, according to the Gray Conservatism Index, the transition to Ind AS did not lead to substantial changes in conservatism in financial reporting. Pramanick's research contributes to understanding the relative conservatism between IGAAP and Ind AS, shedding light on the continuity or lack of significant shifts in financial reporting practices under these two accounting frameworks.

Achalapathi and Bhanu Sireesha (2015) examined the impact of the voluntary adoption of International Financial Reporting Standards (IFRS) on key financial ratios, specifically focusing on stability, liquidity, profitability, and valuation, within a sample of 10 Indian companies. The research utilized secondary data from annual reports spanning six financial years (2008-09 to 2013-14), prepared under Indian Generally Accepted Accounting Principles (GAAP) and IFRS. Gray's Comparability Index served as a tool to gauge the relative impact of IFRS adoption on the financial ratios of the selected companies. The study identified significant differences between Indian GAAP-based and IFRS-based financial ratios. The adoption of the IFRS has led to a statistically significant increase in liquidity, profitability, and valuation ratios.

In 2015, Matthew Adeolu Abata conducted a study evaluating the impact of the International Financial Reporting Standards (IFRS) on financial reporting practices within the Nigerian Banking Sector. A T-test at a 5 percent level of significance was utilized to test the mean differences of the computed Comparability Indexes. The results of the T-test demonstrated significant differences in the mean value of the Comparability Index under Indian GAAP and IFRS. This indicated that IFRS had a measurable impact on the financial reporting practices of Nigerian banks, with quantitative differences observed in key elements of financial statements, such as assets, liabilities, and equities, when prepared under GAAP and IFRS. The study thus provided valuable insights into the specific effects of IFRS adoption within the Nigerian banking sector.

Reseachers Istrate and Costel. (2013) tries to discover the history of the Gray Index of Conservatism, the comparability index, and how it could be used as a valuable instrument for evaluating discrepancies across various accounting standards. In this study, the researchers employ this index to appraise the consequences of the obligatory adoption of International Financial Reporting Standards (IFRS) across Europe in 2005. The investigation delves into numerous accounting parameters, encompassing equity, net income, leverage, return on equity, and return on assets. The outcomes elucidate that the former Generally Accepted Accounting Principles (GAAP) in Belgium, France, and Portugal exhibited a higher prudence than IFRS. In certain instances, the findings reveal a substantial reduction in prudence in IFRS financial reporting across all nations.

Bhargava and Shikha (2013) focused on assessing the impact of International Financial Reporting Standards (IFRS) on the financial statements and key ratios of Wipro Ltd. The study involved a comparative analysis between the consolidated financial statements prepared under Generally Accepted Accounting Principles (GAAP) and those under IFRS. Notably, the examination revealed variations in total assets and liabilities attributable to the reclassification among equity and liability and differences in the application of the revenue recognition concept. They suggested that the adoption of IFRS by Wipro Ltd. not only resulted in specific changes in financial metrics but also aligned with the broader goals of promoting transparency, comparability, and a more comprehensive understanding of financial reporting practices on an international scale.

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In 2012, Yadav conducted a comprehensive study examining the impact of adopting International Financial Reporting Standards (IFRS) in India. The research delved into the challenges anticipated during the transition and the procedural aspects of IFRS adoption in the Indian context. Yadav's findings highlighted that the shift from Indian Generally Accepted Accounting Principles (GAAP) to IFRS would be accompanied by several challenges. Key aspects of this process include a complete overhaul of accounting formats, revision of accounting policies, and more extensive disclosure requirements. While acknowledging the complexities of this transition, Yadav's study advocated adopting IFRS in India, emphasizing the long-term benefits and alignment with international reporting standards. This reflects the broader discourse on the global movement towards harmonization and standardization in financial reporting.

In their 2012 study, Kathryn Trewas, Nives Botica Redmayne, and Fawzi Laswad examined the repercussions of the adoption of the International Financial Reporting Standards (IFRS) on the financial statements of New Zealand public sector entities. The study employed statistical analyses, specifically paired sample tests, to compare New Zealand Generally Accepted Accounting Principles (NZ GAAP) with NZ IFRS opening and closing balances for various financial elements, including assets, liabilities, equity, revenue, expenses, and net income. The key findings indicated an overall significant impact of IFRS adoption on public sector financial reporting. Notably, liabilities for the overall sample and several analyzed sub-sectors experienced a substantial increase. This suggests a notable shift in the treatment of liabilities under NZ IFRS compared to NZ GAAP, with the adoption of IFRS causing significant adjustments in the financial statements of the public sector entities.

In 2011, Shobana Swamynathan and Sindhu examined the impact of the convergence to International Financial Reporting Standards (IFRS) from Indian Generally Accepted Accounting Principles (GAAP) on the financial statements, focusing on Wipro Limited. The research relied on secondary data, specifically selected financial variables sourced from the annual reports of Wipro Limited for the fiscal year ending on March 31, 2010. The study's findings revealed that the net income position in IFRS reporting and Indian GAAP did not differ substantially. However, distinctions were observed between Equity and Total Liability. While the return on equity, return on asset, total asset turnover, and net profit ratio were not significantly affected by the convergence to IFRS, the leverage ratio experienced a notable change. The study concluded that IFRS is characterized by a fair value-oriented and balance sheet-oriented accounting approach, emphasizing transparent disclosures. In contrast, Indian GAAP was described as adopting a conservative approach. This research contributes valuable insights into the specific financial metrics influenced by the convergence to IFRS, highlighting similarities and differences in the financial reporting frameworks.

The research conducted by Liu in 2009 and Liu et al. in 2010 focused on analyzing the comparability between the United States Generally Accepted Accounting Principles (US GAAP) and International Financial Reporting Standards (IFRS). The study observed a noticeable increase in convergence between the two sets of accounting rules throughout 2004 to 2006 and 2007. However, despite this trend toward convergence, significant differences were identified between US GAAP and IFRS-EU during the specified periods. This underscores the ongoing challenges and complexities in achieving complete harmonization between these two prominent accounting standards, reflecting the nuanced nature of the global efforts toward standardization in financial reporting.

From the above literature, only a few research studies have been undertaken using the Gray Index of Conservatism in the Indian context to compare the previous GAAP and the accounting standards in place. Therefore, the current study aims to perform the Gray Index of Conservatism model on the selected companies from NIFTY FIFTY.

RESEARCH DESIGN

Objective: The research objective is to determine the impact of the convergence of Ind AS on the financial reporting of select NIFTY FIFTY companies.

Population: The NIFTY FIFTY companies listed on the stock exchange are the population for the study.

Sampling Methodology and Sample: The researcher aims to take companies across the industries among the pool of comments listed in NIFTY FIFTY. In conducting an empirical analysis, a company was selected from each industry using convenience sampling, and Gray's Comparability Index (GCI) was employed. The required secondary data for this investigation has been sourced from the published annual reports of the chosen companies. The study focuses on assessing the financial position as of March 31, 2016.

The companies selected are as follows

Sl No	Name of the company	Industry
1	Infosys (INFY)	Information Technology
2	ITC (ITC)	FMCG
3	Larsen & Toubro Ltd (L&T)	Construction
4	Bharti Airtel (BHARTIARTL)	Telecommunication
5	Asian Paints (ASIANPAINT)	Consumer Durables
6	Eicher Motors Ltd	Automobile
7	Sun Pharma (SUNPHARMA)	Healthcare
8	Power Grid Corporation (POWERGRID)	Power

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9	JSW Steel (JSWSTEEL)	Metals & Mining
10	Oil & Natural Gas Corp. (ONGC)	Oil & Gas

ANALYSIS

Gray's Comparability Index (GCI) is utilized to evaluate the key components of financial statements, including assets, liabilities, equities, and profit, as per both Indian Generally Accepted Accounting Principles (IGAAP) and Indian Accounting Standards (Ind AS) on the consolidated financial statements. Introduced by Gray in 1980, this index quantifies the influence of diverse accounting practices through a Conservatism Index.

The model was used on the Non-Current Assets, Current Assets, Total Assets, Total Equity, Non-Current Liabilities, Total Current Liabilities, Total Equity and Liabilities, Total Income, Total Expenses, and Profit before tax to understand the impact of convergence on the financial reporting.
The formula is as follows:

$$Comparability\ Index\ of\ Non-Current\ Assets\ (NCA) = 1 - \frac{Total\ NCA\ of\ Ind\ AS - Total\ NCA\ of\ IGAAP}{Total\ NCA\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Current\ Assets\ (CA) = 1 - \frac{Total\ CA\ of\ Ind\ AS - Total\ CA\ of\ IGAAP}{Total\ CA\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Total\ Assets = 1 - \frac{Total\ Total\ Assets\ of\ Ind\ AS - Total\ Total\ Assets\ of\ IGAAP}{Total\ Total\ Assets\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Equity = 1 - \frac{Total\ Equity\ of\ Ind\ AS - Total\ Equity\ of\ IGAAP}{Total\ Equity\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Non-Current\ Liability\ (NCl) = 1 - \frac{Total\ NCL\ of\ Ind\ AS - Total\ NCL\ of\ IGAAP}{Total\ NCL\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Current\ Liability\ (CL) = 1 - \frac{Total\ CL\ of\ Ind\ AS - Total\ CL\ of\ IGAAP}{Total\ CL\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ \ Total\ Equity\ and\ Liabilities$$
$$= 1 - \frac{Total\ \ Total\ Equity\ and\ Liabilities\ of\ Ind\ AS - Total\ \ Total\ Equity\ and\ Liabilities\ of\ IGAAP}{Total\ \ Total\ Equity\ and\ Liabilities\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Total\ Income\ = 1 - \frac{Total\ Total\ Income\ of\ Ind\ AS - Total\ Total\ Income\ of\ IGAAP}{Total\ Total\ Income\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ Total\ Expenses = 1 - \frac{Total\ Total\ Expenses\ of\ Ind\ AS - Total\ Total\ Expenses\ of\ IGAAP}{Total\ Total\ Expenses\ of\ Ind\ AS}$$

$$Comparability\ Index\ of\ \ Profit\ before\ tax\ (PBT) = 1 - \frac{Total\ PBT\ of\ Ind\ AS - Total\ PBT\ of\ IGAAP}{Total\ PBT\ of\ Ind\ AS}$$

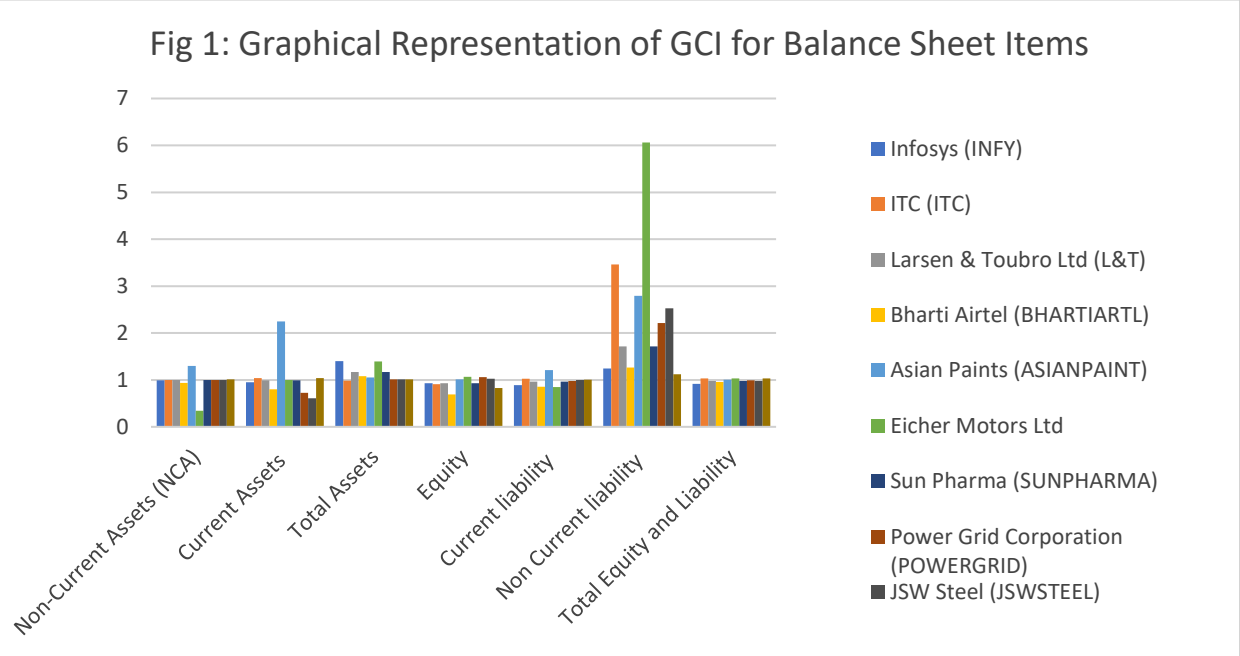
The interpretation of results will follow this guideline. IC (Index of Comparability) equals 1 if both sets of standards yield identical values. When Ind AS values surpass those of the former standards, IC falls below 1. Conversely, if Ind AS values are lower than those derived from the previous standards, IC exceeds 1.

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Companies	Non-Current Assets (NCA)	Current Assets	Total Assets	Equity	Current Liability	Non-Current liability	Total Equity and Liability	Total Income	Total Expenses	Profit Before Tax
Infosys (INFY)	0.9911	1	0.9972	0.9365	1.2984	0.3433	0.9972	1.0001	0.995	1.0129
ITC (ITC)	0.9487	1.0382	0.9917	0.7971	2.2445	0.9995	0.9917	0.7241	0.6119	1.0386
Larsen & Toubro Ltd (L&T)	1.3987	0.9814	1.1684	1.0783	1.0507	1.3962	1.1684	1.0091	1.0119	1.0084
Bharti Airtel (BHARTIARTL)	0.9323	0.9104	0.9301	0.6883	1.0131	1.063	0.9301	1.0562	1.027	0.8304
Asian Paints (ASIANPAINT)	0.8875	1.0219	0.9605	0.8539	1.2119	0.8493	0.9605	0.9801	0.9986	1.0056
Eicher Motors Ltd	1.2454	3.4649	1.7167	1.265	2.7944	6.0597	1.7167	2.2101	2.528	1.1181
Sun Pharma (SUNPHARMA)	0.9127	1.0308	0.9764	0.9574	1.0079	1.0307	0.9764	0.9911	0.9793	1.0296
Power Grid Corporation (POWERGRID)	1.0067	1.1587	1.0147	0.9772	1.086	1.0136	1.0147	1.0314	1.0347	1.0097
JSW Steel (JSWSTEEL)	0.993	1.0207	0.9979	1.1534	1.0061	0.9161	0.9979	0.911	0.9096	0.9624
Oil & Natural Gas Corp. (ONGC)	1.0469	1.0052	1.0398	0.9341	1.2387	1.1605	1.0398	0.9231	0.9083	0.7319

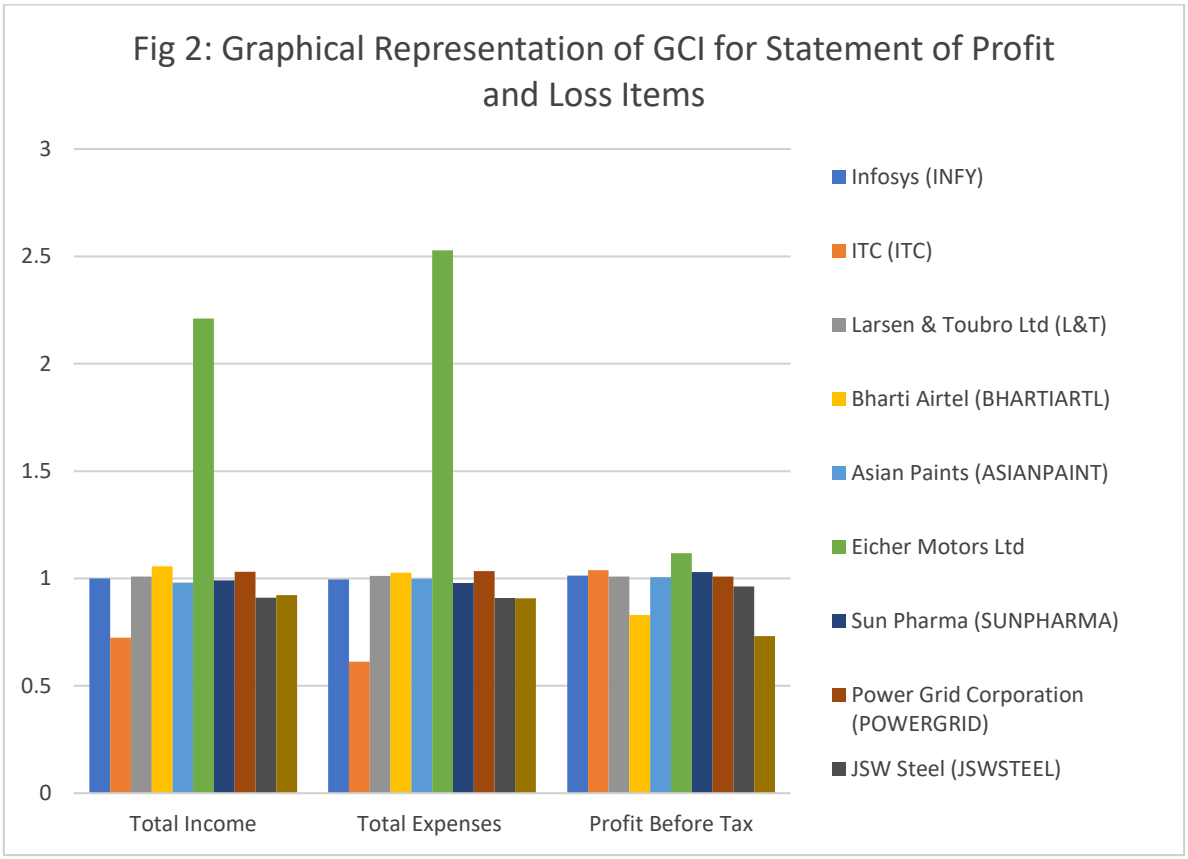
Table 1: Results of Index of Comparability using Gray's Comparability Index on various elements of balance sheet and income statement

Comparing the values of IC for balance sheet items it is found while there are no significant changes in the ICs of Non-current Assets, Total assets, Equity, current liabilities, and Total equity and Liability, it was also found that there was the value of Noncurrent assets for Eicher Motors are relatively higher as per Ind AS from that of IGAAP, it was also found that the current assets of Asian Pains were higher as per IGAAP when compared to Ind AS.



There has been a significant change in noncurrent liabilities in the ICs of ITC, Asian paints, and Eicher Motors when compared to other companies, this could be because of the reduction in the manner of recording of noncurrent liabilities in terms of Ind AS because of the reasons such as liabilities of a disposal group classified as held for sale is to be presented separately from other liabilities in the balance sheet, the loan is mandated to be assessed at amortized cost, as per the guidelines outlined in Ind AS 109, consequently, its carrying amount should be adjusted or restated to reflect its amortized cost, aligning with the principles outlined in Ind AS 109, Accounting for deferred taxes under IGAAP differs fundamentally from that under Indian Accounting Standards (Ind AS).

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There has been a significant difference in the value of IC for Total Income and total expenses in Eicher Motors only and other companies had no significant difference. The reasons for drastic change may be because the application of Ind AS 12 - Income Taxes necessitates the recognition of deferred tax for new temporary differences arising between the carrying amount of an asset or liability in the balance sheet and its corresponding tax base this requirement was not present under IGAAP, under the old accounting standards, the changes in the value of liabilities related to post-employment benefits are included in the profit or loss for the year. However, under Indian Accounting Standards (Ind AS), the valuations, including actuarial gains and losses and return on plan assets, are recognized under Other Comprehensive Income instead of being directly attributed to profit or loss.

CONCLUSION

In conclusion, the transition from Indian Generally Accepted Accounting Principles (GAAP) to Indian Accounting Standards (Ind AS) has resulted in significant impacts on various items, as well as the balance sheet and income statement. Although this paper does not assess the statistical significance of the differences, it provides a comprehensive overview of the noticeable changes arising from the distinct recognition criteria outlined by Ind AS. Notably, the discrepancies in accounting treatment for taxes, discounting on provisions, and contingent assets contribute to variations between IGAAP and Ind AS reporting, particularly under the category of non-current liabilities. This highlights the importance of understanding and appropriately addressing these differences for accurate financial reporting and analysis under the new accounting standards.

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Annexure -1: Select Consolidated Financial statement as of 31/03/2023 as per IGAAP

Companies	Non-Current Assets (NCA)	Current Assets	Total Assets	Equity	Current Liability	Non-Current liability	Total Equity and Liability	Total Income	Total Expenses	Profit Before Tax
Infosys (INFY)	₹ 23,388.00	₹ 51,753.00	₹ 75,141.00	₹ 57,826.00	₹ 17,189.00	₹ 126.00	₹ 75,141.00	₹ 65,569.00	₹ 46,587.00	₹ 18,982.00
ITC (ITC)	₹ 25,452.58	₹ 25,811.20	₹ 51,263.78	₹ 34,226.74	₹ 14,945.09	₹ 2,091.95	₹ 51,263.78	₹ 40,975.75	₹ 25,542.57	₹ 15,433.18
Larsen & Toubro Ltd (L&T)	₹ 1,22,069.80	₹ 1,05,454.92	₹ 2,27,524.72	₹ 50,760.51	₹ 89,355.19	₹ 87,409.02	₹ 2,27,524.72	₹ 1,03,814.72	₹ 96,086.17	₹ 8,086.65
Bharti Airtel (BHARTIARTL)	₹ 18,91,373.00	₹ 2,08,065.00	₹ 20,99,438.00	₹ 4,97,441.00	₹ 5,94,286.00	₹ 10,07,711.00	₹ 20,99,438.00	₹ 10,20,471.00	₹ 6,42,338.00	₹ 1,06,677.00
Asian Paints (ASIANPAINT)	₹ 4,282.70	₹ 5,860.63	₹ 10,143.33	₹ 5,899.46	₹ 3,816.43	₹ 427.44	₹ 10,143.33	₹ 15,734.86	₹ 13,054.00	₹ 2,628.41
Eicher Motors Ltd	₹ 4,844.76	₹ 3,633.99	₹ 8,478.75	₹ 4,621.14	₹ 3,367.14	₹ 490.47	₹ 8,478.75	₹ 15,800.64	₹ 13,702.14	₹ 2,098.50
Sun Pharma (SUNPHARMA)	₹ 2,33,549.80	₹ 3,08,645.70	₹ 5,42,195.50	₹ 3,54,901.40	₹ 1,32,476.60	₹ 54,817.50	₹ 5,42,195.50	₹ 2,88,866.80	₹ 2,14,362.30	₹ 67,652.80
Power Grid Corporation (POWERGRID)	₹ 1,70,792.87	₹ 11,126.58	₹ 1,81,919.45	₹ 42,967.68	₹ 26,812.35	₹ 1,06,366.22	₹ 1,81,919.45	₹ 21,780.76	₹ 14,135.76	₹ 7,645.00
JSW Steel (JSWSTEEL)	₹ 67,252.83	₹ 15,041.76	₹ 82,294.59	₹ 21,650.68	₹ 25,642.92	₹ 35,000.99	₹ 82,294.59	₹ 42,047.09	₹ 42,296.49	-₹ 2,374.81
Oil & Natural Gas Corp. (ONGC)	₹ 29,74,439.19	₹ 5,87,672.84	₹ 35,62,112.03	₹ 18,72,510.39	₹ 6,38,696.15	₹ 10,50,905.49	₹ 35,62,112.03	₹ 13,85,206.30	₹ 10,96,133.30	₹ 2,27,179.13

Figures(in crore) compiled from the Annual Reports.

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Annexure -2: Select Consolidated Financial statement as of 31/03/2023 as per Ind AS

Companies	Non-Current Assets (NCA)	Current Assets	Total Assets	Equity	Current Liability	Non-Current liability	Total Equity and Liability	Total Income	Total Expenses	Profit Before Tax
Infosys (INFY)	₹ 23,597.00	₹ 51,753.00	₹ 75,350.00	₹ 61,744.00	₹ 13,239.00	₹ 367.00	₹ 75,350.00	₹ 65,564.00	₹ 46,821.00	₹ 18,740.00
ITC (ITC)	₹ 26,829.38	₹ 24,862.50	₹ 51,691.88	₹ 42,940.42	₹ 6,658.46	₹ 2,093.00	₹ 51,691.88	₹ 56,591.88	₹ 41,741.23	₹ 14,859.07
Larsen & Toubro Ltd (L&T)	₹ 87,273.30	₹ 1,07,452.55	₹ 1,94,726.15	₹ 47,073.20	₹ 85,046.43	₹ 62,606.52	₹ 1,94,726.15	₹ 1,02,879.69	₹ 94,954.29	₹ 8,019.62
Bharti Airtel (BHARTIARTL)	₹ 20,28,680.00	₹ 2,28,552.00	₹ 22,57,232.00	₹ 7,22,674.00	₹ 5,86,604.00	₹ 9,47,954.00	₹ 22,57,232.00	₹ 9,66,192.00	₹ 6,25,479.00	₹ 1,28,463.00
Asian Paints (ASIANPAINT)	₹ 4,825.84	₹ 5,735.02	₹ 10,560.86	₹ 6,908.51	₹ 3,149.08	₹ 503.27	₹ 10,560.86	₹ 16,055.08	₹ 13,072.54	₹ 2,613.85
Eicher Motors Ltd	₹ 3,890.21	₹ 1,048.80	₹ 4,939.00	₹ 3,653.09	₹ 1,204.98	₹ 80.94	₹ 4,939.01	₹ 7,149.22	₹ 5,420.24	₹ 1,876.92
Sun Pharma (SUNPHARMA)	₹ 2,55,889.70	₹ 2,99,413.00	₹ 5,55,302.70	₹ 3,70,677.30	₹ 1,31,439.60	₹ 53,185.80	₹ 5,55,302.70	₹ 2,91,452.80	₹ 2,18,894.80	₹ 65,706.30
Power Grid Corporation (POWERGRID)	₹ 1,69,651.49	₹ 9,602.57	₹ 1,79,291.73	₹ 43,969.93	₹ 24,688.55	₹ 1,04,935.11	₹ 1,79,291.73	₹ 21,118.37	₹ 13,662.02	₹ 7,571.59
JSW Steel (JSWSTEEL)	₹ 67,727.77	₹ 14,737.30	₹ 82,465.07	₹ 18,770.65	₹ 25,486.22	₹ 38,208.20	₹ 82,465.07	₹ 46,157.21	₹ 46,499.46	-₹ 2,467.66
Oil & Natural Gas Corp. (ONGC)	₹ 28,41,222.08	₹ 5,84,634.20	₹ 34,25,856.28	₹ 20,04,654.51	₹ 5,15,623.69	₹ 9,05,578.08	₹ 34,25,856.28	₹ 15,00,642.09	₹ 12,06,853.09	₹ 3,10,400.76

Figures(in crore) compiled from the Annual Reports.

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FAMINE AND FAMINE COMMISSION IN BRITISH INDIA

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ABSTRACT

Drought is a serious global problem and a state of affairs since ancient times. Until today, the world has to face the problem of drought. Famine is a condition resulting from prolonged acute shortage of total food grains resulting in widespread starvation, impoverishment and emaciation of the majority of the population, resulting in a large increase in population mortality.

Various types of causes of droughts in the Indian subcontinent include unreliable rainfall, deforestation, floods, which have adverse effects on agriculture. In ancient and medieval times, Indian society was completely dependent on agriculture like any other society. During this period, people's life was disrupted due to drought. But due to the generous policy of the ruler, relief work was undertaken on occasion.

During the rule of the British East India Company, there were many famines in different regions of India. They include famines in Bengal in 1769-70, famine in Madras province in 1791-92, …etc. The company helped meagerly and belatedly. Due to this, there was a terrible loss of life and financial loss.

In 1858, the administration of India was transferred from the Company to the British Crown. During this period, for the first time, the British government established drought relief committees from time to time in order to alleviate droughts in India such as Smith Committee (1860-61), Campbell Commission (1866), Strachey Commission (1880), Lyall Commission (1896), McDonnell Commission (1900). Through these committees efforts were made to get information about drought and prevent drought.

KEYWORDS: *Famine, British, Smith Committee, Campbell Commission, Strachey Commission, Lyell Commission, McDonnell Commission.*

1. INTRODUCTION

Drought is an ancient phenomenon. The description of drought in ancient times can be seen in Sanskrit literature and the writings of foreign pilgrims. The description of drought during the reign of Emperor Chandragupta Maurya is described in Chanakya's book "Arthashastra". Relief work is mentioned in it. In ancient and medieval times, people's life was disrupted due to drought. But due to the liberal policy of the ruler, relief work was undertaken on occasion.

The information and record of droughts in the world till date is very insufficient and its record can be found in history. From this, the main causes of global drought are explored, in which the weak elements of the society and the farming class are suffering due to the scarcity of food grains, wars, internal unrest, floods, crop pests, locust attacks due to the nature's disorder or irregular balance. Due to the problem of drought, the rural life is disrupted to a large extent.

Droughts occur only in societies dependent on agriculture. In the Pre-British i.e. ancient and medieval times, Indian society was completely dependent on agriculture like any other society. Although weavers, chambhars, carpenters, potters etc. Although the artisan trade was carried on a large scale, it was entirely associated with agriculture. In the Balutedari system, the goods or services rendered by the Balutedars to the village were paid in the form of grain. Also, the supply of raw material like cotton needed by the weavers was also from agriculture. This agriculture was also completely dependent on rain. Except for wells, small ponds and dams, large irrigation facilities, lack of science and technology and industrial progress, could not have existed in those times. Therefore, in case of drought, there was no situation where a large balance of water was available. There were no other means of livelihood. In such a case, it was quite natural that there would be scarcity of food grains as a result of drought. Apart from drought, there were droughts during this period due to many other reasons. Heavy rains and hailstorms, crop pests and locusts caused extensive crop damage in a region. Sometimes, due to epidemics of diseases like Devi, Pataki, Plague, Influenza, the villages would die and due to this, the agricultural activities would become cold. Also, due to the lack of communication facilities during this period, it was not possible to transport food grains from the places where food was available to the drought areas immediately and on a large scale. Therefore, it was not possible to reduce the severity of drought by removing the scarcity of food grains.

2. FAMINES IN ANCIENT AND MEDIEVAL INDIA

There are many mentions of drought in ancient and medieval India in Vedas, Ramayana, Buddhist Jataka Katha, Chanakya's Economics, Kalhana's Rajtarangini, Abhang of various saints etc. found to have come from Vadmaya.

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Prior to the 19th century, droughts were naturally occurring. In it, all the people were starved and there was a terrible loss of people, cattle, animals and money. But in today's modern times, the nature of drought has changed. In this, the poor people suffered more than the rich and it was filled with it.

According to the study of historians, during the Pre-British period, there was a major and severe drought in India at least once every fifty years. At other times there were short or localized droughts. Fourteen major droughts occurred in India between the eleventh century and the fourteenth century. Most of these droughts were caused by drought.

3. EFFECTS OF FAMINE IN PRE-BRITISH PERIOD AND REMEDIAL EFFORTS

During this period, as agriculture was completely dependent on the whims of nature, drought was truly a natural disaster, in such a situation, the rulers of that time, i.e. kings-maharajas or nawabshahs, could only try to 'prevent' this disaster. Secondly, since the entire economy is dependent on agriculture, the economy would not be able to function unless the agricultural activities were resumed smoothly.

Therefore, it seems that on many occasions, the kings tried to help the drought-stricken people as much as possible. Among them, provision of food grains, provision of drinking water, assistance to the disabled, elderly and poor, provision of fodder for cattle, etc., were provided. For this, stop the export of food grains from the state, import food grains and make them available to the people at cheap rates. Remedies were taken. Knowing that it is not possible to give farm manure due to lack of sufficient crops, the Sara (tax) should be waived off. It seems that the kings also did things like building roads, palaces or forts, recruiting large numbers of soldiers so that the people could get a means of livelihood. At the same time, rulers provided seeds, implements, bullocks and surplus land to the peasantry so that they could start farming again in the new season, often helping to clear forests and build new villages.

Of course, not all kings or feudal lords take such measures. Many of these kings and feudal lords used to exploit the people even during famine. However, many famous kings are found to have taken some measures to alleviate the drought. E.g. During the famine of 1629-31, Mugal Emperor Shah Jahan started shelters, distributed food and money to the poor and waived all taxes on the public for two years. During the famine of 1661 in Delhi, Agra region, Aurangzeb himself supervised the famine relief work. Opening his treasury to relieve the famine, he imported large quantities of grain from Punjab and Bengal and sold it to the public at very low rates. Those who could not even buy grain felt free. All taxes on the public were waived during this period and money was distributed to the people wherever necessary. During this drought, Maharana Raj Singh of Udaipur built an elegant marble tower at a cost of lakhs of rupees to block the water of a large canal, and with the help of the people, he built a three-mile long earthen embankment. Due to this, the production of agriculture in this area increased and some stability was created. During the drought in Maharashtra of 1802-03, the Peshwas imported large quantities of grain and exempted land revenue. Apart from this, landlords, traders, moneylenders etc. Through the private charity work of people of the modern class, facilities like food hostels, drinking fountains and shelters were provided to the drought-affected people.

4. FAMINE IN INDIA DURING BRITISH EAST INDIA COMPANY

There are records of severe droughts by the British, especially during the East India Company period. During the company's rule, there were many famines in different regions of India. In the Bengal famine of 1769-70, approximately 1/3 of the population died due to famine. The company government has not implemented any remedial plan or did not help. Not only this, during the drought, he bought rice at a low price and sold it at a high price and made a huge profit. In 1781-82 there was a famine in Madras and in 1784 in the whole of North India. The company government did relief work. But that was not enough. In 1833, 2 lakhs people out of 5 lakhs died in Guntur district. Also in 1837, severe drought again occurred in North India, in which the Company government started some public activities. But the aid did not reach the drought victims. Due to this, there was a terrible loss of life and financial loss. From this, during the rule of the company, there was no sure measure to save the common people from drought and for relief work. Therefore, the drought-affected people got substantial relief work from the company government.

5. FAMINE IN BRITISH INDIA

In 1858, the transfer of the administration of India from the Company to the British Crown and the development of railways and other means of communication, the advancement of foreign trade, changed the nature of the problem of drought. The British government also realized this. It was the responsibility of the British government to expand irrigation works in India, make agricultural laws, try to alleviate droughts, formulate a drought policy. An average of 10 severe droughts occurred during this period. In 1860-61 there was a famine abroad in Delhi and Agra. This was the first time that arrangements were made to accommodate the famine victims. It was decided to investigate the causes of the drought. Colonel Smith was appointed for this purpose. There was no concrete suggestion in his report. Even though the drought in Orissa in 1866 was more serious, no preparations were made to face the drought. So the government was following the theory of supply and demand. As a result, 13 lakhs people died. This point was proved by drought changes. A committee was set up by the government under the chairmanship of George Campbell. During the drought of 1876-78, there was a severe drought in the states of Madras, Bombay, Uttar Pradesh and Punjab. In this 5 crore 80 lakhs people were caught in the grip of drought. The government made superficial efforts to prevent drought. Thousands of people died in this. The Bengal famine of 1942-43 was the worst and worst of the many droughts in India, in which thousands died. Looking at the nature of this drought, due to the policy of the British government and the Second World War of 1939, it is seen that the hand of man was more than that of God in this drought.

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6. CAUSES OF FAMINE IN BRITISH RULE

Seeing that, after the arrival of the British in India, there was no problem to overcome the above limits to effectively prevent and eliminate drought, i.e. eliminate drought permanently. Trade increased with British expansion in India. Also, the means of transport and communication like roads, railways, post and wire were expanded. Similarly, if irrigation, agriculture and industries were developed and expanded in India on the basis of modern science and technology and capital production methods, the ability of the Indian economy to face natural calamities would have increased. Drought would have been largely eradicated from India. But the opposite happened.

Food grains and agricultural products like jute, cotton, tea, indigo etc. were exported to Britain as raw materials from India. While the cloth, leather goods, utensils etc. from the mills of England. Cheap ready-made goods began to be consumed in India. Therefore, weavers, tanners, coppersmiths etc. in India. As the goods of the artisans became scarce, they lost their business as artisans. Also, the British took care that no mills should be set up in India in order to consume the goods of English mills here. As a result of all this, on the one hand agriculture was destroyed and the farmers were greatly impoverished, on the other hand, due to the destruction of craftsmanship and lack of industrial development, the entire population turned to agriculture for livelihood. This increased the population burden on agriculture. In such a situation, how will the Indian economy's ability to face natural calamities like drought increase due to the arrival of the British? The opposite potential also decreased. Even a small amount of rain led to the collapse of the agricultural system and the growing agricultural population was thrown into the abyss of drought.

7. LIST OF FAMINES IN INDIA BETWEEN 1765 AND 1947

Year	Name of Famine	British territory
1769–70	Great Bengal Famine	Bihar, Western Bengal
1791-92	Doji Bara Famine or Skull Famine	Madras Presidency
1837-38	Agra Famine	Central Doab and trans-Jammu districts of the Northern-West (later Agra Province), including Delhi and Hissar
1860-61	Upper Doab Famine	Upper Doab of Agra,Delhi and Hissar divisions of Punjab
1865-67	Orissa Famine	Orissa, Bihar, Bellary and Ganjam District of Madras
1868-70	Rajputana Famine	Ajmer, Western Agra and Eastern Punjab
1873-74	Bihar Famine	Bihar
1876-78	Southern India Famine	Madras and Bombay
1896-97	Indian Famine	Madras, Bombay, Deccan, United Provinces, Central Provinces, Part of Punjab
1899-1900	Indian Famine	Bombay, Central Provinces, Berar, Madras, Part of Punjab
1943-44	Bengal Famine	Bengal

8. ESTIMATES OF THE NUMBER OF VICTIMS OF DROUGHTS IN INDIA SINCE THE 19TH CENTURY ARE

Year of drought Drought-affected region Number of victims (in lakhs)

Year	Region	No. of Victims (in lakhs)
1838	Uttar Pradesh	8.0
1865	Orissa and Bengal	15.0
1869	Delhi-Agra region and Rajputana	15.0
1876-78	India-Mysore, Madras, Bombay Province	52.0
1896-97	North and South India	7.5
1899-1901	North and South India	10.0

It is estimated that a total of at least 2 crore 14 lakhs people may have died in India during the hundred years between 1800 and 1900 due to all major and minor droughts. The details are as follows:-

Number of victims over the years :

Year	Number of victims
1800-1825	10 Lakhs
1826-1850	4 Lakhs
1851-1875	50 Lakhs
1876-1900	1 Crore 50 Lakhs

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During the 50 year period from 1850 to 1900, 2 crore people died due to famine. This drought is a cruel glimpse of the dark British colonialism that plunged India into the trenches of long-term hunger, unemployment and poverty through immense looting and extreme exploitation.

9. IMAGES OF FAMINE DURING BRITISH RULE IN INDIA



Famine of 1770



Famine of 1776-78



Famine of 1776-78



Famine of 1899-1901

10. BRITISH FAMINE RELIEF PLANS DROUGHT COMMISSION

1. Smith Committee, 1860-61

In 1860-61 there was a famine in Delhi and Agra region. Seeing the severity of this drought, the British government established the Smith Committee for the first time under the leadership of British officer Smith. This committee worked to get information about the severity of drought in and around Delhi.

2. Campbell Commission, 1866

In 1865-66 there was a devastating drought in Orissa, Bengal, Bihar and Madras. 20 lakhs people died in this drought. 1 million people died in Orissa alone. The severity of this drought was highest in the Orissa region. Hence this drought is also called Orissa drought. Seeing the severity of this drought, the British government appointed a committee under the chairmanship of Sir George Campbell. This committee held the government system responsible for this drought. Sir John Lawrence was the Viceroy at this time.

3. Strachey Commission, 1880

The Great Famine of 1876-78 was the worst disaster experienced since the beginning of the 19th century. Madras, Bombay, Uttar Pradesh and Punjab were affected and about 5 million people died within a year. The government made half-hearted efforts to help the drought-stricken people.

In 1880, Viceroy Lytton appointed a commission headed by Richard Strachey to formulate general principles and suggest measures to permanently overcome the famine. This commission is called Strachey Commission or Strachey Commission.

The Strachey Commission made the following recommendations

i) The Commission recommended adjustment of wages from time to time to provide adequate food to the worker.
ii) It should be the duty of the State to provide free relief to the poor and list the persons who are eligible for it. In it, instructions were given regarding the suspension and exemption of land revenue and rent.
iii) Employment opportunities should be made available before starvation. Employment remuneration should be determined from time to time.
iv) The cost of drought relief was to be borne by the provincial governments. However, when necessary from the Centre Help was given.
v) Camps should be opened and export of food grains should be stopped during drought.
vi) Land revenue and other taxes should be reduced.
vii) Transmigration of animals to other places.

The Government generally accepted the Commission's recommendations and steps were taken to create a Famine

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Fund. In 1883, the Provisional Famine Code was framed. which formed the guide and basis for provincial drought codes.

4. Lyall Commission, 1896

The previous drought was followed by the drought of 1896-97. It affected almost every province to varying degrees, and the total drought was estimated to have affected a population of 34 million.

A commission headed by Sir James Lyall, the former Lieutenant Governor of Punjab, followed the views expressed by him in 1896. It suggested some changes to give more flexibility to the then accepted principles. The commission recommended development of irrigation facilities. Lord Elgin was the second Viceroy.

5. McDonnell Commission, 1900

After the famine of 1899-1900, Lord Curzon appointed a Famine Commission headed by MacDonnell. In a report in 1901, he summarized the principles of relief and suggested changes where necessary.

The McDonnell Commission made the following recommendations

i) The Commission emphasized the policy benefits of ethical policy.
ii) Immediate disbursement of advance funds for purchase of seeds and animals and digging of temporary wells.
iii) Advocated the appointment of Drought Commissioners in provinces when relief operations were expected to be extensive.
iv) Emphasis was placed on enlisting non-governmental assistance on a large scale.
v) The Commission emphasized on taking vigorous measures for better transport facilities, opening of agricultural banks, improvement of irrigation facilities and rapid improvement of agricultural practices.
Most of the commission's recommendations were accepted, and before Curzon left India he had taken several measures to prevent and deal with famine.

For example, district authorities were given the power to cancel crops if the produce was destroyed by calamity. Curzon appointed Inspector General in 1901 for agricultural guidance. An Agricultural Research Center was set up at Pusa in Bengal. However, most of the measures were taken half-heartedly.

11. CONCLUSION

Since Indian agriculture is dependent on the monsoon, certain regions of India fall into drought prone areas. The vastness of India's terrain and the monsoon climate are factors that play a role in drought. This is a state of affairs that has been going on since ancient times. During the British era India also experienced many droughts in some regions. In the Bengal famine of 1769-70 during the East India Company period, approximately 1/3 of the population died due to famine. The company government has not implemented any remedial plan. A.D. In 1781-82 there was a famine in Madras and in 1784 in the whole of North India. The company government did relief work. But that was not enough. In 1833, 2 lakhs people out of 5 lakhs died in Guntur district. Also, in 1837, there was a severe drought in North India again, and the Company government did not organize the relief work. Due to this, there was a terrible loss of life and financial loss.

In 1860-61 there was a famine abroad in Delhi and Agra. This was the first time that arrangements were made to accommodate the famine victims. The Smith Committee was formed under the leadership of Smith. This committee worked to get information about the severity of drought in and around Delhi.

Even though the drought in Orissa in 1866 was more serious, no preparations were made to face the drought. As a result, 13 lakhs people died. Seeing the severity of this drought, the British government appointed a committee under the chairmanship of Sir George Campbell. This committee held the government system responsible for this drought.

The Great Famine of 1876-78 was the worst disaster experienced since the beginning of the 19th century. Madras, Bombay, Uttar Pradesh and Punjab were affected and about 5 million people died within a year. In 1880, a commission was appointed under the chairmanship of Richard Strachey to suggest measures to overcome the drought permanently.
There was a drought in 1896-97. The drought affected almost every province to varying degrees. A commission headed by Sir James Lyall, former Lt. Governor of the Punjab, followed the views expressed by him in 1896.

After the famine of 1899-1900, Lord Curzon appointed a Famine Commission headed by MacDonnell. But efforts were made to avoid the suffering of the farmer. The most important of them is the relationship between agricultural crops and clan zamindars, even during droughts, agricultural crops were forcibly collected. Dadabhai Naoroji, Rameshchandu Dutt tried to solve this question regarding the British government's drought relief work. The Congress blamed the government for the drought. The British government did not adopt a nationwide policy. Therefore, it is clear that the Indian people suffered a huge loss of life and money.

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CHALLENGES ENCOUNTERED BY THE POLICE OFFICERS IN CRIME PREVENTION IN TABUK CITY, KALINGA

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ABSTRACT

This study generally determined the challenges encountered by police officers in crime prevention in Tabuk City, Kalinga. The study specifically aimed to determine the specific challenges faced by police officers in effectively preventing crime regarding personal, family, and community relations and resources. Additionally, it sought to investigate the coping mechanisms of police officers to manage the challenges associated with their role in crime prevention. The study used a qualitative-narrative research design, and an interview guide was used to collect the data. The researcher used purposive sampling to select seven participants based on the specific characteristics or criteria relevant to the research questions. Through the use of inductive thematic analysis to analyze the qualitative data, the result revealed that police officers had encountered challenges during the implementation of crime prevention. It includes the impact of duty and personal relationships, threats and attacks, and cultural sensitivity and diversity regarding personal obstacles. Lack of time, high risk and stress, role modeling, and guidance regarding family challenges. Maximum tolerance, community engagement, concealment of criminals, and wrong perception regarding community challenges. Resource challenges require more funds and adequate equipment and vehicles. However, through proactive coping mechanisms, police officers attempted to overcome these obstacles. It concluded that the difficulties encountered by police officers in effectively preventing crime were complex and multifaceted, and they required a holistic approach that prioritized officers' well-being and could better fulfill their mission of promoting public safety.

KEYWORDS: *Problem encountered, coping mechanism, personal and family challenges, community and resources challenges, police officers*

INTRODUCTIONS

Around the world, police personnel face many obstacles when implementing crime prevention strategies. Inadequate resources, such as funding, staff, and equipment, frequently impair their capacity to deter crime. Although it is essential to foster collaboration and trust across communities, law enforcement personnel may find their work complicated by strained relations with the public and unfavorable opinions of police.

The work of police officers can have a significant effect on their personal lives, their families, and communities. Police officers often face a high level of stress and trauma due to the nature of their work, including exposure to danger and critical incidents. Their actions and behavior can influence the public trust and perception of law enforcement within the community, and police officers struggle to balance work commitments with family responsibilities.

According to the United Nations (2021), criminal justice systems worldwide face numerous obstacles. Integrated and coordinated measures are required to address them efficiently, and the United Nations plays an essential role in this. These challenges included an ongoing increase in violence and crime, the need to respond to emerging kinds of criminality, as well as improving responses to long-standing criminal behaviors such as corruption and the lack of enough human and financial resources. This caused many problems in the legal system, including law enforcement authorities in the countries of Cambodia and Egypt as well as Guatemala, a country Kiribati, Mozambique, the nation of Pakistan, the nation of Peru, the Solomon Islands, Tunisia, and Vietnam.

In connection, Singh (2022) stated that the grounds for police corruption are varied. There are significant constants and variables to consider. Due to the constant issues, discretion can be practiced with licit and illegal cores, management lacking visibility, discretion of managers keeping police culture intact even if corruption is susceptible, low wage and status concerns, and association with criminals that impede the fulfillment of police tasks. Even if law enforcement personnel are well-paid, they may perceive that they are not reimbursed to meet their obligations, which might encourage dishonest practices.
Additionally, police forces around the country have come under heavy public scrutiny. According to the Southern Columbia website (2022), the spotlight is on law enforcement personnel's behavior, and departments are responding to demands for urgent reform at numerous levels. In Columbia, police bring new and complex concerns to be solved daily, whether finding

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ways to retain police or adopting crime prevention measures without jeopardizing the public's trust. Hence, criminal justice professionals face the challenge of doing crucial work for their communities while considering public perception.

Therefore, it was impossible to overestimate the role of the police in society. They are responsible for maintaining social order and implementing legislation. Like in Liberia, many administrations have attempted to restructure the police force to reflect current policing ideas. In most countries that implement community policing, the situation is no longer acceptable for police to treat other members of the community as if they were unwelcome. Also, Liberia needed to recognize the worldwide paradigm shift in the police. As well as the Liberian policing and security system also encountered numerous challenges due to these multicultural compositions. However, recognizing and raising awareness about community policing was crucial (Badu, 2022).

While the majority of the implementation difficulties encountered by Canadian police in crime prevention corresponded to managing information and completing forms, hiring, referrals, and continued participation of participants and their parents, developing modifications to address participants' needs, staff recruiting, turnover, and instruction, including funding and financial resources also obtaining suitable facilities/sites and availability and partnership building and service and lastly the administration and management (Public Safety Canada, n.d.). On the other country, Japan's successful low crime rate is due to its competent and effective policing system. The Japanese police have a high crime-solving success rate, and having them in the neighborhood contributes to public safety. However, they face rising organized crime, emerging cybercrime, adjusting to new technologies, and integrating individual rights protection with social order maintenance (Ilarde, 2023).

Tuttle et al. (2019) stated that United States Police officers endure particular obstacles in the line of duty that affect their physical and mental well-being. Also, police officers faced a variety of organizational, functional, community-related, and personal stressors, including shift work and emergency response to public expectations on police-community relationships and social media. Stress and trauma provide external hurdles to their wellness, putting police officers at risk for compassion fatigue, moral harm, and burnout. In addition, according to the research study of James et al. (2023) found out that 77.4% of police officers had low levels of sleep, 25.7% had excessive tiredness during the day, 50.2% had symptoms of post-traumatic stress disorder, 51.9% had depressed symptoms, and 40.8% had symptoms of anxiety.

Hence, according to the study of Annag et al. (2023) in Ghana, challenges such as inadequate logistics, insufficient personnel, language barriers, and political interference hampered the Ghana Police Service's ability to carry out its mandate effectively. These issues significantly impacted the morale of Police Service officers, reducing their motivation to carry out their responsibilities successfully. The studies also revealed that service inefficiencies hampered day-to-day operations and harmed service members' and women's confidence in going above and above when called upon.

In the other part of the word, the Law Enforcement Federation of England and Wales has expressed grave concerns about the well-being of individuals in the policing sector, highlighting the demanding and challenging nature of their job. According to Kilo (2024), research found that, despite their high degree of professional dedication, police personnel face substantial problems such as workplace aggression, verbal threats, and being subjected to traumatic situations. Furthermore, research findings revealed a disturbing trend of unhappiness with salary, rising financial concerns, and low confidence among police personnel, with the highest intent to quit ever recorded.

In the Philippines, police officers face many challenges in preventing crime. The need for more resources in terms of workforce and equipment is one of the main challenges. With limited staffing and outdated technology, law enforcement must adequately cover areas and respond promptly to incidents. Besides, Lobete (n.d.) stated that Philippine society faces numerous political, economic, and social challenges. Despite challenges such as terrorism, poverty, and bureaucracies, the Philippine National Police (PNP) remains a trusted resource for protecting residents.

The study by Cynic et al. (2024) revealed that the Pasay City Police Station's problems are based on personnel needs, facilities, supplies, and equipment; the respondent's suggestions to help solve the problems are specifically geared toward solving the problems encountered. However, Pasay City Police Officers/Personnel also revealed that they would be more efficient in solving crime problems if additional intelligence officers were dispatched to areas where criminal activity is prevalent.

Similarly, Mendoza et al. (2021) also found from their study that the Police officers in the National Capital Region (NCR) behind their performance of their duty have numerous issues, including administration, corruption, and national security concerns. As a result, establishing an effective succession of leaders capable of meeting these problems and improving enforcement efficacy and broader security sector changes is essential. Also, on January 4, 2023, Department of the Interior and Local Government Benjamin Abalos requested that the Philippine National Police (PNP) generals and colonels submit 'courtesy' resignations. The action is designed to clean up the ranks of the PNP, particularly those implicated in illegal narcotics. The request for courteous resignations was part of a credible campaign against government corruption (Tugade & Fernandez, 2023).

Moreover, the study by Falloran et al. (2022) in the local Police Station of Misamis Occidental revealed that perceptions of barriers, work environment dissatisfaction, and frustration

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discomfort were predictors of occupational stress. This suggests that these factors play a significant role in determining the overall level of occupational stress experienced by employees. However, these findings underscore the interconnectedness of various factors within the work environment and their influence on police well-being.

In Tabuk City, Kalinga, police officers have experienced crime prevention challenges that have impacted them personally, socially, and within their communities and families. In diverse communities, language barriers and cultural differences may impede effective communication and engagement between police officers and residents, making it challenging to build rapport and address community-specific crime issues. Limited resources and competing priorities may lead to disparities in policing services across different neighborhoods, exacerbating feelings of inequality and distrust among marginalized communities (Philstar Global, 2023).

Hence, during the third quarter's meeting of the Provincial Peace and Order Council (PPOC), the Kalinga Police Provincial Office reiterated its dedication to crime prevention efforts in the province and continued to push initiatives aimed at developing a safe and secure environment for the public, with support from local government units, communities, and stakeholders. However, it challenged them to the need for more trust between law enforcement and the communities they serve, hindering cooperation and collaboration in crime prevention efforts (Serion, 2023).

Today, police organizations greatly need to recognize the issues they encounter while fulfilling their duties and obligations. This recognition is vital for understanding the hurdles they face in serving the community effectively. To tackle this challenge, various methods can aid police officers in enhancing their performance. As a result, the researcher decided to determine the challenges encountered and coping mechanisms by the police officers in Tabuk City in implementing crime prevention. As a goal to investigate the challenges faced by police officers in crime prevention, the researcher can provide policy recommendations to better support police officers and their resources, improve personal, family, and community relations, and enhance overall effectiveness in crime prevention efforts.

Theoretical Framework

The Social Support, Stress and Coping, and General Strain theories guided this study.

Social Support Theory by Cullen (1999) emphasizes how social relationships and networks can help individuals buffer the adverse effects of stress and enhance their coping resources. Social support in police work can be obtained from various sources, such as colleagues, supervisors, friends, and family members. Positive social support networks could provide police officers with emotional support, practical assistance, advice, and validation, which could help them cope with job-related stressors more effectively (Edward et al. (2021).

In addition, Lazarus' Stress and Coping Theory (1984) examines how individuals perceive and respond to stressful situations. Police officers often encounter high levels of stress due to the nature of their work, which can affect their psychological well-being and job performance. Understanding how officers cope with stress and the effectiveness of different coping strategies can provide insights into their ability to fulfill their duties effectively (Janse, 2022).

In connection, the General Strain Theory by Agnew (1992) posits that individuals experience strain or stress when they perceive a discrepancy between their expectations or aspirations and their actual life circumstances. This strain can arise from various sources, including adverse events, such as financial hardship, interpersonal conflict, or failure to achieve goals. In the context of police work, officers may encounter strain from factors such as exposure to violence, traumatic incidents, organizational stressors, and the demanding nature of their job. These strains can contribute to negative emotions, such as anger, frustration, or depression, which may, in turn, lead to maladaptive coping strategies or deviant behavior (Edward, et. al. (2021).

Significance of the Study

The research study will provide supporting documentation that may be used in future studies. This may also serve as the foundation for developing a plan, program, and model to improve police performance. The results of the research would be helpful to the following:

Tabuk City Police Station. The police station can implement targeted training programs, provide necessary resources, and develop supportive policies to address the identified issues to enhance the overall performance and morale of the police officers within the police station.

Police personnel. For police officers, recognizing and addressing crime prevention challenges can improve job satisfaction, mental health, and job performance.

Families of police officers. Understanding the challenges encountered can help families provide better support to the police officers and encourage the development of coping mechanisms that promote family resilience.

Community. This study can contribute to police-community relations, developing trust, and enhancing community safety.

Future Researcher. This study can be used by researchers as an additional foundation for their related research, for discussion, dissemination of information, and raising awareness.

Objectives of the study

This aimed to investigate the challenges encountered by police officers in crime prevention within Tabuk City, Kalinga. The study specifically aims:

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- To determine the specific challenges faced by police officers in effectively preventing crime in terms of personal, family, and community relations and resources.
- To investigate the coping mechanisms of police officers to manage the challenges encountered associated with their role in crime prevention

METHODOLOGY

The following presented the study design, population, data gathering tool/s, data gathering procedure, treatment of the data, and ethical considerations that will be used in this study.

Study Design

The study used the qualitative-narrative design to match the proper outcome. Using this design offered data collection and analysis flexibility, allowing the researcher to adapt their approach based on emerging themes and insights. Using this design, the researcher gathered narrative data through informal interviews that were analyzed using thematic analysis, focusing on examining themes within the data collected.

Sample of the study

The researcher used purposive sampling to select seven participants based on the specific characteristics or criteria relevant to the research questions. The selected participants had been police officers who had stayed at least five (5) years in Tabuk City and had extensive experience, expertise, or direct involvement in implementing crime prevention. These participants were chosen because they possess valuable insights and perspectives relevant to the research topics for addressing the research question effectively. Those police officers who were not qualified with the specific criteria were excluded to ensure the validity and reliability of the findings. Based on the objectives of this study only focused on particular locations. Including additional local areas may have diluted the research focus or made it overly complex, and it may question the credibility and trustworthiness of the study. By acknowledging limitations, researchers can prevent misinterpretations of overgeneralizations of the findings. This helped ensure that readers understood the scope and boundaries of the study.

Data Gathering tool

This study used an interview guide as a tool. The adviser and tool validator checked the unstructured interview guide questions first to ensure validity and reliability. The survey interview guide consisted of two parts: the first was to determine the specific challenges faced by police officers in effectively preventing crime in terms of personal, family, and community relations and resources, and the second part was to investigate the coping mechanisms of police officers to manage the challenges encountered associated with their role in crime prevention. A secure and safe place in the facility for conducting interviews or designated meeting spaces that offer a degree of privacy and security. However, the researcher always prioritized safety protocols and ensured that the interview environment was safe for all involved parties. The researcher used a recording tool with the consent of the participants and handled and stored the recorded data securely and confidentially to protect participant privacy.

Data Gathering Procedure

Upon the approval of the Dean, Adviser, and Tool Validators, the researcher proceeded to the data gathering.

First, before conducting the interview, the researcher was given a communication letter for approval, signed by the researcher's adviser, to the Chief of Police in Tabuk City to obtain the necessary data of the respondents in this study. Then, after the approval of all the communication letters, the researcher was referred and endorsed to inform and locate the study participants. The researcher discussed the informed consent and the nature of the study. Such as the objectives of the study, the willingness to participate in the study, and all data gathered were kept confidential. No force was used, and participants answered the questions voluntarily.

After the participants had consented, the researcher proceeded to interview them until data saturation was reached. Then, the data collected were transcribed to create a narrative format. Then, from the transcribed data, the common responses were categorized, and the theme was identified.

Treatment of the Data

The study used inductive thematic analysis to analyze qualitative data in the first and second parts of the interview guide to identify patterns or themes systematically. Initially, researchers familiarized themselves with the data and then generated initial codes by labeling sections of the data. These codes were grouped and refined into potential themes, which were reviewed, defined, and named. The final step involves writing up the analysis and creating a narrative for each theme supported by the data.

Ethical Considerations

In this study, participants were treated according to the ethical standard of treatment. The researcher strictly followed the ethical standards imposed before, during, and after the study's conduct.

Participants in this study were voluntary. To maintain confidentiality, the participants' real names and ranks were not revealed and treated with the utmost care. Thus, the researcher used a codename to present each participant's narration or responses. There was no harm done in getting information from the participants. The information received from participants was preserved and utilized solely for this research study. The researcher protected the participants' privacy, confidentiality, and anonymity. To ensure the trustworthiness of this study, the researcher sets aside personal feelings and opinions to achieve a better result. The researcher ensured that the Tabuk City police station received a copy of this research study and a signed copy upon receiving it with photos as a piece of evidence. This research was given to them so that the administration would be aware of whether or not there were still improvement needs. The paper's integrity was protected by citing references used in the

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study. Data collected were stored in a password-protected device, and hard copies of the questionnaires were kept until the study was completed.

RESULT AND DISCUSSION

The following presents the result and discussion of the findings of the gathered data.

1. ***Challenges encountered by police officers in crime prevention within Tabuk City, Kalinga in terms of personal, family, and community relations and resources.***

In terms of Personal obstacles or challenges encountered

Impact of duty and personal relationship. The police officers illustrate the complex interplay between the effects of duty and personal relationships in crime prevention efforts, as quoted from the sample statement of P1: *"Thinking of what would be the impact of my action, but I must have to do so, to implement what is due"* and P2 stated that *"The personal obstacle I faced when trying to prevent crime in Tabuk City is when I'm alone, and I'm not physically prepared to respond*". Also, P6 added, *"During the implementation of traffic rules, I cannot deny that some are friends, acquaintances and relatives who violate but the understanding of situations sometimes prevails but if no valid reason rules must also prevail and should face a penalty."* This emphasizes the sense of duty and accountability that comes with their involvement in attempts to prevent a crime. However, police officers' professionalism and honesty in their responsibilities to prevent crime can be improved by recognizing and addressing the influence of their relationships and responsibilities. The impact of police officers' duty and personal relationships on implementing crime prevention was crucial to effective law enforcement, as effective police officers are diligent and efficient in their duties and responsibilities (Ejoc & Alferez, 2018).

Threat and personal attack. The challenges of threats and personal attacks draw attention to the severe personal difficulties that police officers deal with when attempting to prevent crime. As quoted from the statement of P3, *"Threat, harassment and fear,"* and added from P5, *"Personal attack and hatred."* These highlighted the severe challenges that police officers have in their attempts to prevent crimes because of the threats and personal attacks that were leveled at them. This also emphasized that police officers suffered the added burden of being the subject of personal harassment or violence in addition to the risks that come with their duties. Gomes et al. (2022) emphasized that persistent threats increased officer stress and burnout, potentially leading to retention issues and staffing shortages within police departments.

Cultural sensitivity and diversity. The police officers highlighted their challenges in crime prevention through cultural sensitivity and diversity. As quoted from the statements of P4, *"Our province is composed of many tribes, and sometimes this tribal connection is used negatively. Tribes must be considered due to differences in customs and traditions, but most of all, considered to help the peace and order of the province"* and also from P7 *"Intervention of the* Bodong *System (Peace Pact System)."* This implies that tensions or disputes within the group may arise from cultural differences, such as the disparities in customs and traditions among various tribes. The *Bodong* system's involvement shows how dependent the community is on customary means of settling conflicts and upholding social orders. Fair (2023) highlighted that when police officers do not understand diverse cultural backgrounds within communities, they might inadvertently perpetuate biases or engage in discriminatory practices, leading to mistrust among marginalized groups.

In terms of family obstacles or challenges encountered

Lack of time. One major issue that impacted family relationships among police officers was the lack of time because of the demands of their jobs. As provided from the statements of P2, *"As a police officer, it saves me the chance to sustain the needs of my family, but it also limits the time to be with them during special occasions and holidays*," added P4 *"My family is proud to have a police officer in our family group, but there is a consequence of sacrifices on other matters like family gatherings if in case the Philippine National Police is on full alert"* and P7 *"Time Mismanagement."* This implies that family members of the police officers might find it difficult to connect or partake in meaningful activities together due to this lack of time, which can result in police officers being absent from significant family gatherings or celebrations. Dingman (2022) found that the nature of police officers often involved irregular and long hours, rotating shifts, and unpredictable work schedules, which could significantly disrupt families' routines and limit quality time spent with their loved ones.

High risk and stress. This highlighted the experience of the police officers' families in the impact of the risks and stressors of their loved one's occupation in law enforcement. As quoted from the statement of P3, *"High risk because of the stressors of the job, as well as the stress created by shift work."* This suggests that because the family members are at risk of coming into danger daily, the family members frequently feel increased anxiety, fear, and mental discomfort. Furthermore, the strain brought on by the unpredictability of shift work may also affect the welfare of the police officer's family. In addition, Eikenberry et al. (2023) emphasized that police officers might have struggled to switch off work-related stressors at home, leading to conflict or disconnection from family members.

Role modeling and guidance. This highlighted the significant responsibility that police officers carry out not only in their professional roles but also in their roles within their own families. As stated by sample P6, *"I should be a good example and always remind my family members to be guided in rules and regulations that are being implemented."* This suggested the dual nature of the police officers' role. In addition to upholding the law and keeping their communities safe, police officers must lead by a good example and be role models for their families. Valmari et al, (2023) emphasized that police officers often served as role models for their families, demonstrating responsibilities,

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integrity, and dedication to public service, regardless of the challenges in their work.

In terms of community obstacles or challenges encountered

Maximum Tolerance. This emphasized the problem encountered by the police officers in showing tolerance and calm in difficult situations. As quoted from the statements of the P4, *"Trying to keep in touch with the community through dialogue and being a person with maximum tolerance if engaged in any police operation to a disrespectful person with any violent reactions,"* and added from the P6, *"Some of the populaces are arrogant and not willing to abide but always practice maximum tolerance."* This shows how important it is for police officers to communicate with the public in a patient, understanding, and respectful manner, especially in situations that could involve confrontation. Caliwan and Nepomuceno (2023) stated that a maximum tolerance approach of police officers could contribute to a sense of security and safety within the community, even becoming challenging to implement.

Community engagement. Police officer's challenge encountered when trying to build trust and cooperation with the community to prevent crime was community engagement. As quoted from the statements of P3, *"Engage to school, pairing law enforcement together with school is another way to build trust."* P5 added, *"Become a good model, courteous, actively participating in various activities and communication in the community."* This implies that police officers actively participate in community engagement to prevent crime and improve public safety by fostering positive relationships between police officers and the communities they serve.

Concealment of criminals. This highlighted the severe problems of criminals hiding out in the community, which makes it difficult for police officers to enforce the law. This issue implies that efforts to establish confidence and support crime prevention may be hampered by community member's unwillingness to cooperate or report criminal activities. As revealed by the quoted statement of P1, *"Concealment of criminals is the main problem of law enforcement."* Valenzuela and Tamayo (2021) emphasized that if police work was ineffective or lacked community support, criminals might find it easier to hide within neighborhoods. This could occur when residents were reluctant to cooperate with police officers due to distrust and fear of retaliation.

Wrong perception. This emphasizes mistrust and unfavorable attitudes among community members toward the police officers. As quoted from the statement of P7, *"Wrong perception of the community about the police"*. This perception may be from negative experiences in the community, abuse of authority by the police, discrimination, or media representations. As a result, creating partnerships with the community to prevent or deter crime becomes extremely difficult. Clark et al. (2019) found that negative perceptions of the police within communities could result in a loss of trust between them, which could hinder cooperation with police investigations and discourage individuals from reporting crimes.

In terms of resources obstacles or challenges encountered

Limited funds. Police officers highlighted the limited funds needed to implement crime prevention, as quoted from the statement of P1: "Our city Local Government Unit is very cooperative and supportive, but they cannot provide everything, so normally they are still short of funds." P4 added, "Limited funds to support activities, but not to the extent of sacrificing the safety of the public." The statements suggested that although the Local Government Units cooperated and provided support, inadequate funds were available for successful crime prevention efforts. Rushin and Michalski (2020) emphasized that the limited funds might have led to staffing shortages within police departments, resulting in fewer officers to patrol neighborhoods, conduct investigations, and respond to emergencies.

Inadequate equipment and vehicles. Police officers emphasized the severe shortage of essential equipment and vehicles within their department, which significantly challenges them to carry out their duties effectively and ensure public safety. As quoted from the statements of P2, "Lack of mobility or mobile vehicles to be used in the main office," P3, "Lack of mobile vehicle and the other vehicles are under maintenance," P5, "Lack of CCTVs," and including from P7, "Lack of mobility and lack of radio communication equipment." This implies that police officers encountered difficulties in maintaining operational preparedness and safety and successfully preventing crime due to a lack of equipment and vehicles in the police department, including patrol cars, communication devices, and surveillance technology. Annang et al. (2023) highlighted that inadequate vehicles could have led to delays in deploying officers to high-priority incidents responding to emergency calls and could have restricted mobility, particularly in rural or remote areas with large geographic regions to cover.

2. Coping mechanisms of police officers to manage the challenges encountered associated with their role in crime prevention

Coping mechanisms in terms of personal

Professional commitment and responsibilities. Police officers showed the need to carry out their duties and commitment despite the personal obstacles they faced in implementing crime prevention, as quoted by the statements from P1: *"By focusing on what is my part in implementing such activities, and doing my job religiously, fair, and with commitment," P5 "As being part of the PNP organization we are equipped to face all challenges we encounter and also we practice maximum tolerance,"* P6 *"Always think that there are rules to be implemented and we are implementing those for prevention"* and added by *P7 "Avoid political intervention and just follow legal orders."* This highlighted that the police officers' continuous commitment to fulfilling their duties regardless of the personal challenges encountered to ensure successful efforts to prevent crime and maintaining professional integrity and adherence to

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legal orders are essentials for their effectiveness. Dempsey et al. (2023) stated that police officers were bound by codes of ethics and professional standards that guided their conduct and decision-making. Upholding these principles, such as honesty, integrity, and impartiality, enabled police officers to navigate obstacles and maintain public trust in law enforcement.

Spiritual well-being, mental, and physical preparedness. Coping through spiritual well-being and mental and physical conditioning suggested a recognition of the pressure works of police officers in crime prevention, as quoted from the statement of P2, *"I cope by mind and physically conditioned,"* and P3, *"Through praying and having fun with my family."* This implies the importance of addressing the holistic well-being of police officers to ensure their resilience and effectiveness in crime prevention efforts. Police officer's spiritual well-being provides inner strength, while mental preparedness fosters resilience and sound decision-making under pressure (Murali, 2019). Physical preparedness ensured that police officers were physically fit and capable of performing their duties safely and effectively (Holder, 2023).

Cultural understanding and adaptation. Recognizing, understanding, and respecting the cultural differences within the community of Kalinga emerged as a coping mechanism among police officers in implementing successful crime prevention, as quoted from the statement of P4: *"Learn the culture of every tribe in Kalinga, adopt the good one, show respect and accept."* This emphasized the significance of different cultural competencies in effective community policing and crime prevention. Hancock and Tarallo (2021) revealed that understanding cultural differences enabled police officers to build trust, communicate effectively, and respond appropriately to community needs.

Coping mechanisms in terms of family

Effective communication and time spent with family. Police officers highlighted the importance of effective communication and time spent with family as the vital coping mechanism for problems encountered in their duties, particularly concerning their families. As quoted from the statements of P1, *"By explaining to them the nature of my job so they understand and admit it heartfully,"* then P2, *"I always informed my family of the activities,"* P3 *"Have time with the family,"* from P4 *"Having happy hour with family on another day if not busy or alert. Find time to have them socially engage"* and from P5 *"Communication."* This implies that police officers understand how important it is to keep communication and spend time with their families to manage the pressures of being a police officer. Soua et al. (2023) highlighted that maintaining open and honest communication within the family helped police officers navigate the challenges of their profession, including trauma, stress, and the demands of shift work.

Expressing care and financial support. Police officers expressed care and financial support as essential coping strategies they faced in their families in their related duties. As quoted from the statements of P6, *"Constant reminder to my family member that will be sure of showing care to them,"* and P7*, "Time and financial management."* This suggests that the police officers show how crucial it is to express family love and care. By actively reminding their families of their care, police officers aim to foster a sense of security and well-being. Furthermore, adequate financial support is vital for ensuring they meet the needs of their families while fulfilling their responsibilities or duties as police officers. Zemlok (2022) highlighted that demonstrating care and support helped alleviate the anxiety and stress that family members may have experienced due to the inherent risks associated with police work.

Coping mechanisms in terms of community

Positive community engagement. Positive community engagement is an essential aspect of effective law enforcement. This theme highlighted the proactive approach that police officers can take to cultivate a supportive and cohesive community environment. This theme, as evidenced by the responses from P1 and P5, suggested the significance of fostering solid ties with the community to promote safety, trust, and cooperation. P1 highlighted the importance of imparting the values of peace to community members and emphasizing its positive impact on the community. As quoted from the statement of P1, *"By imparting to them the importance of peace and its effects on the community and development."* This suggested that the police officers recognized the role of communication in cultivating a shared understanding of the benefits of peace and cooperation in the community. Similarly, P5 emphasized the need to actively strengthen relationships within the community to gain its trust and support. As quoted from the statement of P5, *"Strengthen community relationships to win the heart of the community."* It implies that winning the hearts of community members requires consistent effort and responsiveness to their needs and concerns. Modise (2023) stated that positive community engagement fostered mutual respect and understanding between residents and police officers, reducing tensions and helping police departments tailor their services to meet the specific needs and priorities of the communities they served.

Professionalism and Ethical Conduct. This theme emphasized the importance of upholding high standards of behavior and integrity in law enforcement practice. As evidenced by the responses provided, P2 stresses the importance of being *"Always genuine in action."* This implies that police officers should consistently act with honesty, sincerity, and transparency in their interactions with the community. P3 emphasized the fundamental responsibility of police officers to *"Just do our work and duties as a police officer."* This implies the importance of dedication and professionalism in fulfilling the obligations associated with the role of a police officer. P4 added, *"Just continue patience since PNP work is not finished until you retire. Love your work, and avoid any unfavorable situations that may affect PNP as a whole"*. This highlighted the encouragement of the police officers to maintain patience and dedication throughout their

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careers; this response also emphasized the long-term commitment required to serve and protect communities effectively. Similarly, P6 stresses the importance of *"Observing maximum tolerance and understanding of the situation."* This suggests that police officers should approach challenging situations with empathy and patience with the community. P7 focused on the imperative to *"Avoid doing unnecessary negative activities."* This implies the importance of ethical decision-making and integrity in law enforcement practice. This theme is highlighted as the foundation principles that guide effective police officer practices and are essential for maintaining public confidence and trust in the police. By embodying ethical and professional behavior, police officers not only upheld the rules of law but also promoted positive relationships with the community, enhanced accountability, and maintained the criminal justice system's integrity (Philippine National Police Code of Professional Conduct and Ethical Standards, 2022).

Coping Mechanisms in terms of resources

Resource Management. This emphasized the importance of effectively utilizing available resources to address challenges and limitations in crime prevention efforts. As quoted from the statement of P1, *"Optimized the available resources."* This response emphasized the need to make the best use of the resources already at hand, namely that by optimizing available resources, police officers can maximize their efficiency and effectiveness in addressing crime prevention, as quoted from the statement of P6, *"Used resources in proper and right usages."* It highlighted the importance of using resources responsibly and efficiently and ensuring they were utilized effectively to achieve desired outcomes. P4 added, *"We have to cut off unnecessary expenses like conserved electric energy and follow the guidance of the higher headquarters regarding energy conservation."* This response emphasized the importance of cost-saving measures and conservation efforts in resource management. This theme of proper resource management enables police officers to operate more effectively and efficiently, maximizing their impact on crime prevention without overstretching limited resources. Townsen and Loudoun (2023) emphasized allocating and utilizing personnel, equipment, funding, and technology-enabled police departments to respond to emergencies promptly and implement proactive crime prevention strategies.

Collaboration and Partnership for Resource Support. The theme highlighted the importance of working with external entities to access additional resources to strengthen their capabilities and effectiveness in addressing crime and maintaining public safety. As evidenced from the responses, P5 emphasized the importance *of "Engagement to various establishments to set up CCTVs for security purposes."* This partnership provides additional resources and fosters a sense of shared responsibility for community safety among stakeholders. Added by P7*: "Seek the support of stakeholders like Local Government Units."* This response emphasized the importance of seeking support from LGUs to bolster crime prevention efforts, and by collaborating with LGUs, police officers can tap into additional resources. Zaghloul and Patridge (2022) emphasized that collaboration and partnership for resource support enabled police departments to enhance their capabilities, optimize resource allocation, and deliver more comprehensive and impactful services to the communities they served.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings, the following conclusions were drawn.

The challenges faced by police officers in effectively preventing crime were complex and multifaceted, encompassing personal, familial, community relations, and resource-related obstacles. Police officers navigated the strains of high-stress environments, grappling with mental health issues and physical demands while balancing the needs of their families against the demands of their profession. However, through proactive coping mechanisms, police officers endeavored to overcome these obstacles. By prioritizing mental, physical, emotional, and spiritual well-being, officers enhanced their ability to effectively serve and protect their communities, contributing to safer and more cohesive societies.

Recommendations

Based on the findings of the study, the researcher recommends the following;

1. Police Departments may prioritize mental health support for police officers, including access to counseling services, peer support programs, and stress management resources.
2. Police Departments may promote work-life balance through flexible scheduling options, adequate time off, and family-friendly policies.
3. Investing in cultural competency training for police officers and promoting transparency and accountability in policing practices can also help bridge the gap between law enforcement and the community.
4. Collaborating with other law enforcement agencies, community organizations, and government entities can also help leverage additional resources and support.
5. The original research, focused only on police officers. However, conducting a follow-up study among other researchers that examines or determines the experience or perception of the community on the effectiveness of police officers in implementing crime prevention can provide a more comprehensive understanding.

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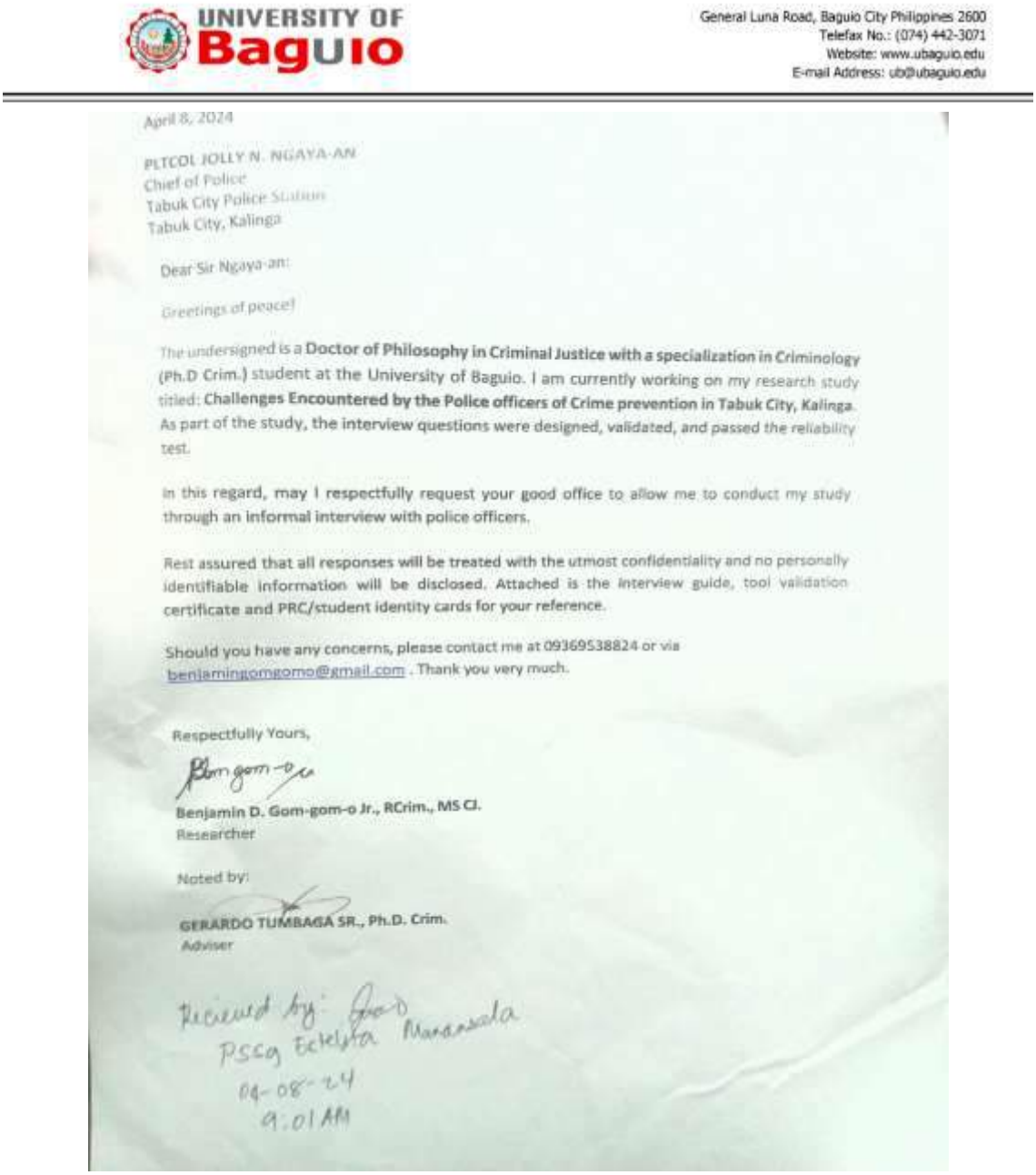
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Appendix A
Letter to conduct study



UNIVERSITY OF Baguio

General Luna Road, Baguio City Philippines 2600
Telefax No.: (074) 442-3071
Website: www.ubaguio.edu
E-mail Address: ub@ubaguio.edu

April 8, 2024

PLTCOL JOLLY N. NGAYA-AN
Chief of Police
Tabuk City Police Station
Tabuk City, Kalinga

Dear Sir Ngaya-an:

Greetings of peace!

The undersigned is a **Doctor of Philosophy in Criminal Justice with a specialization in Criminology** (Ph.D Crim.) student at the University of Baguio. I am currently working on my research study titled: **Challenges Encountered by the Police officers of Crime prevention in Tabuk City, Kalinga**. As part of the study, the interview questions were designed, validated, and passed the reliability test.

In this regard, may I respectfully request your good office to allow me to conduct my study through an informal interview with police officers.

Rest assured that all responses will be treated with the utmost confidentiality and no personally identifiable information will be disclosed. Attached is the interview guide, tool validation certificate and PRC/student identity cards for your reference.

Should you have any concerns, please contact me at 09369538824 or via benjamingomgomo@gmail.com . Thank you very much.

Respectfully Yours,

Benjamin D. Gom-gom-o Jr., RCrim., MS CJ.
Researcher

Noted by:

GERARDO TUMBAGA SR., Ph.D. Crim.
Adviser

Received by:
PSSg Estelita Manansala
04-08-24
9:01 AM

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Appendix B
Interview Guide

Challenges encountered by the Police officers of crime prevention in Tabuk City, Kalinga
This aims to determine the challenges encountered by police officers in crime prevention within Tabuk City, Kalinga.

A. The following are the interview questions regarding the challenges encountered by the police officer, in terms of; Personal (yourself); Family Relationships; Community Relations; and Resources.

1. Can you tell me about some of the personal obstacles you faced when trying to prevent crime in Tabuk City?
2. What is the impact of your work as a police officer on your family life and relationships?
3. What are the challenges you encounter when trying to build trust and cooperation with the community to prevent crime?
4. In your efforts to prevent crime in Tabuk City, what are some of the challenges you face due to resources (like funds, equipment, or materials to be used)?

B. The following are the interview questions regarding the coping mechanisms of police officers in Tabuk City, Kalinga utilize to manage the challenges encountered associated with their role in crime prevention.

1. How do you personally cope with the obstacles you face when trying to prevent crime in Tabuk City?
2. What coping strategies do you employ on these challenges you encountered as a police officer in your family life and relationships?
3. How do you manage these challenges you encounter within the community while still striving to maintain positive relationships as a law enforcement officer?
4. What coping strategies do you employ to overcome resource limitations and challenges in your crime prevention efforts?

Appendix C.
Transcript

1 Can you tell me about some of the personal obstacles you faced when trying to prevent crime in Tabuk City?
P1 “Thinking of what would be the impact of my action, but I must have to do so, to implement what is due”.
P2 “The personal obstacle I faced when trying to prevent crime in Tabuk City is when I’m alone and I’m not physically prepared to respond.
P3 “Threat, harassment and fear”.
P4 “Our province is composed of many tribes, sometimes this tribal connection was used negatively. Tribes must be considered due to differences in customs and traditions, but most of all, considered to help the peace and order of the province”.
P5 “Personal attack and hatred”.
P6 “During the implementation of traffic rules, I cannot deny that some are friends, acquaintances and relatives who violate but the understanding of situations sometimes prevails but if no valid reason rules must also prevail and should face penalty”.
P7 “Intervention of the *Bodong* System (Peace Pact System)”.
2 What is the impact of your work as a police officer on your family life and relationships?
P1 “I was a police officer before we married my partner, hence she accepted all the challenges or consequences of being a law enforcer’s wife”.
P2 “As a police officer it saves me the chance to sustain the needs of my family but it also limits the time to be with them during special occasions and holidays.
P3 “High risk because of the stressors of the job, as well as the stress created by shift work”.
P4 “My family is proud to have a police officer in our family group, but there is a consequence of sacrifices on other matters like family gatherings if in case the Philippine National Police is on full alert”.
P5 “Feeling safe and convenient to connect to PNP”.
P6 “I should be a good example and always remind my family members to be guided in rules and regulations that are being implemented”.
P7 “Time Mismanagement”.
3 What are the challenges you encounter when trying to build trust and cooperation with the community to prevent crime?
P1 “Concealment of criminals is the main problem of law enforcement”.
P2 “The challenges encountered when trying to build trust and cooperation with the community is the inconsistency of the programs, cultural defenses, and the *“bahala kayo system*” (It's up to You System).
P3 “Engage to school, pairing law enforcement together with school is another way to build trust”.
P4 “Trying to keep in touch with the community through dialogue and being a person with maximum tolerance if engaged in any police operation to a disrespectful person with any violent reactions”.
P5 “Become a good model, courteous, actively participating in various activities and communication in the community”.
P6 “Some of the populaces are arrogant and not willing to abide but always practice maximum tolerance”.
P7 “Wrong perception of the community about the police”.

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4 In your efforts to prevent crime in Tabuk City, what are some of the challenges you face due to resources (like funds, equipment, or materials to be used)?
P1 “Our city Local Government Unit is very cooperative and supportive but they cannot provide everything, so normally they are still short of funds”.
P2 “Lack of mobility or mobile vehicles to be used in the main office”.
P3 “Lack of mobile vehicle and the other vehicles are under maintenance”.
P4 “Limited fund to support activities, but not to the extent of sacrificing the safety of the public”.
P5 “Lack of CCTVs”.
P6 “Our city mayor is supportive in the implementation of such crime prevention to aid some of the materials needed by the office”.
P7 “Lack of mobility and lack of radio communication equipment”.
1 How do you personally cope with the obstacles you face when trying to prevent crime in Tabuk City?
P1 “By focusing on what is my part in implementing such activities, and doing my job religiously, fair, and with commitment”.
P2 “I cope by mind and physically conditioned”.
P3 “Through praying and having fun with my family”.
P4 “Learn the culture of every tribe in Kalinga, adopt the good one, show respect and accept”.
P5 “As being part of the PNP organization we are equipped to face all challenges we encounter and also we practice maximum tolerance”.
P6 “Always think that there are rules to be implemented and we are implementing those for prevention”.
P7 “Avoid politics intervention and just follow legal orders”.
2 What coping strategies do you employ on these challenges you encountered as a police officer in your family life and relationships?
P1 “By explaining to them the nature of my job so they understand and admit it heartfully”.
P2 “I always informed my family of the activities”. P3 “Have time with the family”.
P4 “Having happy hour with family on another day if not busy or alert. Find time to have them socially engage”.
P5 “Communication”.
P6 “Constant reminder to my family member that will be sure of showing care to them”.
P7 “Time and financial management”.
3 How do you manage these challenges you encounter within the community while still striving to maintain positive relationships as a law enforcement officer?
P1 “By imparting to them the importance of peace and its effects on the community and development”.
P2 “Always genuine in action”. P3 “Just do our work and duties as a police officer”.
P4 “Just continue patience since PNP work is not finished yet until you retire. Love your work, and avoid any unfavorable situations that may affect PNP as a whole.
P5 “Strengthen community relationships to win the heart of the community”.
P6 “Observing maximum tolerance and understanding of the situation”.
P7 “Avoid doing unnecessary negative activities”.
4 What coping strategies do you employ to overcome resource limitations and challenges in your crime prevention efforts?
P1 “Optimized the available resources”.
P2 “Be resourceful”.
P3 “More mobile vehicle”.
P4 “We have to cut off unnecessary expenses like conserved electric energy and follow the guidance of the higher headquarters regarding energy conservation”.
P5 “Engagement to various establishments to set up CCTVs for security purposes”.
P6 “Used resources in proper and right usages”.
P7 “Seek the support of stakeholders like Local Government Units”.

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Appendix D
Tool Validation Certificate

UNIVERSITY OF Baguio	Research and Development Center	UBRDC-RM No. ___	Version Number: 02	Version Date: 01.10.2017
	TOOL VALIDATION	Effectivity Date: 01-10-17	SCORE:_____	
		Certification		

CERTIFICATION

This is to certify that I have validated the questionnaire / checklist / test question / survey / interview guide of the study titled:

Challenges encountered by the Police officers in crime prevention in Tabuk City, Kalinga

The proponent/s may proceed to data gathering.

VALIDATOR	DATE	SIGNATURE
DR. MARILOU M. SAONG	April 4, 2024	

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Appendix E.
CURRICULUM VITAE

BENJAMIN DACQUIL GOM-GOM-O JR.
Tabuk City, Kalinga

EDUCATION

Graduate Studies	Doctor of Philosophy in Criminal Justice with Specialization in Criminology (On-going)
	Master of Science in Criminal Justice with Specialization in Criminology CICOSAT COLLEGES San Fernando City, La Union June 2019
Tertiary	Bachelor of Science in Criminology Panpacific University Urdaneta City, Pangasinan June 2016
Secondary	Cauayan City National High School Cauayan City, Isabela March 2012
Elementary	Agbannawag Elementary School Tabuk City, Kalinga March 2007

PROFESSIONAL EXPERIENCE/S

Instructor	Urdaneta City University Urdaneta City, Pangasinan August 2017 – January 2018
Instructor	Northwestern University Laoag City, Ilocos Norte October 2020 - November 2021

TEST TAKEN / ELIGIBILITY

Licensure Examination for Criminology
Rosales, Pangasinan, October 2016

ORGANIZATIONAL MEMBERSHIP

Member	Professional Criminologists Association of the Philippines (PCAP) Philippine Security and Safety Professional Practitioner Association Inc.

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A COMPREHENSIVE ANALYSIS OF PHARMACOGENOMICS AND PERSONALIZED MEDICINE

Shivani Fotedar
Assistant Professor, Dept. of Pharmaceutics, Chameli Devi Institute of Pharmacy, Indore (MP), India

ABSTRACT

Pharmacogenomics, the study of how genetic variations influence an individual's response to drugs, lies at the core of personalized medicine. By elucidating the genetic determinants of drug efficacy and toxicity, pharmacogenomics offers the potential to tailor drug therapy to each patient's unique genetic profile. This review provides a comprehensive overview of the current state of pharmacogenomics and its applications in personalized medicine. We explore the genetic basis of drug response, pharmacokinetic and pharmacodynamic factors, and the techniques for pharmacogenomic testing. Key applications across various therapeutic areas, including oncology, cardiovascular diseases, psychiatry, and neurology, are highlighted. We also discuss the barriers to implementation, such as clinical decision support tools, education, ethical and legal implications, and reimbursement challenges. Finally, we examine future directions, including the integration of pharmacogenomics with other omics data, artificial intelligence, regulatory developments, and direct-to-consumer genetic testing. Overcoming the challenges and realizing the promise of precision therapeutics will require a concerted effort from various stakeholders, continued research, and collaborative efforts to translate pharmacogenomic discoveries into clinical practice.

KEY WORDS: *Pharmacogenomics, Drug response, Clinical implementation, Ethical, legal, and social implications (ELSI).*

INTRODUCTION

The advent of genomic technologies has ushered in a new era of personalized medicine, where an individual's genetic makeup can be leveraged to optimize therapeutic interventions and improve clinical outcomes. Pharmacogenomics, the study of how genetic variations influence an individual's response to drugs, lies at the core of this paradigm shift. By elucidating the genetic determinants of drug efficacy and toxicity, pharmacogenomics offers the potential to tailor drug therapy to each patient's unique genetic profile, maximizing therapeutic benefit while minimizing adverse reactions. This review aims to provide a comprehensive overview of the current state of pharmacogenomics and its applications in personalized medicine. We will explore the genetic basis of drug response, the techniques and challenges associated with pharmacogenomic testing, and the implementation of pharmacogenomics across various therapeutic areas. Additionally, we will discuss the barriers and future directions in translating pharmacogenomic discoveries into clinical practice.

GENETIC BASIS OF DRUG RESPONSE

The interplay between genetics and drug response can be broadly categorized into pharmacokinetic and pharmacodynamic factors. Pharmacokinetics governs the absorption, distribution, metabolism, and elimination (ADME) of drugs, while pharmacodynamics determines the molecular mechanisms and targets through which drugs exert their therapeutic effects.

A. Pharmacokinetics

1. Role of genetic variations in drug-metabolizing enzymes
    - Cytochrome P450 (CYP) enzymes and their impact on drug metabolism
    - Examples: CYP2D6 and codeine, CYP2C19 and clopidogrel
2. Influence on drug absorption, distribution, and elimination
    - Transporters (e.g., P-glycoprotein) and their role in drug disposition

B. Pharmacodynamics

1. Genetic variations in drug targets (receptors, enzymes, etc.)
    - Examples: HER2 and trastuzumab, VKORC1 and warfarin
2. Impact on drug efficacy and adverse effects
    - Mechanism of action and receptor binding affinities

PHARMACOGENOMIC TESTING

The implementation of pharmacogenomics in clinical practice hinges on reliable and accurate genetic testing methodologies. Various techniques, including genotyping, sequencing, and gene expression analysis, have been developed to identify clinically relevant genetic variants.

A. Techniques and platforms (genotyping, sequencing, etc.)

- Polymerase chain reaction (PCR)-based methods
- Microarrays and SNP chips
- Next-generation sequencing (NGS)

B. Interpretation and clinical validity

- Establishing genotype-phenotype associations
- Clinical validity and utility of pharmacogenomic markers

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- Guidelines and resources (e.g., PharmGKB, CPIC)

C. Challenges and limitations

- Analytical validity and quality control
- Cost and reimbursement considerations
- Access to testing and implementation barriers

APPLICATIONS OF PHARMACOGENOMICS

Pharmacogenomics has found widespread applications across various therapeutic areas, enabling more personalized and precise treatment strategies. This section will highlight some of the most notable examples and success stories.

A. Oncology

1. Targeted therapies based on genetic markers
    - HER2 testing for trastuzumab in breast cancer
    - EGFR mutations and tyrosine kinase inhibitors in lung cancer
2. Dose optimization and toxicity prevention
    - TPMT and thiopurine dosing in acute lymphoblastic leukaemia
    - UGT1A1 and irinotecan toxicity

B. Cardiovascular diseases

1. Anticoagulant and antiplatelet therapy
    - CYP2C9 and VKORC1 for warfarin dosing
    - CYP2C19 and clopidogrel response
2. Lipid-lowering therapies
    - SLCO1B1 and statin-induced myopathy

C. Psychiatry and neurology

1. Antidepressants and antipsychotics
    - CYP2D6 and codeine, selective serotonin reuptake inhibitors (SSRIs)
    - HLA-B*15:02 and carbamazepine-induced Stevens-Johnson syndrome
2. Anticonvulsants and pain management
    - HLA-B*15:02 and carbamazepine-induced Stevens-Johnson syndrome
    - CYP2D6 and codeine analgesia

D. Other therapeutic areas

- HIV (CCR5, HLA-B*57:01, and abacavir hypersensitivity)
- Transplantation (TPMT and azathioprine, NUDT15 and thiopurines)

IMPLEMENTATION AND BARRIERS

Despite the promise of pharmacogenomics, its widespread adoption in clinical practice has encountered several barriers and challenges.

A. Clinical decision support tools and guidelines

- Integrating pharmacogenomic information into electronic health records
- Development of clinical practice guidelines (e.g., CPIC)

B. Education and training of healthcare professionals

- Increasing awareness and understanding among physicians, pharmacists, and nurses
- Incorporating pharmacogenomics into healthcare curricula

C. Ethical, legal and social implications (ELSI)

- Privacy and confidentiality of genetic information
- Potential for genetic discrimination
- Informed consent and patient autonomy

D. Reimbursement and cost-effectiveness considerations

- Coverage and reimbursement policies for pharmacogenomic testing
- Pharmacoeconomic evaluations and value assessments

FUTURE DIRECTIONS AND EMERGING TRENDS

As the field of pharmacogenomics continues to evolve, new frontiers and opportunities are emerging to further advance personalized medicine.

A. Integration of pharmacogenomics with other omics data

- Combining genomic, transcriptomic, proteomic, and metabolomic data
- Comprehensive multi-omics profiling for precision medicine

B. Artificial intelligence and machine learning in personalized medicine

- Predictive modelling and decision support systems
- Identification of novel biomarkers and drug targets

C. Regulatory and policy developments

- Evolving regulatory frameworks for pharmacogenomic testing and companion diagnostics
- Harmonization of guidelines and standards across different regions

D. Direct-to-consumer genetic testing and its implications

- Opportunities and challenges of consumer-initiated genetic testing
- Regulatory oversight and quality control

CONCLUSION

Pharmacogenomics represents a paradigm shift in drug therapy, offering the potential to optimize treatment efficacy, minimize adverse effects, and ultimately improve patient outcomes. While significant progress has been made in elucidating the genetic determinants of drug response and implementing pharmacogenomic testing in various therapeutic areas, several challenges remain.

Overcoming these barriers will require a concerted effort from various stakeholders, including healthcare professionals, regulatory agencies, payers, and the pharmaceutical industry. Continued research, education, and collaborative efforts will be crucial in translating pharmacogenomic discoveries into clinical practice and realizing the full potential of personalized medicine.

As our understanding of genomics and its interplay with drug response deepens, and as emerging technologies and data integration strategies evolve, the future of pharmacogenomics holds immense promise for transforming healthcare delivery and optimizing therapeutic outcomes for individual patients.

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A CODE FOR ALL? ASSESSING THE NEW LABOUR CODES' IMPACT ON INDIA'S UNREGULATED WORKFORCE

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ABSTRACT

Labour law in India comprised of many legislations, most of whose underlying purposes were increasing social welfare and security. 2020 was expected to be a revolution in Indian labour regulations as the previous laws were consolidated into four new Labour Codes. The influence of the Codes on India's unorganised economy and information technology ("IT") industry, where the pink-slip movement is rife, is the exclusive subject of this article. It also investigates how the inapplicability of the Codes to the unorganized sector adversely impacts its stakeholder. This research is extremely necessary, particularly in view of current socioeconomic developments affecting Indian labourers, particularly in emerging industries like information technology, where the pink-slip phenomenon was observed to be pervasive during the COVID-19 outbreak. The analysis on the unorganized sector is particularly crucial as it reveals the lacunae in the existing legislation and also stresses on the insufficient reforms ushered in by the Labour Codes. The data is gathered and analysed for the article using the doctrinal approach of legal research. It also gives a summary of India's labour law system, which culminated in the four labour codes. In the end, it proves that the codes are inadequate in their current form and makes recommendations for future revisions.

KEYWORDS: *Labour law, New codes, Unorganised sector, Wages*

INTRODUCTION

The goal of labour law is to effectively address the conflict between workers' rights and the socioeconomic conditions that now violate those rights. Given that there are roughly 16 laws that regulate labourers in the nation, India's labour law system is quite extensive in this regard. Although it has been almost 76 years since India gained independence, the majority of these laws were mostly implemented during the British colonial era in the country.

According to the Indian Constitution, the State has a responsibility to protect the welfare of labourers and workers. Articles 39, 41, 42, 43, 43A, and 54 of Part IV of the Indian Constitution of 1950, which addresses the Directive Principles of State Policy (or "DPSP"), establish the State's obligation to create these laws. The Constitution allows both the federal government and state governments to enact laws on labour because it lists labour as a concurrent list subject (Entries 22–24). Furthermore, a significant number of these regulations were formulated using international norms of the International Labour Organisation ("ILO").

Though the ILO has had a favourable impact on India's labour policy and has been recognised since 1956, the country has only ratified four of the eight fundamental treaties of the ILO.

(V. K. R. Menon,1956, pp. 551–571). There are a lot of ramifications from this, but the most significant one is the legislature's apparent lack of interest in understanding the dynamics of workers' rights and creating new laws or updating old ones to better reflect the modern social scenarios.

Despite the fact that Indian labour legislation is extensive, some of its inadequacies in terms of its applicability to various sectors compromise the goals of these laws. Notably, especially in recent times, the Indian regime has also failed to address the problems that workers in the Information Technology ("IT") sector face—problems that clearly violate labour law legislation. Even after India's labour laws were recently "reformed" by consolidating them into four "Labour Codes"—the 2020 Code on Social Security, 2020 Code on Industrial Relations, 2019 Code on Wages, and 2020 Code on Occupational Safety, Health, and Working Conditions—these problems still exist. Interestingly, these labour codes have not yet been formally announced, indicating that they are not yet legally binding. This is important because a pre-notification examination of the different sections of the four Codes would increase the likelihood of identifying any gaps and provide suggestions for how to fix them.

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Labour law in India—Differentiating Employees and Workers

Under the Indian labour law regime, the phrases "employee," "workmen," and "worker" are crucial terms that determine whether or not the rules apply. Differentiating between "workman" and "employee" is essential to understanding India's labour law system, particularly when viewed via the Industrial Disputes Act 1947.

Pre-Labour Codes

Prior to the introduction of the Codes, the Courts were mostly responsible for determining what constituted a workman and an employee under the Indian labour law system because the Legislature had not expressly provided for such a distinction in the ID Act. The Employee State Insurance Act of 1948 did, however, define "employee" in a different way. However, even this definition is limited to the Act's purview and cannot be utilised in conjunction with other labor-law laws.

The Act's definition of "workman" excludes some categories of workers, such as those in management or supervisory positions and those making less than Rs. 10,000 per month. Interpreting this definition, Indian courts have over the years determined important considerations to be considered in deciding whether an employee is considered a workman for the purposes of the ID Act. Ciba Geigy of India Pvt. Ltd. v. Arkal Govind Raj Rao(1985 AIR 985.) is a significant ruling in this context. wherein the Supreme Court ruled that any extra obligations should not be considered in favour of the employee's core and primary duties. The observation aligns with Section 1(s) clause (iii), which states that personnel serving in administrative capacities are not considered workers under the Act.

Notably, the courts have also examined whether or not various employee categories fall under the definition of "workman." These categories include supervisory employees, as determined in G.M. Pillai v. A.P. Lakhmikar Judge(1998 LLR 310.), part-time employees, as acknowledged in Bombay Dyeing and Manufacturing Co. Ltd. v. R.A. Bidoo (1989 (2) BomCR 367). technical employees, and so on.

Thus, under the previous system, the Courts, not the Legislature, were ultimately responsible for deciding which employee classifications would be classified as "workmen" for the purposes of the Act. This decision was important because it affected the existence and enforceability of many rights that an employee could have.

It is untrue, though, that the Legislature has done nothing to make the distinction between workers and employees crystal plain. The 2009 Amendment to the Workmen's Compensation Act of 1923, which changed the Act's name to the Employees' Compensation Act, is one example of how the legislature acknowledged this distinction. The Legislature demonstrated its readiness to explicitly distinguish between labour and employees by passing this amendment. Unfortunately, no further action was made to address this differentiation, which was restricted to the aforementioned Amendment Act. Consequently, uncertainties about the application of numerous other labour law laws in the nation still exist.

Post-Labour Codes

It appears that the Legislature has gained more attention than the Courts since the implementation of the Labour Codes. The reason for this is that, with the exception of the Social Security Code, which does not define "worker," all of the Codes have embraced the concepts of "employee" and "worker." According to the Code, an employee is someone who works for pay in a business, excluding apprentices, and is hired to perform a variety of tasks, including skilled, semi-skilled, and unskilled labour, regardless of whether the job has explicit or implicit employment terms. The SS Code distinguishes and defines many categories of workers (gig workers, unorganised workers, etc.) as opposed to providing a single definition for all workers.

It follows that the new labour codes maintain the basis for differentiating between an employee and a workman, with a greater focus on the type of compensation an employee receives as a consideration.

The Codes' concept of "wages" becomes pertinent in this situation. According to the definition, wages include any compensation, such as salary, benefits, etc., that is given to an individual upon meeting the requirements of their job, whether those requirements are stated explicitly or implicitly, and that is expressed in monetary terms or capable of being expressed as such. Basic salary, dearness allowance, and retention allowance are also included in wages; inter alia, bonuses, transport allowance, etc., are not.

While the concept above is not problematic in and of itself, there is misunderstanding regarding the applicability of wages due to its provisos. This is due to the fact that the provisions' clauses pertaining to the subsections' subsections as well as the provisos addressing wage computation, gender-neutral compensation, etc., solely address the salaries that an employer pays an employee. This means that either the distinction between a worker and an employee is no longer necessary, or it is accepted that workers are not entitled to "wages." This may also help to explain why some laws, like those on equal compensation, have not been implemented well enough to minimise the significant salary gap between men and women. (Agarwal, 2014, pp. 329–340).

Therefore, one of the following changes must be done in order to standardise the definition:

- Additionally, the word "wages" needs to be explicitly applied to employees; and

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- To avoid confusion, the word "employee" must be replaced with "worker" in the provisos.

It is also advised to change the present criterion used to differentiate between the two categories to a sectoral one, i.e., the person's employment status in the organised or unorganised sector. The justifications for this claim have been expounded upon in the ensuing portions of this article, specifically in relation to the SS Code rules pertaining to the unorganised sector.
In this sense, distinct definitions of employees and workers might be incorporated using the laws of the United Kingdom as a point of reference. There are four different definitions of who is covered by the UK labour law regime: worker, employee, jobholder, and trainee. (Deakin & Morris, Citation2019)

A different set of rights are covered under the laws' concept of a "employment relation." It is evident from this that several categories of workers and employees are clearly defined by UK law, and each type's rights have been protected and provided for by legislative enactments. As established in Lawrie-Blum v. Land Baden-Württemberg ([1986] ECR 2121)., workers are considered the more vulnerable class under this regime and thus require higher degrees of protection than do employees. As such, provisions pertaining to workers carry greater weight than provisions relating to employees or the other two aforementioned types. Interestingly, the distinction implemented under the UK regime also aligns with the concepts which are accepted by the ILO for comparing various nations' labour laws.

There is little question that changing the current definitions under the Indian labour laws to be more like those under the UK laws would be advantageous to all parties involved, given the similarities between Indian and UK law. By taking this action, the Legislature would also be able to differentiate between workers and employees explicitly, something that has been lacking since the 2009 Amendment Act.

Interplay between labour law, social security and the unorganized sector

The majority of the laws under it were focused on social security prior to India's employment regulations being combined under the employment Codes. These laws, which were replaced by Section 164 of the SS Code, were as follows:
The Act of 1923 concerning Employees' Compensation (formerly called the Workmen's Compensation Act of 1923);
The 1948 Employees' State Insurance Act
Act of 1952 on Employee's Provident Funds and Miscellaneous Provisions;
The Act of 1959 Concerning Employment Exchanges (Compulsory Notification of Vacancies);
The Act of 1961 on Maternity Benefits;
The 1962 Gratuity Payment Act;
The 1981 Cine-Workers Welfare Fund Act
The Welfare Cess Act of 1996 for Building and Other Construction Workers; and
Act of 2008 Concerning Unorganised Workers' Social Security.

The social nature of these laws can be deduced from their titles alone. Put another way, the lengthy titles of these Acts when combined with their individual Preambles make it very evident that these laws are all similar in that their fundamental goals for enactment are social fairness and social welfare. Consequently, social security is a key component of their goals as well. Consequently, it is reasonable to anticipate that the SS Code, which is an amalgamation of all the previously described laws, will address every flaw in those laws in order to facilitate the achievement of their goals.

The main flaw—which the SS Code has sadly done little to address—is that because of the narrow definitions included in these social security laws, the unorganised sector was essentially exempt from application. For example, due to the peculiarities of work in the sector, it is rare for businesses in the unorganised sector to employ people who fit the requirements of the definition of a "employer."

These problems are also present in another piece of legislation, the Unorganised Worker's Social Security Act of 2008 (henceforth referred to as the "2008 Act"), which focuses especially on the unorganised sector. The Act solely defines the unorganised sector in arbitrary and limited terms; it makes no mention of the phrase "worker." All employees in the industry are included under the Act's simple definition of "unorganised worker."

Regretfully, the definitions and provisions included in this legislation have been merely copied into the SS Code without any meaningful changes. This means that the 2008 Act's shortcomings and the shortcomings of the other pertinent legislations have been combined into the SS Code. Therefore, it is required to go into further detail about the concerns in the Code in order to comprehend the issues with the applicability of social-security legislations (currently the aforesaid Code):

- The definition of the unorganised sector is arbitrary and constrictive: Section 1(85) of the Code contains a copy of the definition of the unorganised sector taken from Section 1(l) of the 2008 Act. A "business owned by individuals and self-employed workers

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engaged in production or sale of goods or providing service of any kind whatsoever, and where the enterprise employs workers, the number of such workers is less than ten," is what the definition of the unorganised sector refers to. As to Section 1(86) of the Code, wage workers, self-employed individuals, and home-based labourers are all considered "unorganised workers." Interestingly, unorganised workers are not mentioned in the definition of the unorganised sector. When the clause is read plainly, it means that the unorganised sector is made up of independent contractors or self-employed individuals who provide goods or services; wage workers are not included in this definition of unorganised workers, as stated in the subsection. (86)

- "Gig worker" is defined as "a person who performs work or participates in a work arrangement and earns from such activities outside of traditional employer-employee relationship" in Section 1(35) of the Code.
  This provision appears to be the definition of a worker in the unorganised sector at a cursory reading. The SS Code effectively ended the definition of a gig worker's applicability to the unorganised sector by defining the terms "unorganised worker" and "unorganised sector" separately and inadequately. This means that gig workers can benefit from the SS Code's provisions, but unorganised sector workers cannot.

Non-implementation of Section 5: Section 5 of the Code establishes the State Unorganised Workers' Board and the National Social Security Board for Unorganised Workers. It is derived from Chapter-III (which includes Section 4) of the 2008 Act. This National Board has not been established in the fourteen years since the 2008 Act was passed. It is intended that the Board will be quickly created following the Codes' announcement.

The Uttar Pradesh Unorganised Workers Social Security Board (UPSSB), which serves just the Northern State of Uttar Pradesh, is actually one of the ten State Boards established under this Act that is currently in operation. By 2013, five years after the 2008 Act was passed, twenty-three other states still had not created the Board. Thus, the goals of the 2008 Act are undermined by not creating the National Board and by not guaranteeing the creation of State Boards by every State.

- Central Government Programmes under Section 45: The SS Code's Section 45 gives the Central Government the authority to create programmes for platform, gig, and unorganised labourers. But as the phrase "may" qualifies the Central Government's authority to adopt such plans, the SS Code does not mandate their implementation; rather, it leaves it up to the Central Government's judgement.

The SS Code once again jeopardises its primary goals by leaving such a crucial responsibility to the discretion of the Central Government, since the absence of a mandate calls into question the assurance of the creation of such programmes. Therefore, in order to achieve the goals of the Code as well as the relevant sections of the Constitution, it is essential that this position be modified and that the Central Government be given a more robust mandate. Moreover, the execution and financing of the aforementioned programmes are provided under Chapter IX of the Code, specifically Section 109. The Central Government is required under subsection (4) to make provisions for things like the schemes' scope, authority, and other requirements that are needed to carry out their provisions. But when the creation of these programmes is left up to personal judgement, this requirement loses all meaning. As a result, even though this clause is in place, it cannot truly take effect unless and until the aforementioned adjustments are made.

Registration Process: With a few modifications, Section 10 of the 2008 Act served as the model for the registration process envisioned in Section 113 of the SS Code. Essentially, the clause says that unorganised workers must be registered in order to get benefits under the SS Code and the Central Government-created programmes for them. In accordance with subsection (1), the individual must also be older than 16 and have electronically or otherwise submitted a self-declaration. The last step requires the employees to apply for Central Government registration by providing, among other things, their Aadhaar card. This registration process just adds needless bureaucracy and complexity to a law whose successful implementation would be achieved if such difficulties were avoided in the first place, given the state and character of the unorganised sector. Furthermore, by making the provision contingent on meeting a bureaucratic requirement, it ignores the Code's primary goal, which is to provide social security. While it is acknowledged that registration is required to prevent abuse of the benefits of the programmes under the SS Code, there is room for improvement in the process and a great deal of attention needs to be paid to its execution, to avoid the situation that the National Social Security Board found itself in.

Thus, based on the aforementioned analysis of the pertinent provisions of the Social Security Code—which is essentially a replication of the 2008 Act—it can be concluded that there are a number of issues regarding the applicability of social-security legislations in India to the unorganised sector. Of particular concern is the fact that many of these issues stem from the shortcomings inherent in the SS Code, which calls for immediate correction. Other issues include the failure to implement Code provisions, which could actually benefit workers in the unorganised sector.

Labour Codes—Have They Achieved Their Objectives?

The provisions of the SS Code and the IRC are not better than the laws that already exist, according to a review of the provisions. In actuality, the labour codes have merely duplicated the provisions of the earlier laws under the guise of consolidation. This implies that, as previously said, not only have the effective elements from the earlier legislations been integrated into the Codes, but also the ineffective provisions that required change.

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The main goal of the new labour codes, according to a booklet released by the Indian government's Ministry of Labour and Employment, is to free workers from the "web of legislations," which required them to submit numerous forms in order to receive even a single benefit (Kashyap, 2023).

It is accepted that the Codes' goals are admirable. In fact, the main goal of the Codes appears to have been achieved by combining 29 labour law statutes into four Codes. Nonetheless, it is abundantly evident from the lengthy titles of the Codes that they are intended for both law consolidation and revision. The Codes need to be changed because they have proven to be unsuccessful in the area of amendments. More specifically, the Code's definitions require revision, notably with regard to appropriately distinguishing between workers and employees as well as identifying and characterising various labour classes and subclasses.

The Labour Codes have not even achieved their primary goal of consolidation, as all they appear to have done is classify the laws into four groups and then compile them in that order. However, compilation is not the same as consolidation in this case.

Furthermore, it doesn't appear plausible that the Codes will be announced earlier based on prior official communications from the Government of India's Ministry of Labour and Employment (Press Information Bureau, Citation2022). This essentially implies that the Codes' provisions may yet be changed to achieve a radical change in the framework of Indian labour law (Desai Associates, Citation2022). Drawing from the analysis, it is evident that the necessary modifications pertain primarily to the applicability and extent of the Codes. Specifically, the Codes must encompass all industries, regardless of their sector, in order to achieve the primary goals behind their enactment.

Conclusion and Suggestions

As it stands, the Indian labour law system has numerous gaps. A 2021 study that examined 1500 minimum wages discovered that, despite the existence of laws (which were not without flaws), there was a clear discrepancy between the minimum wage regulations that were established de facto and de jure, which resulted from inadequate implementation (Mansoor & O'Neil, 2021). In this situation, the issue of non-execution takes a backseat to the serious worry of inadequate legislation. But it's also important to remember that, according to Deakin et al. (2014), India and the other BRICS nations benefited from more stringent labour rules that protected social rights without compromising employment.

Legislation simplification for the good of the interested parties is nearly always a necessary endeavour. This becomes even more important when labourers themselves, as well as other stakeholders like trade unions, voice concerns about the efficacy of the Codes (Siddaramu, 2021). (Mohan et al.,2021). The Labour Codes appear to be a good first step in this direction, but because of their very ineffective implementation, the whole intent behind them is undermined. It appears that the Codes have overlooked the various gaps in Indian labour law laws, making their continued existence meaningless.

- **Here are some recommendations that are put forth:**
  In order to clearly provide for the members in the relevant sector, define and distinguish between "employee" and "worker" based on the sector in which they work, rather than the type of job they conduct; this can also be done by drawing inspiration from the labour laws of the United Kingdom;
- Change the meanings of terms like "unorganised sector," etc. to make them more precise and inclusive;
- Even if it means straying from earlier laws, streamline the registration process and other Labour Code-mandated processes;
- Conduct additional research on the many gaps in all of India's labour law laws and the potential changes that can be made to them before they are incorporated into the Labour Codes; a Standing Committee akin to the one established in 2009 may be established for this purpose; and
- Present the labour laws to the public and provide them a chance to voice any thoughts, comments, or suggestions regarding the changes after the aforementioned study has been completed and the ensuing revisions have been formulated. This will eventually lead to a more democratic process underlying the Codes.

These recommendations apply to both the IRC and the SS Code generally, as well as to them in particular. It is highly believed that the modifications that would entail benefiting all classes of Indian workers and employees and resulting in a stronger labour law system if they are carried out correctly and effectively. Therefore, it is hoped that changes to this impact would be implemented prior to the Codes being announced.

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THE ROLE OF COMPLEX SYNTACTIC UNITS IN LINGUISTICS

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ABSTRACT
This article explores the role of complex syntactic units in English and Uzbek, examining their contributions to syntax theory and implications for practical applications like language learning and AI. By analyzing syntactic structures within these languages, we highlight the diversity in syntactic complexity and the need for linguistic theories that accommodate such variations.
KEYWORDS: *syntactic complexity, linguistics, language theory, natural language processing*

INTRODUCTION

The study of complex syntactic units is fundamental in linguistics, offering insights into the cognitive processes involved in language comprehension and production. These units, which include clauses, phrases, and idiomatic expressions, serve as the building blocks of language, enabling nuanced communication and thought. The exploration of these elements in diverse linguistic contexts reveals their universal and language-specific characteristics.

Complex syntactic units are essential for parsing the grammatical structure of sentences, helping to convey meaning through the arrangement of words and phrases. Their complexity lies in their capacity to embed within each other, creating layers of meaning that can be both explicit and implicit. This structural depth not only enhances the expressivity of a language but also poses significant challenges in linguistic analysis and understanding.

The study of these units is not merely academic but has practical applications in various fields including computational linguistics, neurolinguistics, and language education. In computational linguistics, understanding complex syntactic structures aids in improving natural language processing systems. In neurolinguistics, researchers explore how the brain processes complex constructions, which contributes to better strategies for language rehabilitation after neurological events. In education, insights into syntactic complexity can inform more effective teaching methods that cater to the linguistic strengths and weaknesses of learners.

Moreover, the comparative analysis of syntactic units across languages such as English and Uzbek provides a rich field of study due to their differing syntactic strategies and structures. This not only aids in a deeper understanding of individual languages but also contributes to the broader field of typological comparison, enhancing our understanding of human linguistic capabilities and limitations.

Through this article, we aim to highlight the significance of complex syntactic units in linguistics, exploring both their theoretical implications and their practical applications, thereby underscoring their indispensable role in our understanding of language as a fundamental human faculty.

LITERATURE REVIEW

The field of linguistics has long been fascinated by the structure and complexity of syntactic units. Initial studies primarily focused on the simpler elements of syntax, largely influenced by the early works of Ferdinand de Saussure and Leonard Bloomfield, who laid the groundwork for structural linguistics. These foundational theories were pivotal in setting the stage for understanding language as a system of interrelated units.

The seminal work by Noam Chomsky in the 1950s revolutionized this landscape with the introduction of transformational grammar, which brought the complexity of syntactic structures into sharper focus. Chomsky's theory emphasized the role of deep structures and transformations in generating the observable surface structures of language, proposing that the mind has an innate capacity for language characterized by a universal grammar applicable to all languages.

Following Chomsky, there was a surge in the exploration of complex syntactic units. Scholars like Joseph Greenberg contributed with his universals of language, which provided empirical evidence supporting the existence of common syntactic patterns across languages, regardless of their superficial differences. This led to further studies on the typological classification of languages based on their syntactic features, such as those by Bernard Comrie and Talmy Givón, who focused on the implications of syntactic typology for cognitive processes.
In the late 20th and early 21st centuries, the Minimalist Program, also initiated by Chomsky, sought to refine the earlier models by reducing the syntactic structure to its most essential elements, arguing that linguistic processes obey an 'economy of derivation' and an 'economy of representation', which restrict the complexity of syntactic structures.

More recently, the rise of computational linguistics has introduced quantitative methods to syntactic analysis, allowing for more precise and extensive studies. Work by researchers like Joan Bresnan and Jane Grimshaw has integrated statistical

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models to study syntactic variation and complexity, bridging the gap between theoretical linguistics and practical applications in natural language processing.

These evolving theories and methodologies underscore the dynamic nature of research on complex syntactic units, highlighting their central role in the broader understanding of human language.

ANALYSIS AND RESULTS

The analysis focused on comparing the complex syntactic units in English and Uzbek, two languages that represent different syntactic typologies—English as a largely analytic language with fixed word order and Uzbek as a highly agglutinative language with a flexible sentence structure. The primary aim was to explore how the complexity of syntactic structures manifests in these languages and to understand the implications of these manifestations for syntactic theory and linguistic processing.

Data Collection and Methodology: For this comparative analysis, large corpora containing journalistic and literary texts, as well as spoken dialogues, were compiled for both languages. The English corpus included 1 million words, and the Uzbek corpus was matched for genre and size. Using computational tools such as syntactic parsers and frequency analyzers, each corpus was processed to identify and categorize complex syntactic units, including subordinate clauses, passive constructions, and nominalizations.

English Findings: In English, complex syntactic units frequently involve the use of subordinate clauses, passive voice, and nominalizations. These structures often serve to condense information and maintain a formal tone, which is particularly prevalent in written language. For instance, the use of passive constructions was notably high in formal and academic texts, facilitating a depersonalized style of communication that focuses more on the action than on the actor.

Uzbek Findings: Uzbek, in contrast, showed a different kind of complexity. The language's agglutinative nature allows for extensive inflectional morphemes to be attached to base words, impacting the syntactic structure significantly. Complex syntactic units in Uzbek often involve chains of agglutinated forms that create lengthy and information-rich word forms. This linguistic feature supports a flexible word order, with a higher frequency of embedded clauses that are marked not by separate words but by affixes to a greater extent than in English.

Comparative Insights: The analysis revealed significant differences in how syntactic complexity is realized in the two languages. English tends to use more discrete words to form complex syntactic units, which can add clarity but also increases sentence length and potential ambiguity. In contrast, Uzbek's morphological complexity often results in shorter sentences that are densely packed with information due to the agglutinative nature of its grammar.

Implications for Syntactic Theory: These findings challenge certain assumptions of universality in syntactic theory, particularly those proposed by earlier generative grammars. While the deep structures posited by such theories may suggest a common underlying framework, the surface manifestations in languages like Uzbek show that morphological strategies can significantly alter syntactic constructions. This calls for a more nuanced approach to syntactic analysis that considers morphological and syntactic diversity.

CONCLUSION

The exploration of complex syntactic units in English and Uzbek highlights the intricate ways in which languages harness grammatical structures to organize and communicate information. This study has not only provided insights into the distinct syntactic strategies employed by each language but also illuminated broader implications for linguistic theory and practice.

Theoretical Implications: Our findings challenge traditional syntactic theories that often emphasize uniformity across languages. The significant differences between English and Uzbek—particularly in how complexity is managed within their respective syntactic and morphological frameworks—suggest that linguistic theories need to be more inclusive of typological diversity. This necessitates a shift towards more flexible models that can accommodate the unique characteristics of languages with different grammatical systems. Such models should not only account for the structural aspects of language but also consider the cognitive and communicative functions that these structures serve.

Practical Implications: From a practical standpoint, understanding the specifics of syntactic complexity in different languages has significant implications for various applied fields. In language education, for instance, these insights can lead to more effective teaching strategies that are tailored to the structural complexities of the target language. For learners of English or Uzbek, an awareness of syntactic nuances will aid in mastering effective communication and comprehension skills. Furthermore, in the realm of computational linguistics, enhancing natural language processing algorithms to better recognize and interpret complex syntactic constructions can improve machine translation, text analysis, and voice recognition software, especially for underrepresented languages like Uzbek.

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DEPLOYMENT OF ENHANCED DEEP LEARNING MODEL WITH THE BEST ESTIMATORS ON OPTIMIZERS AND ACTIVATION FUNCTIONS FOR HEALTHCARE IN WEB APPLICATION

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ABSTRACT

Breast cancer and brain tumor stand as leading global causes of mortality. Brain tumor uses Magnetic Resonance Imaging (MRI) which offers superior clarity in visualizing brain structures compared to other imaging modalities, while Breast cancer uses ultrasonography (US) serves as a common tool for detecting breast cancer despite its inherent limitations in image quality. Motion artifacts frequently hinder MRI scans, necessitating skilled radiologists for accurate interpretation. Computer-aided diagnosis (CAD) systems driven by artificial intelligence, present a promising solution by consistently assisting radiologists in analyzing US images. Convolutional neural networks (CNNs) leverage various optimizers like Adam and Stochastic Gradient Descent (SGD), RMSprop, Adagrad, and Adadelta as well as activation functions including PReLu, LeakyReLu, Elu, and ReLu for their construction and training. The comparative analysis highlights the importance of optimizers and activation functions in deep learning algorithms for predicting brain tumors and breast cancer. The Adam optimizer combined with the ReLU activation function achieved an accuracy of 85% for breast cancer prediction, while RMSprop combined with ReLU activation function achieved a higher accuracy of 93% for brain tumor classification. From this research, considerable deep learning configurations are identified for both breast cancer and brain tumor prediction, facilitating more precise and efficient diagnoses. The comparative analysis provides valuable insights for those involved in medical imaging applications. Furthermore, The CNN model is deployed in web interface using flask framework to streamline the integration of these models into healthcare systems. This interface simplifies the input of medical data including image data and provides real-time predictions.

KEYWORDS—*Convolutional neural networks, Comparative Analysis, Activation functions, Optimizers, Ultrasound images, MRI images, Breast cancer, Brain tumor, medical imaging applications, FLASK.*

I. INTRODUCTION

Early detection and accurate diagnosis are critical for effective treatment and improved outcomes in breast cancer and brain tumors, two prevalent and potentially fatal conditions worldwide. Diagnosing cancer is often challenging due to the complex and varied characteristics of tumor appearance and growth [1]. Significant advancements in technology, particularly in the field of deep learning have revolutionized the development of predictive models in healthcare domain. By leveraging large datasets and complex neural network architectures, deep learning algorithms can effectively identify patterns and features in medical images, enhancing the precision and effectiveness of diagnoses for breast cancer and brain tumors. Over the last 26 years, there has been a notable increase in the age-standardized incidence rate of breast cancer among females, showing a rise of 39.1% (95% confidence interval, 5.1 to 85.5) [2].

Breast cancer and brain tumors are rare but lethal diseases affecting millions globally. While breast cancer targets breast tissue, brain tumors can develop within or around the brain. Despite their distinctions, both illnesses present significant challenges to patients, families, and healthcare providers. Each year, more than 250,000 individuals receive a diagnosis of brain tumors, with approximately 2% of cases identified as malignant [3]. This study aimed to assess the predictive potential of deep learning systems for breast cancer and brain tumors. Specifically, comparative analysis of optimizers and activation functions using a convolutional neural network (CNN) model focusing on these crucial elements of deep learning models.

Optimizers play a crucial role in training models by adjusting parameters such as weights and biases to enhance accuracy and convergence. These algorithms modify the model's parameters based on the evaluation provided by the loss function, aiming to minimize error. Popular optimizers include Adagrad, Stochastic Gradient Descent (SGD), Adam, RMSprop, and Adadelta.

TABLE I. DESCRIPTION OF OPTIMIZERS

OPTIMIZERS	FUNCTIONALITY
Adam (Adaptive Moment Estimation)	An optimization method that merges elements from both RMSprop and momentum, thereby creating an adaptive learning rate technique.
RMSprop (Root Mean Square Propagation)	RMSprop addresses the diminishing learning rate problem of AdaGrad by introducing adaptive adjustments to the learning rate.
AdaGrad (Adaptive	AdaGrad adapts the learning rate individually for each parameter by

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Gradient Algorithm)	considering the historical gradients collected for that parameter.
Adadelta	Adadelta, an enhancement of RMSprop, reduces the need for a manually selected global learning rate.
Stochastic Gradient Descent (SGD)	It calculates the gradient using only one randomly chosen sample from the training dataset.

Activation functions introduce non-linearity to neural networks, allowing them to capture complex patterns within the data. These functions are applied to the output of each neuron layer before passing it to the next layer. Commonly used activation functions include PReLU, LeakyReLU, Elu, ReLU, Softmax, and Tanh.

TABLE II. DESCRIPTION OF ACTIVATION FUNCTIONS

ACTIVATION FUNCTIONS	FUNCTIONALITY
ReLU (Rectified Linear Unit)	It replaces all negative values in the input with zeros enhances sparsity and introduces non-linearity.
PRELU (Parametric Rectified Linear Unit)	In contrast to ReLU, PRELU allows for a slight training-derived slope to be present in the negative component of the input.
Leaky ReLU	A variation of the ReLU function designed to tackle the issue of dying ReLU by enabling a modest non-zero gradient for negative inputs.
ELU (Exponential Linear Unit)	A smooth negative value curve which minimizes problems arising from dead neurons.

Softmax and Tanh are used for binary classification as this research deals with multi-class classification these activation functions are not used.

This research aims to enhance the performance of deep learning models for predicting brain tumors and breast cancer by systematically evaluating different optimizers and activation functions within convolutional neural networks (CNNs). The objective is to pinpoint the optimal combination of optimizer and activation function that yields the highest prediction accuracy and resilience through thorough analysis of diverse configurations. The primary objective of this research is to support the development of more reliable and efficient diagnostic tools for these critical diseases. It is essential to bear in mind that while the overall process of analyzing data on brain tumors and breast cancer remains consistent. Exploring potential web interface designs for the streamlined CNN models using the Flask framework. Enhancing medical practitioners' access and utilization of deep learning models through internet applications accelerates diagnosis and treatment decision-making processes.

II. LITERATURE REVIEW

A. Breast Cancer

Swati Nadkarni et.al [4] Utilizing a combination of deep learning alongside diffusion weighted imaging (DWI) and dynamic contrast-enhanced MRI (DCE-MRI), this research aims to enhance the detection of breast cancer. It builds upon prior studies conducted by researchers which highlighted the complementary nature of DCE-MRI and DWI in lesion detection. Drawing from the methodologies for addressing class imbalances and improving dataset quality. The study addresses issues related to class imbalance and data augmentation. Employing convolutional neural network (CNN) architectures such as DenseNet-201, AlexNet, and Inception-V3, the research achieves a maximum accuracy of 90.8% with Inception-V3, showcasing the efficacy of deep learning in facilitating quicker detection of breast cancer lesions by radiologists. Amrisha R R et.al [5] study underscores the importance of timely diagnosis through precise analysis of medical imaging data, particularly in ultrasonography, mammography, and histopathology. Utilizing transfer learning and convolutional neural networks (CNNs), the study demonstrates how artificial intelligence (AI) in medical image analysis can enhance precision medicine and the diagnosis of breast cancer. This advancement aims to decrease the mortality rate associated with the disease by enabling early detection and tailored treatment strategies.

Mobarak Zourhri et.al [6] explores the application of deep learning techniques in the classification of breast cancer ultrasound images, specifically investigating the efficacy of transfer learning utilizing pre-trained models like VGG16, VGG19, MobileNetV2, and ResNet50V2. The evaluation was conducted using a dataset comprising 9016 ultrasound images. The findings suggest that transfer learning can enhance the accuracy of breast tumor identification from ultrasound images, offering potential advancements for computer-aided diagnosis systems. However, the study acknowledges its constraints and underscores the need for further research, particularly considering the dataset's size and the absence of patient-specific data. Nalinikanta Routray et.al [7] research delves into the application of deep learning methodologies, specifically RNN and GRU models, for detecting and treating breast cancer. It highlights the crucial role of preprocessing data to ensure accurate predictions, achieving an impressive accuracy rate of 97% with the GRU model. Deep learning outperformed standard classifiers in classification tasks, indicating its promising prospects for early cancer diagnosis. The study underscores the importance of timely breast cancer detection in enhancing patient prognosis.

The study of Md Harun or Rashid et.al [8] addresses the pressing need for timely detection of breast cancer, a condition that affects numerous women annually. It presents a novel CNN model and a Computer-Aided Diagnosis (CAD) system employing pre-trained Deep Learning algorithms (CNN, LSTM, and MLP). Emphasizing the critical role of early detection in mitigating the advancement of breast cancer, the research also proposes potential future applications, including an automated tool to assist physicians in early identification. Harsh Manishkumar et.al [9] proposes the utilization of an Adaptive Deep Convolutional Neural Network (ADCNN) for early breast cancer detection through mammography data analysis. The objective is to enhance computational effectiveness in diagnosing breast cancer by employing a flexible CNN framework, highlighting the importance of

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refined training methods to achieve the best results. Mokhairi Makhtar et.al [10] proposes an enhanced approach for predicting breast cancer by employing a multi-classifier based deep learning method. This method integrates classifiers such as SMO, J48, RFs, NB, and IBk, aiming to enhance prediction accuracy. It underscores the critical importance of early detection and efficient treatment in reducing breast cancer mortality rates. Moreover, the study delves into the utilization of deep learning in medical image processing, emphasizing its growing significance in the healthcare sector. Through the suggested Deep Multi-classifier Learning (DMCL) technique, which integrates feature selection and classification within a deep neural network architecture, a comprehensive approach is presented to enhance breast cancer detection. Rosepreet Kaur Bhogal et.al [11] The study underscores the crucial necessity for rapid technological advancements in combating this prevalent and life-threatening illness by offering a comprehensive examination of the utilization of deep learning and machine learning methodologies, with a particular focus on Convolutional Neural Networks (CNNs), in the timely detection and diagnosis of breast cancer.

B. Brain Tumor

Deep learning methods, particularly those utilizing MRI, have been increasingly employed in various imaging modalities for the prediction and classification of brain cancers Md. Shabir Khan Akash et.al [12].

Hanaa ZainEldin et.al [13] introduced an enhanced Brain Tumor Classification Model (BCM-CNN) employing Convolutional Neural Networks (CNNs) fine-tuned with an Adaptive Dynamic Sine-Cosine Fitness Grey Wolf Optimizer (ADSCFGWO). While the computational demands of this approach might delay real-time implementation, it also opens avenues for further exploration into scalability and predictive challenges beyond categorization. Taiwo Soewu et.al [13] underscores the significance of employing deep learning models, particularly Convolutional Neural Networks (CNNs), in medical imaging tasks to enhance the precision of tumor detection from MRI scans. These models leverage advancements in subsequent architectures like AlexNet.

Ayesha Younis et.al [14] utilizes the VGG 16 architecture to construct and train its model, resulting in outstanding accuracy in tumor detection. It examines various approaches and strategies from prior studies, underscoring the significance of automated categorization systems in enhancing detection efficacy. Almetwally M. Mostafa et.al [15] introduces a DL approach for brain tumor (BT) segmentation utilizing MRI data, underscoring DL's importance in medical image analysis. Employing a CNN structure, the model comprises stages for preprocessing, data organization, model training, and assessment. It underscores the promise of DL methods in enhancing the accuracy of BT diagnosis. Md. Saikat Islam Khan et.al [16] Research indicates that employing a 23-layer CNN architecture alongside a Fine-tuned CNN utilizing the VGG16 architecture proves effective across various dataset sizes, mitigating limitations associated with traditional methods. These findings underscore the efficacy of the proposed methodologies in improving brain tumor diagnosis and highlight their potential as superior alternatives in this domain. Shamim Ahmed et.al [17] Proposing an explanation-driven deep learning model, the research employs a convolutional neural network (CNN) leveraging EfficientNetB0 architecture alongside Shapley additive explanation (SHAP) to discern various brain tumor subtypes from MRI data. Notably, the solution integrates data augmentation techniques to address the challenge posed by unexpected imaging angles within the dataset, surpassing previous methodologies. This study underscores the significance of eXplainable Artificial Intelligence (XAI) in enhancing both quantitative assessment and visual proficiency, thereby showcasing the efficacy of the proposed approach in identifying and categorizing brain cancer. Poonam Shourie et.al [18] This article discusses the utilization of MRI images in diagnosing various types of brain cancer through the application of the deep convolutional neural network known as the VGG-16 model. By undertaking extensive data preparation and augmentation, the study harnesses the robust classification abilities of the VGG-16 architecture, showcasing potential advancements in the analysis of medical images for identifying brain tumors.

Ahmed s. musallam et.al [19] The research study introduces an innovative Deep Convolutional Neural Network (DCNN) structure along with a three-step preprocessing technique to precisely recognize brain disorders using MRI data. This approach demonstrates robustness in identifying pituitary anomalies, meningiomas, and gliomas in comparison to existing models.

III. METHODOLOGY

Brain tumors and breast cancer pose significant health challenges affecting millions globally, presenting complex issues for medical professionals and patients. The MRI scan produces numerous 2D image slices with excellent soft tissue contrast, all achieved without the need for ionizing radiation [20]. Brain tumors originate within or near the brain, whereas breast cancer primarily affects breast tissue. Breast cancer typically begins in breast tissue, where abnormal cell growth and mutation lead to the formation of tumors. Using CNN models, the classification of brain tumors and breast cancer prognosis is based on this approach. CNNs excel in extracting detailed features and categorizing them accurately from raw pixel data, making them well-suited for image-based tasks like medical imaging. It can enhance the performance of the CNN model for specific medical imaging purposes, such as classifying abnormalities indicative of breast cancer or brain tumors, by adjusting its parameters and architecture.

A. Dataset

The most prevalent form of cancer affecting women is breast cancer (BC). Globally, approximately 2.1 million women are at risk of succumbing to breast cancer, as per the World Health Organization (WHO) [21].

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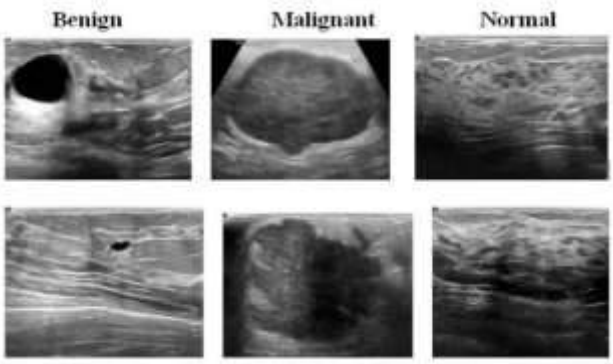


Fig. 1. Breast cancer ultrasound images of three classes.

As shown in "Fig.1" dataset containing ultrasound images of breast cancer (Dataset_BUSI_with_GT) is categorized into three groups: benign, malignant, and normal. A benign breast tumor is a growth that doesn't spread (metastasize) to other body organs. Typically, non-cancerous tumors pose minimal risk to life. Malignant tumors develop in or around breast tissue, typically within the milk ducts and glands. These tumors usually originate from abnormalities in cell growth, presenting as lumps or calcium deposits. Healthy breast cells are indicated as normal.

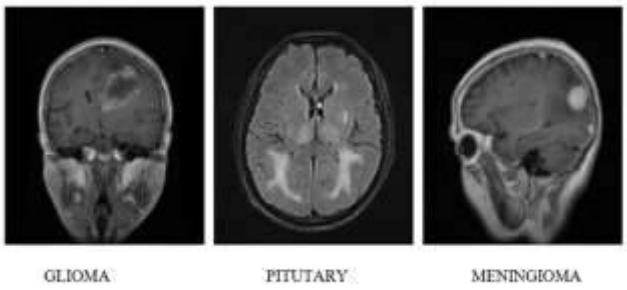


Fig. 2. Brain tumor MRI images of three classes.

Brain tumor is the most hazardous disease that develops in humans. The brain is a sophisticated organ of the human organ, which includes neurons and tissues that control most of the body's functions, including breathing, muscle movement, and our senses. Each cell grows with their capabilities, resist, and become abnormal. Brain tumors, also referred to as intracranial cancer, result from abnormal cell growth within the brain. As of 2021, the US has reported 24,530 cases, with 10,690 involving women and 13,840 involving men. Over the past three decades, the National Brain Tumor Foundation (NBTF) notes a 300% increase in death rates across various countries. Primary brain tumors are characterized by localized abnormal cell formation that doesn't spread to other parts of the body. As shown in "Fig.2." Brain tumor MRI Pictures Database (BT_MRI) collection contains 7023 human brain MRI pictures organized into three categories: glioma, meningioma, and pituitary. Gliomas, which originate from the supportive glial cells surrounding neurons in the brain, constitute approximately one-third of all brain cancer cases.

B. Model Planning

The main goal of the project is to develop Convolutional Neural Network (CNN) models for image classification, focusing on tasks such as detecting breast cancer and brain tumors. As depicted in "Figure 3," the initial phase involves importing the necessary libraries (scipy-learn, TensorFlow, Seaborn, PIL, Matplotlib, NumPy, and pandas) essential for data manipulation, visualization, and model development. Upon importing the dataset, preprocessing steps are applied, such as downsampling, grayscale conversion, reshaping, normalization, and augmentation. The CNN architecture comprises layers like Conv2D, MaxPooling2D, Flatten, and Dense with dropout regularization. The model is constructed trained on the training dataset, evaluated using validation data, and tested with a separate testing dataset to ensure its generalizability. This process involves selecting appropriate optimizers and loss functions. Finally, the trained model is deployed online using Flask, enabling users to utilize it for predicting new data.

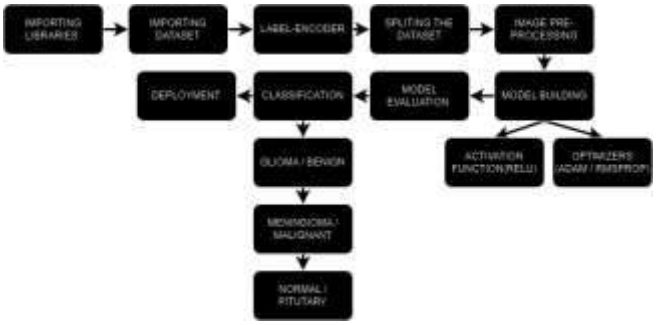


Fig.3. Model planning for both the datasets.

C. Data Preprocessing

The initial stages of constructing the preprocessing pipeline for the breast cancer ultrasound and brain tumor MRI images datasets involves five crucial steps. Firstly, data organization and label encoding were performed, where the datasets are structured into subfolders representing three different classes for each, and labels were encoded numerically using one-hot encoding. The dataset was then split into training and testing sets, ensuring balanced representation across classes. Following this, individual image preprocessing steps were applied, including loading, resizing, converting to grayscale, converting to NumPy arrays, reshaping, and normalization. Data augmentation was implemented exclusively on the training sets to create additional images with random transformations, enhancing model generalization. Finally, batching data for training was employed, presenting the model with batches of images to improve training efficiency. This involved using the ImageDataGenerator to iterate through training images in batches, optimizing resource utilization during training.

D. Convolutional Neural Network(CNNs)

CNNs have revolutionized computer vision applications by automating the recognition of objects within images for tasks like image categorization. Their ability to extract intricate features from raw image data has significantly advanced tasks such as item identification, scene interpretation, and visual data processing. Within the CNN architecture, convolutional layers employ convolving filters to extract features from input images, while input layers store the raw image data. On the other hand, pooling layers downsample images and reduce spatial dimensions. The output layer categorizes images into distinct groups based on learned features, while fully connected layers identify complex relationships between these features. CNNs

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are a subset of deep neural networks that have found widespread use in image recognition and classification, and their essential components are discussed here. CNNs are designed with interconnected layers of neurons, enabling them to autonomously learn from input data and extract relevant information. Convolutional layers, pooling layers, and fully linked layers are common components of this layer structure [22].

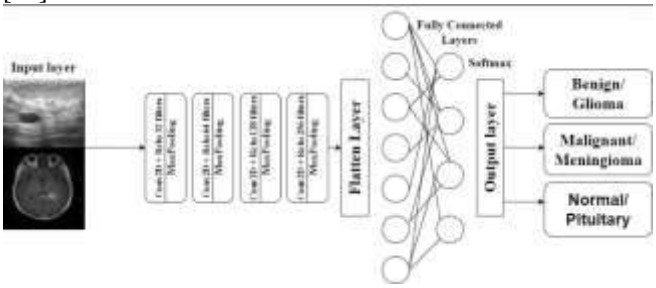


Fig.4.CNN Architecture for both breast cancer and brain tumor.

As shown in "Fig.4" within Convolutional Neural Networks (CNNs), convolutional layers are responsible for extracting fundamental visual components such as edges, textures, and shapes. Following this, pooling layers diminish spatial dimensions to preserve significant details. Subsequently, fully connected layers are employed to classify the extracted features, and the output layer produces probabilities for various classes. This hierarchical methodology empowers CNNs to effectively learn and recognize complex patterns in images, rendering them crucial for tasks like image classification and object recognition.

E. Comparitive Analysis

Comparative analysis plays a crucial role in the evaluation and advancement of deep learning algorithms for predicting diseases like breast cancer and brain tumors. By systematically comparing different optimizers and activation functions, significantly impacts a neural network's performance metrics such as accuracy, sensitivity, precision, and f1-score. This comparative analysis provides valuable insights into which combination of optimizer and activation function works best for the given datasets and problem domain. Activation functions like ReLU offer efficient training with its simplicity, while others like tanh can struggle with vanishing gradients. Optimizers like Adam are known for their adaptive learning rates, tackling issues faced by SGD (Stochastic Gradient Descent) but potentially converging slower. Selecting the best combination depends on the specific problem and dataset. Experimenting with different options is crucial to find the optimal configuration for neural networks.

IV. RESULTS

The system's performance is evaluated using the following performance metrics: True Negative (TN) signifies the correctly categorized benign samples, while True Positive (TP) denotes the accurately recognized malignant samples. False Positive (FP) indicates the mislabeling of benign samples as malignant, whereas False Negative (FN) represents the mislabeling of malignant samples as benign. These definitions characterize the subsequent measures.

A. Precision

Precision is the proportion of accurate positive forecasts among all forecasts that are positive as shown in Equation 1.

$$Precision = \frac{TP}{TP+FP} \quad (1)$$

B. Recall

$$Recall(Sensitivity) = \frac{TP}{TP+FN} \quad (2)$$

The total count, as defined by Equation 2, represents the cumulative number of malignant samples. A high sensitivity rating suggests that even with few false negatives, many disease-positive samples may still be accurately identified, minimizing the risk of missing them.

C. F1-Score

$$F1 - Score = \frac{2TP}{2TP+FP+FN} \quad (3)$$

When class distribution is uneven, prioritizing the F1 score over accuracy becomes crucial, as it is a more meaningful metric. Equation 4 delineates the calculation of the F1 Score.

D. Accuracy

$$Accuracy = \frac{TP+TN}{TP+TN+FP+FN} \quad (4)$$

Equation 1 defines accuracy as the proportion of correctly identified samples out of the total number of samples.
The results showcase the effects of various combinations of optimizers and activation functions on two models.

TABLE III. COMPARING ADAM OPTIMIZER AND ACTIVATION FUNCTIONS WITH BOTH DATASETS.

Adam	Precision		Recall		F1- Score		Accuracy	
	BC	BT	BC	BT	BC	BT	BC	BT
Relu	0.87	0.92	0.85	0.92	0.86	0.92	0.88	0.92
LeakyRelu	0.81	0.91	0.86	0.90	0.83	0.91	0.83	0.90
PReLU	0.84	082	0.84	0.82	0.84	0.81	0.85	0.82
Elu	0.83	0.79	0.73	0.83	0.76	0.75	0.77	0.76

Table III illustrates that Relu exhibits outstanding recall, precision, and F1-score across datasets associated with brain tumors and breast cancer. Among all activation functions depicted, it achieves the highest accuracy. "Fig.5" shows the graphical representation of Comparison of Adam optimizer and activation functions.

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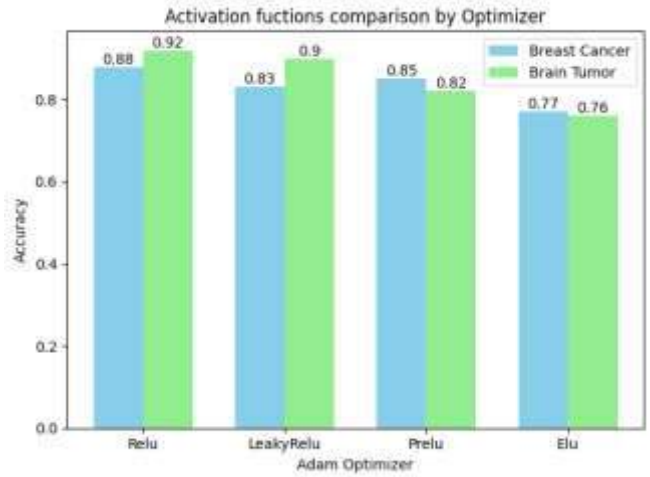


Fig.5. Comparison of Adam optimizer and activation functions.

TABLE IV. COMPARING SGD OPTIMIZER AND ACTIVATION FUNCTIONS WITH BOTH DATASETS.

SGD	Precision		Recall		F1- Score		Accuracy	
	BC	BT	BC	BT	BC	BT	BC	BT
Relu	0.76	0.74	0.55	0.71	0.59	0.70	0.67	0.71
LeakyRelu	0.77	0.75	0.60	0.75	0.59	0.74	0.67	0.75
PReLU	0.77	0.74	0.60	0.69	0.59	0.73	0.70	0.68
Elu	0.74	0.77	0.54	0.72	0.56	0.73	0.66	0.69

As described in Table IV, Relu demonstrates a moderate level of accuracy, precision, recall, and F1-score. While yielding acceptable results, it falls short compared to other optimizers. An illustration of the contrast between activation functions and SGD optimizer is shown in "Fig.6".

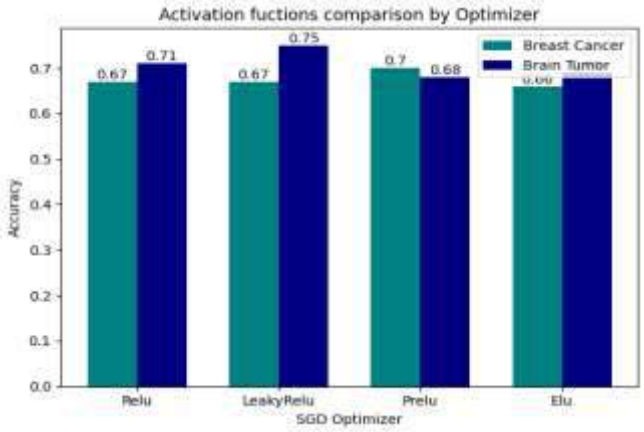


Fig.6. Comparison of SGD optimizer and activation functions.

TABLE V. COMPARING RMSPROP OPTIMIZER AND ACTIVATION FUNCTIONS WITH BOTH DATASETS.

Rmsprop	Precision		Recall		F1- Score		Accuracy	
	BC	BT	BC	BT	BC	BT	BC	BT
Relu	0.85	0.93	0.81	0.93	0.82	0.93	0.84	0.93
LeakyRelu	0.81	0.94	0.81	0.93	0.80	0.94	0.82	0.93
PReLU	0.83	0.91	0.83	0.88	0.83	0.90	0.84	0.90
Elu	0.84	0.88	0.76	0.92	0.79	0.89	0.81	0.92

In table V, Relu demonstrates consistent performance with commendable F1-score, accuracy, precision, and recall across both datasets. Its notable recall across both datasets distinguishes it from other activation functions, consistently surpassing them. "Fig. 7" illustrates a visual comparison between the RMSprop optimizer and different activation functions.

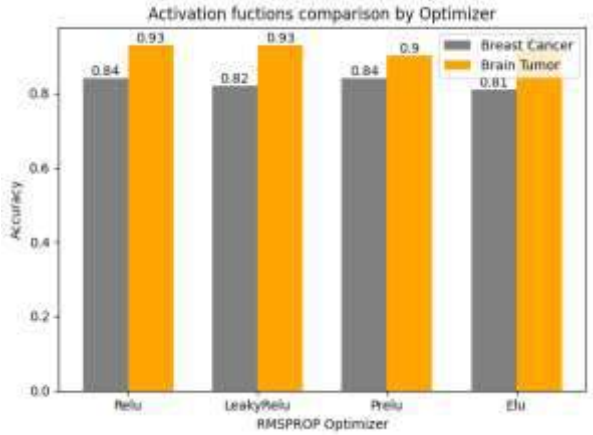


Fig.7. Comparison of RMSprop optimizer and activation functions.

TABLE VI. COMPARING ADAGRAD OPTIMIZER AND ACTIVATION FUNCTIONS WITH BOTH DATASETS.

Adagrad	Precision		Recall		F1- Score		Accuracy	
	BC	BT	BC	BT	BC	BT	BC	BT
Relu	0.36	0.68	0.33	0.55	0.25	0.52	0.56	0.56
LeakyRelu	0.37	0.69	0.33	0.66	0.25	0.63	0.56	0.66
PReLU	0.19	0.69	0.33	0.66	0.24	0.63	0.56	0.66
Elu	0.74	0.71	0.52	0.68	0.53	0.67	0.65	0.68

Table VI, ReLU demonstrates moderate performance across both datasets. “Fig.8” shows the graphical representation of Comparison of Adagrad optimizer and activation functions.

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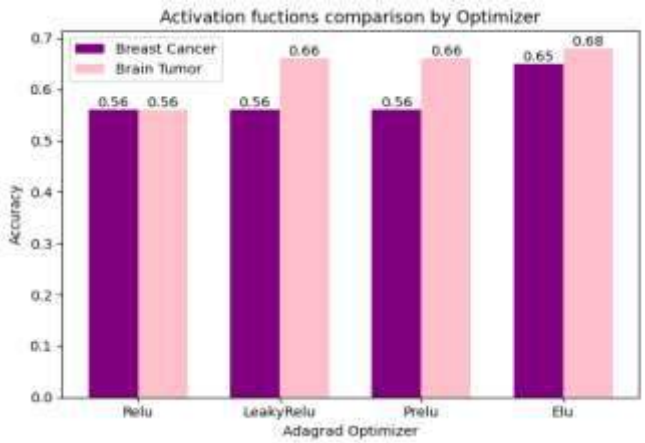


Fig.8. Comparison of Adagrad optimizer and activation functions.

TABLE VII. COMPARING ADADELTA OPTIMIZER AND ACTIVATION FUNCTIONS WITH BOTH DATASETS.

Adadelta	Precision		Recall		F1- Score		Accuracy	
	BC	BT	BC	BT	BC	BT	BC	BT
Relu	0.19	0.23	0.33	0.34	0.24	0.21	0.56	0.37
LeakyRelu	0.19	0.35	0.33	0.35	0.24	0.20	0.56	0.37
PReLU	0.36	0.34	0.33	0.35	0.25	0.21	0.56	0,41
Elu	0.19	0.31	0.33	0.35	0.24	0.21	0.56	0.37

Table VII illustrates that the utilization of Relu activation in combination with Adadelta optimization yields lower accuracy, recall, and F1-score metrics for both datasets. Despite the suboptimal overall performance, brain tumors are identified more accurately compared to breast cancer. A depiction showcasing the differentiation between activation functions and the Adadelta optimizer is available in "Figure 9".

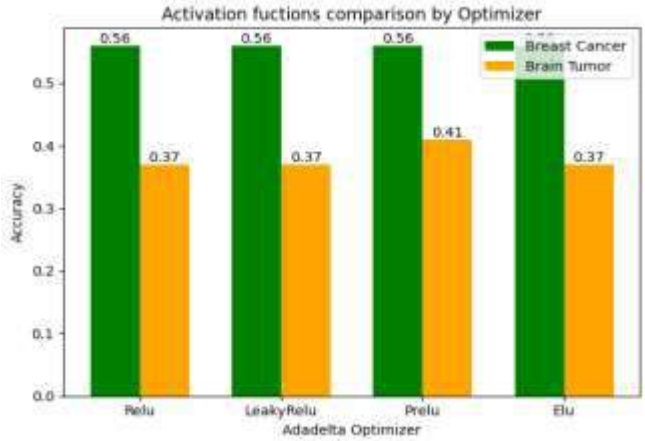


Fig.9. Comparison of Adadelta optimizer and activation functions.

In summary, these findings indicate that the combinations of optimizer and activation function are effective. For instance, using the Adam optimizer and ReLU activation function led to an 85% accuracy in the breast cancer classification model. Similarly, the brain tumor classification model achieved a high accuracy of 93% by using the ReLU activation function and RMSprop optimizer.

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BIOLOGY OF HUMAN BEHAVIOR: ITS ESSENTIAL ASPECTS

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ABSTRACT

In terms of Biology humans are just another species on this planet, but when it comes to explaining the biology of the context of Human behavior, it really becomes very tough. Humans have the physiology and anatomy similar to that of a cave man, yet the level of our intelligence has far evolved in comparison to the extent that the cave man anatomy and physiology becomes inadequate to serve to the needs of certain aspects of human intelligence of modern times which essentially functions beyond the level of just survival (for example in animals), and is capable of performing such advanced functions as retaining a huge past memory and can anticipate a future situation. This in many ways has made us far superior to the animal world, yet many of us get messed up in handling our intelligence properly and either develop chronic stress, indulge in violence or mishandle the adolescence related issues of our teenagers. Biologically speaking human behavior is determined largely by how our brains are shaped by developmental and evolutionary processes, at the heart of which lies the genetic and epigenetic changes and environmental impact. Because at any critical moment brains are to decide about any bit of a behavior, therefore the knowledge of underlying brain anatomy and physiology is important. This article is about explaining how biology makes a sense to human behavior and is essentially focused on its three important aspects, i.e. adolescence, chronic stress and violence, which are described in detail in the following paragraphs.

KEYWORDS: *Amygdala, Brain Reward System, Dopamine, Endocrinology, Homeostasis, Neuropsychology, Prefrontal Cortex. Striatum.*

INTRODUCTION

Human behavior is a whole range of physical and emotional actions and interactions that the humans engage in, biologically, socially, intellectually etc. and is influenced by value, ethics, authority, attitudes, persuasion and or genetics. Because our behaviors determine our welfare or misery as human beings, it is pertinent to understand all those forces operating behind any perceivable human behavior and devise ways and means by managing them to make human life beautiful, purposeful and above all peaceful. Following are the three important aspects of Human behavior and the biology behind them:

1. Teenage related behavior: Teenage is a period when components of the limbic system of brain associated with the brain reward system namely striatum, nucleus accumbens, hippocampus etc create a variety of high intensity pleasurable responses in adolescents in comparison to that in adults for the same sort of stimuli like food sex, music, etc; the kind of behaviors fundamentally linked to our survival. This is a normal part of developmental process and happens because the prefrontal cortex is half baked yet and is unable to fully regulate the activity of this part of limbic system allowing it to go for a full blast due to dopamine activity. This high intensity feeling of pleasure in adolescents is associated with memory and learning which motivates them to seek and repeat such behaviors very often. In a way this is remarkable as the adolescents in this period of life take many bold and innovative steps under the motivation of seeking rewards without caring too much for the consequences. The same thing declines in adulthood getting balanced as the prefrontal cortex becomes fully developed nearly by the age of 25years, which by a cross talk can regulate the activity of brain reward system. The teenagers require a little guidance from the side of their parents and teachers without too much authoritative control, to make up for the deficiency of prefrontal cortex at this point in time so that they may cope with all kinds of pressures with confidence and responsibility.

The brain reward system however is prone to be hijacked by many psychotropic drugs which cause an unregulated dopamine activity in the brain reward centre leading to a pathological euphoria and addiction. The drug addict simply cannot experience the normal pleasures in response to behaviors linked to survival e.g. food, sex etc. and indulge in behaviors associated with seeking and consuming drugs by all means. This situation is alarming which demand an understanding of the gravity of crisis and requires a proper counseling and rehabilitation of drug victims who should not be harassed, punished or neglected socially as the drugs tend to pathologically strengthen certain neural pathways and make the others sluggish by affecting the activity of neurotransmitters, synaptic communication and neuroplasticity. The damage is so serious that a mere will power of the victim as is often talked about doesn`t work to reverse the altered biochemistry of the brain under the influence of chronic drug abuse because the

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cognitive ability of the brain fails miserably to control the compulsive behavior arising out of a craving to seek and use drugs by the addicts. Once the reward centre rewires itself under drug influence the brain begins to associate certain people, places, events and activities with the addiction reward which trigger behavioral/biological cues that can be violent at times. In no uncertain terms addiction is brain disease that must be treated with recovery. In the case of adolescents, the situation is even the more serious because of their tendency to seek new experiences and their developing brain can be irreversibly damaged beyond repairs by narcotics and other substance of abuse.

2. Behavioral aspects of Stress response: Stress is a physiological and psychological imbalance arising out of disparity between situational demand and individual`s ability and motivation to meet those demands. Amygdala, a component of limbic system is central to initiate the stress response whose activity gets strengthened over a period of chronic stress at the cost of other vital brain centres like hippocampus and frontal cortex concerned with cognition and memory which suffer deterioration.

When someone experiences a real or perceived threat, amygdala reacts fast even not waiting for the inputs from the frontal cortex and stimulates hypothalamus to initiate a twofold stress response; one through sympathetic part of autonomic nervous system with the end result of adrenaline release from adrenal gland and consequential "fight or flight response" and the other by releasing adrenocorticotropic release hormone, activating HPA (hypothalamo- pituitary- adrenal axis) with the end result of glucocorticoids release from adrenal gland and a prolong effect of stress response on the body.

When the stress is quite frequent and merely for psychological reasons, it becomes a chronic stress and manifests itself as hyperactivity of amygdala, suppression and regression of hippocampus and frontal cortex affecting memory and cognition. Other symptoms are; high blood pressure, cardiac dysfunction, diabetes, gastric dysfunction, immune suppression, reproductive dysfunction, insomnia, obesity etc. This all happens because most of our blood supply is diverted to muscles and organs associated with “fight and flight” under neuroendocrine control at the cost of other vital organs. This suggests that stress response is prima facie a disorder itself, but the fact is that the ability of our body to initiate stress response is very fundamental to our survival. When evoked against the real threat, it enhances the chances of our survival but if activated merely for psychological reasons which happens very often when we anticipate a future threat though there is not a real one or get struck by the thought of a horrible past experience, we turn on body's ultimate defense mechanism in the form of stress response which turns body`s own strength against itself. This appears to be a result of fast evolving Human intelligence in comparison to the pace of evolution of underlying physiology and anatomy which is still of that of a cave man and seems insufficient to fulfill the modern needs of our intelligence. In this connection it is important to reflect on the concerns of human welfare by introducing ways and means of managing stress through psychosocial support and adapting healthy life styles like physical exercise, yoga, meditation etc.

3. Violence related Behavior: Violence is intentional use of physical force or power threatened or actual to harm oneself or others. Humans are miserably violent species though they are equally altruistic and compassionate too. As an intelligent spp. we denounce violent behaviors, but actually we hate the wrong kind of violence only and when it is of right kind according to us we glorify it and love it. In certain settings pulling the trigger of a gun is crime and in others it is a heroic act. In some cases, putting your hand on someone else's is deeply compassionate and in others it is a deep betrayal. So, when it comes to violence, we are a confused human species and the real challenge is to understand the biology of the context of violent behavior.

Let us have a thought experiment; you have a gun and there is rioting and violence around you. A stranger holding something in his hand looking like a gun or a cell phone is running towards you and having perceived an imminent threat you pull the trigger. It turns out later that the person was actually holding a mobile phone and not a gun. Now a biological question can be asked as to what caused this behavior. To find an answer one must know what activity was going on in the amygdala seconds before you pulled the trigger. Obviously, the sights and the sounds of rioting are pertinent but you are more likely to pull the trigger if that person was a stranger, male and of a different race. Moving further minutes to hours back, if you were in pain frustrated or hungry, your frontal cortex (which controls the activity of amygdala) is going to be sluggish, letting amygdala to go ahead unilaterally and cause this violent behavior. Going further back days to weeks in to the realm of hormones, e.g if stress hormones were high, they make the amygdala more excitable and at the same time frontal cortex more sluggish and atrophied by strengthening the synaptic communication through neuroplasticity in the former and with the opposite effect on the later. Pushing even back into the adolescent period, where the central fact of adolescent brain is that it is all set for a blast except for the frontal cortex which is half baked and all those childhood experiences can influence the frontal cortex making it relevant to pulling the trigger in this critical moment. But remarkably enough we have to move even further back into early childhood and fetal life when the brain is being constructed and epigenetic changes triggered by mother's hormonal status can activate certain genes and turn off others, thus affecting brain development; e.g. high level of mother's stress hormones during fetal life can produce amygdala in a highly excitable form in adulthood, causing increased release of stress hormones thereby enhancing the tendency towards violent behavior.

Thus, human behavior related to violence is interplay of various biological, psychological, environmental and social factors all of which need to be considered while managing violence at the individual level and in the society at large.

CONCLUSION

From the foregoing discussion it can be concluded that the human behavior is so complex and weird that to explain every

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bit of it requires knowledge of what happened seconds before an event to millions of years back during evolution and everything in between. In other words, every bit of behavior has multiple levels of causality. But there is every possibility of modification of our behaviors to suit the needs of modern times. Genetics and epigenetic changes at the heart of biology which determine our behavior to a large extent doesn't function in isolation but by interacting with environment. It is here that the key lies i.e. by working on self through inner management/spiritual awakening as individual human beings and at the same time continuing working on the betterment of external situations at the community level, we can fix our neuropsychology and endocrinology in an optimum state of homeostasis to be healthy, peaceful and joyful which is fundamentally required for excellence in all our endeavours to achieve human wellbeing. People can adapt to healthy life style activities like brisk walks, yoga, meditation etc. Many studies have shown that people having strong social bonds and enjoying close relationships with their spouses or friends live a long healthy and successful life apart from the ability to cope with stress effectively at the time of crises. This type of self-empowerment through individual transformation means an understanding that "our goal is not to become super humans but to get a realization that being human is super."

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A TRACER STUDY ON BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION - FINANCIAL MANAGEMENT GRADUATES FROM ACADEMIC YEAR 2019 TO 2023

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ABSTRACT

This study aimed to assess the employment rates and employability status of graduates from the Bachelor of Science in Business Administration – Financial Management program at Kapalong College of Agriculture, Sciences, and Technology from 2019 to 2023. It also examined graduates' attitudes towards work, the quality of education provided by the institution, and their skills development. Using a descriptive research method, a total of 587 respondents participated in an online survey conducted through Google Forms.

Findings revealed that 88.17% of financial management graduates were employed, with 52.07% working in job-related professions such as credit & collection assistant, entrepreneur, cashier, auditor, bookkeeper, inventory personnel, accounting staff, and account officer. Additionally, 30.77% were employed in non-related fields including office-based clerk, government employee, sales agent/specialist/representative, call center agent, marketing specialist, technical staff, and photographer. Among the employed graduates, 37% held regular positions, 33% were on job order, 16% worked on a contractual basis, 8% were casual employees, and 6% were self-employed.

Furthermore, only 0.85% pursued a Master in Business Administration, while 4.26% became teacher education unit earners. The study found that graduates consistently exhibited very high levels of attitude towards work, quality education provisions, and skills development. However, computer and ICT skills received the lowest mean score, suggesting a need for the program to offer practical training sessions, workshops, or laboratory sessions to enhance students' proficiency in these areas. Providing opportunities for students to practice using computer software and applications in simulated business environments or real-world projects is recommended.

INTRODUCTION

In the dynamic landscape of education, the adaptability and employability of graduates emerge as pivotal factors in shaping curricular reforms. The institution's success is related to the quality of its graduates. There was a prevailing notion that the increasing global need for highly skilled professionals emphasized the significance of higher education in fostering career development (Nunez et al., 2022)

In Asia, graduates encounter the challenge of securing employment immediately upon completing their studies. It is crucial that they have acquired optimal knowledge and skills within their specialized fields before entering their chosen work. The graduates struggle to secure positions aligned with their degree courses due to influential factors stemming from the mismatch between educational qualifications and insufficient mastery of skills necessary for employment. This reality indicates that some academic institutions have not adequately equipped graduates with essential skills and the curriculum may not align with the demands of the current global labor market. Nations undergoing rapid expansion in higher education express widespread concerns about graduates facing significant hurdles in job searches and some being compelled to accept less favorable early employment (Teichler & Jung, 2017).

In the Philippine context, employers today are increasingly focused on identifying competent employees who not only possess fundamental academic skills such as reading, writing, oral communication, and listening but also exhibit advanced cognitive abilities like learning, reasoning, creative thinking, decision-making, and problem-solving. Besides, they are also looking for employees that have personal qualities that among all include responsibility, self-confidence, self-control, social skill, adaptable and flexible, good work attitude, cooperative, self-motivated. However, most of our graduates are not aware of this current phenomenon whereby they sometimes do not see the connection on what they do in class with the real job world that they will venture into later. Moreover, job mismatch postulates a major challenge to academic institutions and labor

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markets in the Philippines. This prevailing situation is projected to widen the gaps between education and jobs in the industry and an even important issue to deal with relative to economic and educational policies in the country (Toquero, 2021).

The Kapalong College of Agriculture, Sciences and Technology, in its commitment to consistently enhance its teaching methodologies for the education and training of emerging professionals, the institution has found it appropriate to conduct a tracer study among graduates in order to assess their employability. The data collected from tracer study provides feedback on the relevance of the curriculum. The institution can also identify areas where improvements are needed in order to ensure that the quality of education they provide is in line with the quality standards set by academic accreditation organization and by the industry.

It is in this light that this study was conducted in order to assess both the employment rate and employment status of graduates. Additionally, the study aims to gather self-assessments regarding their work attitudes, perceptions of the institution's quality education provision and the development of skills and abilities among graduates from Bachelor of Science in Business Administration - Major in Financial Management (BSBA-FM) degree. The findings will guide the development and design of a curriculum that ensures students' employability and further strengthen the institution's commitment to delivering continuous and high-quality education.

OBJECTIVES OF THE STUDY

This study aimed to identify the employability of the KCAST graduates in the program of Business Administration – Financial Management from academic year 2019-2023. Specifically, this study sought to answer the following research objectives:

1. To describe the demographic characteristics of the graduate respondents in terms of:
    1.1. sex when grouped per academic year;
    1.2. civil status;
    1.3. age;
    1.4. year graduated; and
    1.5. educational attainment and development;
2. To describe the employment profile and features of the graduate-respondents in terms of:
    2.1. employment rate;
    2.2. employment status;
    2.3. level of income;
    2.4. period of seeking the first job after college
    2.5. relevance of college degree to the present job; and
    2.6. job mismatching.

3. To determine the level of the graduate-respondents self-rated evaluation with their attitude to work.
4. To determine the level of the graduate-respondents self-rated evaluation with the quality of education provision of the institution.
5. To determine the level of the graduate-respondents self-rated evaluation with the skills and abilities obtained in the institution and its usability with their present occupation.

METHODS

Design

The study employed the descriptive research method due to its focus on collecting quantitative information presented in numerical form that aligns with the inherent nature of descriptive studies. This method was utilized to describe the characteristics of the population or phenomenon being studied. It emphasizes on describing the nature of a demographic segment, without delving into the reasons behind the occurrence of a specific phenomenon. Also, it aims to describe the subject of the research without addressing the why or how it occurs. To sum up, descriptive research is a systematic scientific approach that details an event, situation, phenomena, or fact within a specific area or population (Sharma et al, 2019). In the context of the current study, the descriptive method was used to describe the demographic characteristics of the graduate respondents particularly focusing on sex, age, civil status, year graduated and educational attainment and development. Also, to describe the employment profile and features of the graduate-respondents in terms of employment rate, employment status, level of income, period of seeking the first job after college, relevance of college degree to the present job, and job mismatching.

Population and Sample

The Table 1 shows the population and sample of this tracer study of which were the graduates of Bachelor of Science in Business Administration – Financial Management in Kapalong College of Agriculture, Sciences and Technology from academic year 2019 up until academic year 2023. Hence, the study used random sampling since the very purpose of the study is to track and trace graduates in terms of their employment status and rate. There is a total population 782 graduates and there are 587 graduates who positively responded the survey questionnaire. In 2019, with the total graduate respondents of 159, 119 or 74.53% are females and 41 or 25.47% are males. In 2020, with the total graduate respondents of 138, 86 or 62.50% are females and 52 or 37.50% are males. In 2021, with the total graduate respondents of 136, 91 or 66.85% are females and 45 or 33.15% are males. In 2022, with the total graduate respondents of 65, 51 or 79.07% are females and 14 or 20.93% are males. Lastly, in 2023, with the total graduate respondents of 89, 58 or 64.71% are females and 32 or 35.29% are males.

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Table 1: Population and Sample

Year Graduated	Sex	Frequency	Percent
2019	Female	119	74.53%
	Male	41	25.47%
	Total	159	**100%**
2020	Female	86	62.50%
	Male	52	37.50%
	Total	138	**100%**
2021	Female	91	66.85%
	Male	45	33.15%
	Total	136	**100%**
2022	Female	51	79.07%
	Male	14	20.93%
	Total	65	**100%**
2023	Female	58	64.71%
	Male	32	35.29%
	Total	89	**100%**

Research Instrument

The research tool employed in this study was derived from Escandallo's (2024) study titled "A Tracer Study on the Elementary Education Graduates from Academic Year 2015 to 2019: Employment in Focus," which yielded a Cronbach's alpha coefficient of 0.955. This indicates that the questionnaire utilized exhibits outstanding internal consistency, ensuring its reliability.

To easily evaluate the data gathered with this study, the researcher made the five orderable categories with their respective means and that is as follows:

Parameter Limits	Descriptive Equivalent	Interpretation
4.20 – 5.00	Very High	If the measure described in item or construct is always observed
3.40 – 4.19	High	If the measure described in item or construct is oftentimes observed
2.60 – 3.39	Moderate	If the measure described in item or construct is sometimes observed
1.80 – 2.59	Low	If the measure described in item or construct is seldom observed
1.00 – 1.79	Very Low	If the measure described in item or construct is rarely observed

Data Gathering Procedure

Data collection is the systematic process of gathering, measuring, and analyzing precise information through established and validated methods for research purposes. It constitutes a fundamental and crucial initial stage in research, irrespective of the specific field of study (Lazar et al, 2017). Therefore, the necessary data for the study was conscientiously collected through the implementation of the following procedure:

First, since the institution's BSBA-FM graduates made up the study's population and sample, the researchers asked the college registrar for information on the total number of graduates from the academic years 2019 to 2023 so that precise and reliable data could be prioritized.

Second, upon obtaining the overall population of graduates, the researcher employed a survey tracer questionnaire adapted from Escandallo (2024). This questionnaire aimed to assess various aspects such as demographic characteristics, the employment profile and features, work attitude, quality of education received, and the development of skills and abilities of each graduate.

Third, the researcher initiated the process of tracing graduates to gather information which was accomplished by utilizing Google Forms.

Fourth, upon the completion of answering the questionnaire by each participating graduate, the researcher proceeded to tally the data. The designated school statistician then analyzed and interpreted the data for the purpose of presenting it in tabular form that facilitates a clear and comprehensible understanding of the results.

Data Analysis

Mean was employed to calculate the average scores, assessing the graduates' attitudes towards work, evaluating the quality of education provision, and the development of various skills and abilities.

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RESULTS AND DISCUSSION

The results and discussion are provided in response to the objectives set forth in the study.

Demographic Characteristics of the BSBA Financial Management graduates

The objective of this tracer study is to describe the demographic profile of BSBA Financial Management graduates spanning from the academic year 2019 to 2023. This profile encompasses factors such as sex, civil status, age, year graduated, and educational attainment and development.

Sex. Table 2 presents the aggregate number of respondents who are BSBA Financial Management graduates spanning from the academic year 2018-2019 to the academic year 2022-2023. In 2019, out of the total 159 graduate respondents, 119 (or 74.53%) are female and 41 (or 25.47%) are male. In 2020, out of 138 graduate respondents, 86 (or 62.50%) are female and 52 (or 37.50%) are male. Moving to 2021, out of 136 graduate respondents, 91 (or 66.85%) are female and 45 (or 33.15%) are male. In 2022, out of 65 graduate respondents, 51 (or 79.07%) are female and 14 (or 20.93%) are male. Lastly, in 2023, out of 89 graduate respondents, 58 (or 64.71%) are female and 32 (or 35.29%) are male.

Table 2: Sex Distribution of Financial Management Graduates

Year Graduated	Sex	Frequency	Percent
2019	Female	119	74.53%
	Male	41	25.47%
	Total	**159**	**100%**
2020	Female	86	62.50%
	Male	52	37.50%
	Total	**138**	**100%**
2021	Female	91	66.85%
	Male	45	33.15%
	Total	**136**	**100%**
2022	Female	51	79.07%
	Male	14	20.93%
	Total	**65**	**100%**
2023	Female	58	64.71%
	Male	32	35.29%
	Total	**89**	**100%**

Civil Status. Table 3 displays the civil status distribution of Bachelor of Science in Business Administration – Financial Management graduates from the academic year 2018-2019 to 2022-2023. The data indicates that out of the total graduate respondents, 528 (or 89.90%) are single, while 59 (or 10.10%) are married. Additionally, the survey questionnaire includes options for widowed and separated statuses; however, none of the graduates reported having these marital statuses at the time of the survey.

Table 3: Civil Status of Financial Management Graduates

Civil Status	Frequency	Percent
Single	528	89.90%
Married	59	10.10%
Total	**587**	**100%**

Age. The table 4 illustrates the age distribution of Bachelor of Science in Business Administration – Financial Management graduates from the academic year 2018-2019 to 2022-2023. Out of the 587 total respondents who participated in the online survey conducted via Google Forms, 306 respondents fall within the age range of 21-25, while another 250 graduates fall within the age range of 26-30. Additionally, there are 17 graduates aged between 31-35, along with 7 graduates each in the age ranges of 36-40 and 41 and above.

Table 4: Age Distribution of Financial Management Graduates

Age	Frequency	Percent
21-25	306	52.07%
26-30	250	42.60%
31-35	17	2.96%
36-40	7	1.18%
41-45	7	1.18%
Total	**587**	**100%**

Year Graduated. Table 5 presents the total number of respondents who are Bachelor of Science in Business Administration – Financial Management graduates across the academic years from 2018-2019 to 2022-2023. In 2019, there are 159 graduate respondents. In 2020, there are 138 graduate respondents. Moving to 2021, there are 136 graduate respondents. In 2022, there are 65 graduate respondents. Lastly, in 2023, there are 89 total graduate respondents.

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Table 5: Year Graduated of Financial Management Graduates

Year Graduated	Frequency	Percent
2019	159	27%
2020	138	24%
2021	136	23%
2022	65	11%
2023	89	15%
Total	**587**	**100%**

Educational Attainment and Development. Between the academic years 2018-2019 and 2022-2023, a survey revealed that 11.24% of Bachelor of Science in Business Administration – Financial Management graduates obtained vocational education or a national certificate, while 88.76% did not. Vocational education options included training in areas such as bookkeeping NCIII, food processing, computer hardware servicing NCII, computer systems servicing, consumer electric servicing NCII, hotel and restaurant management and automotive.

Table 6: Vocational Education of Financial Management Graduates

Vocational Education	Frequency	Percent
With	66	11.24%
Without	521	88.76%
Total	**587**	**100%**

Table 6.1: Specification of Vocational Education of Financial Management Graduates

Vocational Education	Frequency	Percent
Bookkeeping NCIII	20	3.41%
Food Processing	20	3.41%
Computer Hardware Servicing NCII	10	1.70%
Computer Systems Servicing	7	1.12%
Consumer Electric Servicing NCII	3	1.12%
Hotel and Restaurant Management	3	0.51%
Automotive	3	0.51%
Total	**66**	**11.24%**

It can be gleaned in Table 7 that the total number of respondents who are BSBA Financial Management graduates from the academic years 2018-2019 to 2022-2023, indicates their pursuit in postgraduate degree programs or studies. According to the survey, only 0.85% of graduates pursued postgraduate studies or postgraduate degree, while 4.26% obtained teacher education units. Additionally, the data shows that the majority, comprising 94.89%, did not pursue further studies beyond their BSBA Financial Management degree.

Table 7: Postgraduate Studies/Other Baccalaureate Degree of Financial Management Graduates

Postgraduate Studies/Other Baccalaureate Degree	Frequency	Percent
Master's Degree in Business Administration	5	0.85%
Teacher Education Unit Earners	25	4.26%
Without	557	94.89%
Total	587	**100%**

Employment Profile and Features of BSBA Financial Management Graduates

The second research objective of this tracer study is to determine the employment profile and features of the of Bachelor of Science in Business Administration – Financial Management from academic year 2018-2019 to 2022-2023 which includes the following: employment rate; employment status; level of income; period of seeking the first job after college; relevance of college degree to the present job; and job mismatching.

Employment Rate. Table 8 displays the employment rate of Bachelor of Science in Business Administration – Financial Management from the academic years 2018-2019 to 2022-2023. According to the survey, out of the total 587 respondents who participated in the online survey and responded positively, 518, or 88.17%, are currently employed, while 69, or 11.83%, are unemployed. Additionally, among the employed graduates, some are working in professions related to their field of study, while others are in unrelated professions.

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Table 8: Employment Rate of Financial Management Graduates

Employment Rate	Frequency	Percent
Employed	518	88.17%
Unemployed	69	11.83%
Total	**587**	**100%**

Employment Status. The table below illustrates the employment status of Bachelor of Science in Business Administration – Financial Management students from the academic years 2018-2019 to 2022-2023. Findings from the survey indicated that out of the 518 graduate students who provided responses in this aspect, 486, or 82.84%, are engaged in full-time employment, while 10, or 1.78%, are working part-time but actively seeking full-time opportunities, and 21, or 3.55%, are working part-time and not actively seeking full-time employment. Moreover, the data reveals that 37% of graduate respondents have secured regular positions, 33% are employed on a job order basis, 16% are working under contractual arrangements, 8% are casual employees, and 6% are self-employed.

Table 9: Employment Status of Financial Management Graduates

Employment Status	Frequency	Percent
Working full-time	486	82.84%
Working part-time but seeking full-time work	10	1.78%
Working part-time but not seeking full-time work	21	3.55%
Total	**518**	**88.17%**

Table 9.1: Employment Status If Working Full-time

Employment Status	Percent
Regular	37%
Job order	33%
Working on contractual basis	16%
Casual	8%
Self-employed	6%
Total	**100%**

Level of Income. Table 10 presents the monthly income distribution of Bachelor of Science in Business Administration – Financial Management graduates from the academic years 2018-2019 to 2022-2023. According to the survey findings, out of the 518 respondents who provided information in this regard, 28, or 4.73%, earned below 5,000 pesos per month. Additionally, 128, or 21.89%, earned between 6,000 and 10,000 pesos monthly, while 236, or 40.24%, earned between 11,000 and 15,000 pesos. Moreover, 83, or 14.20%, earned between 16,000 and 20,000 pesos, and finally, 43, or 7.10%, earned more than 21,000 pesos per month.

Table 10: Level of Income of Financial Management Graduates

Income	Frequency	Percent
Below 5,000	28	4.73%
6,000-10,000	128	21.89%
11,000-15,000	236	40.24%
16,000-20,000	83	14.20%
Above 21,000	43	7.10%
Total	**518**	**88.17%**

Period Seeking of Job After College. Table 11 displays the duration of time Bachelor of Science in Business Administration – Financial Management graduates took to secure their first job after college, spanning from the academic years 2018-2019 to 2022-2023. According to the survey results, out of the 518 respondents who provided information on this matter, 267, or 45.56%, were able to secure a job within 1-3 months after graduation. Additionally, 195, or 33.14%, found employment within 4-8 months. Moreover, 24, or 4.14%, took 9-12 months to secure a job, while 31, or 5.33%, landed a job after one year or more.

Table 11: Period Seeking of Job After College of Financial Management Graduates

Period	Frequency	Percent
1-3 months	267	45.56%
4-8 months	195	33.14%
9-12 months	24	4.14%
Above 1 year	31	5.33%
Total	**518**	**88.17%**

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Relevance of College Degree to the Present Job. Table 12 presents the assessment of Bachelor of Science in Business Administration – Financial Management graduates from the academic years 2018-2019 to 2022-2023 regarding the alignment of their college degree with their current job. According to the survey results, out of the 518 respondents who provided feedback on this aspect, 292, or 49.70%, indicated that their degree is "very much relevant," while 125, or 21.30%, stated it is "much relevant." Moreover, 73, or 12.43%, chose "neutral," 10, or 1.78%, selected "a little relevance," and 17, or 2.96%, opted for "not at all."

Table 12: Relevance of College Degree to the Present Job of Financial Management Graduates

Relevance of Degree	Frequency	Percent
Very much	292	49.70%
Much	125	21.30%
Neutral	73	12.43%
A little	10	1.78%
Not at all	17	2.96%
Total	**518**	**88.17%**

Job Mismatching. Table 13 presents the job mismatch or alignment of Business Administration – Financial Management graduates from the academic years 2018-2019 to 2022-2023. According to the survey results, out of the 518 graduate students who responded in this aspect, 5.33% are working in the academe. Additionally, 52.07% are employed in job-related professions such as credit & collection assistant, entrepreneur, cashier, auditor, bookkeeper, inventory personnel, accounting staff, and account officer.

Table 13: Job Mismatching/Alignment of Financial Management Graduates

Job Mismatching/Alignment	Frequency	Percent
Academe	31	5.33%
Job-related Profession	306	52.07%
Non-related Profession	181	30.77%
Total	**518**	**88.17%**

On the other hand, the Table 13.1 illustrates the non-related profession specifications of Business Administration – Financial Management graduates from the academic years 2018-2019 to 2022-2023. The survey findings indicate that 30.77% are employed in non-related professions, including office-based clerk, government employee, sales agent/specialist/representative, call center agent, marketing, specialist, technical staff, photographer, pharmacist assistant, beautician, receptionist, annotator, leadman, mass media personnel, special media specialist, recruitment officer, and warehouse staff.

Table 13.1 Non-related Profession Specifications of Financial Management Graduates

Non-related Profession	Frequency	Percent
Office-Based Clerk	45	8.69%
Government Employee	41	7.92%
Sales Agent/Specialist/Representative	29	5.60%
Call Center Agent	29	5.60%
Marketing Specialist	7	1.35%
Technical Staff	7	1.35%
Photographer	5	0.97%
Pharmacist Assistant	2	0.39%
Beautician	2	0.39%
Receptionist	2	0.39%
Annotator	2	0.39%
Leadman	2	0.39%
Mass Media Personnel	2	0.39%
Special Media Specialist	2	0.39%
Recruitment Officer	2	0.39%
Warehouse Staff	2	0.39%
Total	**181**	**30.77%**

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Level of the Bachelor of BSBA Financial Management Graduates
Attitude to Work

Shown in Table 14 is the level of the Bachelor of Science in Business Administration – Financial Management graduates with their attitude to work which obtained and earned an overall mean score of 4.52 described as very high. This descriptive meaning and equivalent entails that the level of the financial management graduates' attitude to work is always manifested since the respondents strongly agree to all the identified sub-questions under attitude to work.

In the table, it showed that of all the ten sub-questions, item number 2 stating *I like the kind of job and work I am doing* obtained the lowest mean score of 4.37 with a descriptive equivalent as very high which means that the said item and/or construct is always manifested by the BSBA financial management graduates in their work. Meanwhile, the items which obtained the highest mean score of 4.52 is item number seven stating *I have a good relationship with my colleagues and co-employees* with a descriptive equivalent as very high which means that the said items and/or constructs are always manifested by the BSBA Financial Management graduates in their work or in their workplace.

Table 14. Level of the BSBA Financial Management Graduates Attitude to Work

Attitude to Work	Mean	Description
1. I am very interested, happy and satisfied with my work and it is very important for me.	4.56	Very High
2. I like the kind of job and work I am doing.	4.37	Very High
3. I accepted assignments and tasks given to me at work without complaints.	4.48	Very High
4. I arrived on time to prepare my work and extend working hours if necessary.	4.53	Very High
5. I can work better and functional under different working environment and situations.	4.52	Very High
6. I participated in all activities and events inside my workplace.	4.56	Very High
7. I have a good relationship with my colleagues and co-employees.	4.59	Very High
8. I submitted necessary documents and papers on time and beat deadlines.	4.56	Very High
9. I performed my task and job with excellence and outstanding quality.	4.52	Very High
10. I seek assistance and help from others whenever I have clarifications and queries.	4.53	Very High
Overall	4.52	Very High

Level of the BSBA Financial Management Graduates
Quality Education Provisions

Shown in Table 15 is the level of the Bachelor of Science in Business Administration – Financial Management graduates with quality education provisions which obtained and earned an overall mean score of 4.46 described as very high. This descriptive meaning and equivalent entails that the level of BSBA financial management graduates' quality education provision is always manifested since the respondents always agree to all of the identified sub-questions under quality education provision. From the ten sub-questions, item number six stating *quality of different courses offered in the program that develops the total sum of the student skills* obtained the lowest mean score of 4.39 with a descriptive equivalent as very high which means that the said item and/or construct is always manifested by the BSBA financial management graduates as they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST). Further, the items which obtained the highest mean score of 4.55 are items number 9 and 10 stating *different trainings, seminars and workshops that prepare students for employment* and *varied learning assessments and instructions which assess students' progress and learning fairly and equally* which are described as very high which means that the said items and/or constructs are always manifested by the BSBA financial management graduates as they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST).

Table 15. Level of the BSBA Financial Management Graduates Quality Education Provision

Quality Education Provision	Mean	Description
1. Availability of course materials and different learning resources needed for our studies.	4.42	Very High
2. Quality of course contents from courses offered as well as the teaching and learning process.	4.47	Very High
3. Conduciveness of the learning environment and atmosphere.	4.44	Very High
4. Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.44	Very High

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5. Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.46	Very High
6. Quality of different courses offered in the program that develops the total sum of the student skills.	4.39	Very High
7. Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.42	Very High
8. Well-trained and self-renewing Faculty members and staffs.	4.48	Very High
9. Different trainings, seminars and workshops that prepare students for employment.	4.55	Very High
10. Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.55	Very High
Overall	4.46	Very High

Level of the BSBA Financial Management Graduates Skills and Abilities Development

Shown in Table 16 is the level of the Bachelor of Science in Business Administration – Financial Management graduates with skills and abilities development which obtained and earned an overall mean score of 4.48 described as very high. This descriptive meaning and equivalent entails that the level of BSBA financial management graduates' skills and abilities development is always manifested since the respondents always agree to all of the identified sub-questions under skills and abilities development. From the ten sub-questions, item number eight stating *computer and ICT skills* obtained the lowest mean score of 4.32 with a descriptive equivalent as very high which means that the said item and/or construct is always manifested by the BSBA financial management graduates. Moreover, the item which obtained the highest mean score of 4.60 is item number 3 stating *ability to work independently as well as team work and team play* which is described as very high which means that the said item and/or construct is always manifested by the BSBA financial management graduates as they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST).

Table 16. Level of the BSBA Financial Management Graduates Skills and Abilities Development

Skills and Abilities Development	Mean	Description
1. Organizational and leadership skill.	4.50	Very High
2. Problem solving and critical thinking skills.	4.51	Very High
3. Ability to work independently as well as team work and team play.	4.60	Very High
4. Creative thinking and creativity, initiative and taking a risk if necessary.	4.55	Very High
5. Time Management and decision-making skills.	4.52	Very High
6. Writing competence and skills including technical writing.	4.42	Very High
7. Communication and interpersonal skills.	4.52	Very High
8. Computer and ICT Skills.	4.32	Very High
9. Technical and Entrepreneurial Skills	4.40	Very High
10. Ability to work under pressure.	4.49	Very High
11. Ability to prepare financial reports essential to my field of expertise	4.45	Very High
12. Code of ethics applied to my profession	4.51	Very High
13. Knowledge with financial management skills such as budgeting, saving, and investing through seminars and workshop	4.41	Very High
14. Expertise about business research that is essential for understanding stakeholders' needs and interest in business	4.47	Very High
15. Trainings, seminars and workshops about the preparation and evaluation of strategic management planning applied in business.	4.48	Very High
Overall	4.48	Very High

DISCUSSION

Below is the summary of findings based on the gathered data conducted through online survey using google forms, the conclusions drawn and the recommendations.

Demographic profile of the BSBA Financial Management Graduates

The first research objective of the study is to identify the demographic profile of the Bachelor of Science in Business Administration – Financial Management graduates from batch 2019 to batch 2023. Result of the survey showed that most of the graduates were female and majority of them are working in job-related profession. Also, more than half of the total

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population were single and their age ranges from 21 to 30 and only seven of them ages 41 and above.

Moreover, the influence of sex on landing a job has been studied in various research works. One study focused on factors affecting graduates' job opportunities, highlighting that female graduates tend to find jobs faster than male graduates (Kong, 2015). Also, women have made strides in gaining more job opportunities compared to men in certain fields. For example, in managerial, business and finance women have increased their presence significantly over the years, with their share rising from 26% to 40% in managerial occupations from 1982 to 2022. However, a study on women's career challenges and opportunities in Bangladesh found that despite increases in women's labor force participation, they still face several barriers in the workplace. These include societal expectations, lack of access to education and training, gender-based discrimination, work-life imbalance, and limited opportunities for career advancement (Raihen, 2023). Moreover, a study using data from 28 EU countries found that the gender gap in job satisfaction disappears when accounting for differences in job preferences between men and women. Specifically, the study found that women place greater importance on being interested in their work and having a good work-life balance, which are strongly associated with higher job satisfaction. This suggests that the gender gap in job satisfaction is largely explained by differences in what men and women value in a job (Redmond & McGuinness, 2019).

In addition, civil status, which encompasses marital status, can influence an individual's chances of landing a job. Research suggests that civil status plays a role in job opportunities, with factors like being married, single, separated, divorced, widowed, or in a civil partnership impacting employment prospects. A study on marital status and productivity found that married individuals tended to have higher job productivity, as measured by performance reviews and promotions, compared to their unmarried counterparts. This can be attributed to marriage premium to potential differences in unobserved characteristics between married and unmarried workers, such as greater stability, commitment, and focus on career advancement (Hafeez et al. 2020).

The relationship between age and employment opportunities is complex and influenced by various factors. Research suggests that age can impact employment opportunities, with different age groups facing distinct challenges and opportunities in the labor market. Young workers tend find more job opportunities and they are more likely to have predictable work hours. They work full time and they are more likely to work only one job. They are most likely to work in leisure and hospitality, retail trade, and education and health services (Economic Policy Institute, 2023). Likewise, there is an increase in employment of young workers as seen in various countries where new youth-hiring subsidies have been established or existing programs expanded to promote employment among young people. For example, countries like Australia, Belgium, Chile, Colombia, France, Greece, Hungary, Ireland, Italy, New Zealand, Portugal, Sweden, and the United Kingdom have taken measures to boost youth employment through hiring subsidies and incentives (International Labour Organization, 2023).

This tracer study also describes the educational attainment of BSBA Financial Management graduates of which, result of the survey showed that 11.24% of the graduates earned and obtained a vocational educational degree and/or National Certificate Level II. This vocational education includes bookkeeping NCIII, food processing, computer hardware servicing NCII, computer systems servicing, consumer electric servicing NCII, hotel and restaurant management and automotive. In addition, some of the graduates as well continued and obtained degrees for further studies which is Master in Business Administration. Thus, educational attainment positively influences the employment of graduates. Attaining high levels of education is associated with favorable employment prospects, lower unemployment rates, and increased self-sufficiency in the labor market (OECD, 2013)

Employment Profile and Features of BSBA Financial Management Graduates

Based on the result of the survey of this tracer study, 88.17% among the graduate respondents are employed and 11.83 are unemployed. Notably, 52.07% of the graduates are working in a job-related profession which includes credit & collection assistant, entrepreneur, cashier, auditor, bookkeeper, inventory personnel, accounting staff, and account officer. On the other hand, 30.77% of the graduates are currently working as office-based clerk, government employee, sales agent/specialist/representative, call center agent, marketing, specialist, technical staff, photographer, pharmacist assistant, beautician, receptionist, annotator, leadman, mass media personnel, special media specialist, recruitment officer, and warehouse staff. Lastly, 5.33% of the graduates are also working in the academe. Thus, the Business Administration course is highly versatile, offering a wide range of skills and knowledge that can be applied across various industries and sectors. Research studies emphasize the versatility of a Business Administration degree, highlighting its broad applicability and the diverse career paths it opens up for graduates (Catacutan, 2020).

Moreover, the result of this survey revealed that 82.84% of the respondents are working full-time, 1.78% are working part-time but seeking full-time work, and 3.55% are working part-time but not seeking full-time work. The result also discloses that 37% accounts for graduate respondents who secured regular positions, 33% for job order, 16% for working on contractual basis, 8% for casual employees and 6% for self-employed. On the other hand, the level of income among the respondents reflects an extent of variation. 4.73% earns 5,000 and below, while 21.89% earns 6,000 to 10,000. Also, 40.24% accounts for those who earn 11,000 to 15,000 while 14.20% earns 16,000 to 20,000 and the remaining 7.10% earns above 21,000. This income distribution of the respondents depicts the challenges faced by some of the employees nowadays however, salaries and benefits play a big role in staying or leaving the first job. It is considered rewarding for a job with higher salaries and numerous benefits being given by the company to its employees. It serves as extrinsic motivating factor to stay the employees in the company especially if they have proper orientation and awareness on how they will be given

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opportunity for professional growth and on how they see themselves five (5) to ten (10) years as member of the organization (Celis et al. 2013)

In addition, as to the period of seeking the first job after college, the result of this tracer study provides insights into the job search process for college graduates. The fact that 45.56% secure a job within 1 to 3 months suggests that a significant portion of graduates find employment relatively quickly after completing their studies. This could indicate a healthy job market or strong demand for freshly graduated talent in certain fields. The 33.14% who secure a job within 4 to 8 months indicates that for some graduates, it takes a bit longer to find suitable employment. This could be due to various factors such as industry competitiveness, geographical location, or individual circumstances. The 4.14% who find employment within 9 to 12 months represent a smaller percentage, suggesting that for a minority of graduates, the job search process may take a significant amount of time. Lastly, the 5.33% who unfortunately land their job after 1 year might indicate challenges or obstacles faced by some graduates in finding employment (Moore, 2019).

Moreover, it is worth mentioning that the relevance of college degree to the present job is significant as the graduate positively responded the survey. The 49.70% of the respondents believed that their college degree is very much related to their job while 2.96% claimed not at all. The high percentage of respondents who see a strong connection between their college degree and their job suggests that they perceive value in higher education. This underscores the importance of obtaining a college degree for career advancement or job performance in their field (Ali & Jalal, 2018).

Lastly, result of the survey revealed that 52.07% of the respondents are working in a job-related profession. This suggests that a significant portion of individuals believe their college education directly aligns with their career paths. This implies that they have pursued fields of study that are directly applicable to their current professions, such as accounting, auditing, entrepreneurship, and inventory management. The survey results also indicate a diversity of career paths among respondents. Alongside those in job-related professions, there are individuals working in non-related professions (30.77%), such as office-based clerk, government employee, sales agent/specialist/representative, call center agent, marketing, specialist, technical staff, photographer, pharmacist assistant, beautician, receptionist, annotator, leadman, mass media personnel, special media specialist, recruitment officer, and warehouse staff. This suggests that individuals with college degrees may pursue various career opportunities beyond their field of study (Chassamboulli & Gomes, 2023)

Level of the BSBA Financial Management Graduates Attitude to Work

The level of the Bachelor of Science in Business Administration – Financial Management graduates' attitude towards work is very high which indicates that their attitude towards work consistently shows in their behavior. This descriptive interpretation suggests that the graduates consistently exhibit a strong agreement with all the identified aspects of work attitude in the survey questions.

In connection to this, the consistent display of a strong agreement with all aspects of work attitude in the survey indicates that these graduates' attitudes align closely with what is expected or desired in a professional work environment. Employers can expect them to approach their work with enthusiasm and diligence. Their positive mindset and commitment to their work can contribute to higher productivity, job satisfaction, and opportunities for advancement. Their dedication and commitment can contribute to a productive, efficient work environment and organizational performance (Yadav, 2022).

Moreover, employees with positive attitudes are generally more satisfied with their jobs. They find fulfillment and enjoyment in their work, which can lead to higher levels of commitment and loyalty to the organization. Satisfied employees are also less likely to seek employment elsewhere, reducing turnover rates. Positive attitudes foster better teamwork and collaboration within the workplace. Employees with positive attitudes are more likely to communicate effectively, support their colleagues, and contribute positively to team dynamics, leading to improved performance across the organization (Estacio & Cabrera, 2018)

Level of BSBA Financial Management Graduates Quality Education Provisions

The level of BSBA Financial Management graduates' quality education provisions was described as very high. This highlights the consistent demonstration of quality education provisions, as every respondent strongly agrees with all sub-questions related to these provisions.

In relation to this, graduates who perceive their education as of very high quality are likely to have greater confidence in their abilities and a positive outlook on their career prospects. This perception can contribute to higher job satisfaction, performance, and opportunities for advancement. This also mean that institution is effective in delivering educational programs that meet or exceed the expectations of its students. The structure of professional courses in universities and the teaching methods employed by educators during educational endeavors significantly contribute to enhancing college students' professional skills, ethical standards, values, and sense of accountability. These factors collectively constitute the primary elements influencing students' readiness for employment (Tian, 2023).

Furthermore, higher educational institutions can better prepare students for the workforce and enhance their employability skills through various strategies and initiatives. Providing opportunities for students to gain practical work experience through internships, placements, and industry projects. This hands-on experience helps students apply theoretical knowledge in real-world settings and develop relevant skills. Emphasizing the importance of transferable skills such as communication, teamwork, problem-solving, and critical thinking. These skills are highly valued by employers and are essential for success in the workplace (Reddy, 2019).

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Level of BSBA Financial Management Graduates Skills and Abilities Development

The level of the BSBA Financial Management graduates with the skills and abilities development was described as very high. This description implies that the graduates consistently demonstrate a high level of skill and ability development.

This aligns with the findings of a tracer study, which emphasized that the skills obtained during academic education are directly applicable to the respondents' current jobs. All respondents unanimously agreed that they have gained relevant skills and competencies that match the requirements of their professions. Additionally, it was noted that the degree they obtained is closely linked to their current employment. The acquisition of these essential competencies ensures graduates' suitability for industry roles, indicating a strong practical application of their academic learning (Albina and Sumagaysay, 2020). Woya (2019) also advocated for higher education institutions to reinforce graduate attributes in order to contribute effectively to career development objectives.

Likewise, academic in-course activities and student organization activities were perceived as most helpful for developing graduate skills. These activities provide students with opportunities to develop key skills such as critical thinking, communication, teamwork, and leadership. Furthermore, extracurricular activities, such as volunteering, participation in clubs and societies, and internships, were identified as valuable experiences for students to enhance their graduate skills. These activities offer opportunities for students to apply their knowledge in real-world settings, improve their communication and interpersonal skills, and gain practical experience that is beneficial for their future careers (Swingler et al, 2019).

SUMMARY OF FINDINGS

After conducting a survey that garnered responses from over half of the total population, the findings are as follows: Kapalong College of Agriculture Sciences and Technology, specifically its Bachelor of Science in Business Administration major in Financial Management program, yielded a total of 782 graduates from 2019 to 2023. Among them, 587 graduates participated in the survey, comprising 405 females and 183 males. Regarding civil status, 89.90% of respondents are single, while 10.10% are married. Age-wise, 52.07% fall in the 21-25 age bracket, 42.60% in the 26-30 range, with smaller percentages in older age groups. As for educational background, 11.24% have vocational education, while the majority, 88.76%, do not. Additionally, 0.85% pursued a Master's Degree in Business Administration, and 4.26% earned a Teacher Education Unit.

Furthermore, concerning employment rate and status, 88.17% of the graduates are currently employed, while 11.83% are not. The majority of them hold full-time positions. From the employed respondents, 37% have secured regular positions, 33% are on job order, 16% work on a contractual basis, 8% are casual employees, and 6% are self-employed. The majority of graduates earn between 11,000 to 15,000 monthly, with 14.20% earning between 16,000 to 20,000. Regarding the transition to employment post-college, most graduates find employment within 1-3 months, while only a few took longer than a year. Additionally, 49.70% of respondents believe their college degree is highly relevant to their current job. Notably, most respondents work in professions related to their field of study, while some work in unrelated professions or in academe

Finally, the survey revealed a significantly a high level of work attitude among graduates in financial management, along with an exceptionally high level of quality education provided by the institution. Additionally, graduates were found to have developed their skills and abilities to a very high level.

Conclusion

After the conduct of the survey, the following were the conclusions drawn: the employment rate of the Bachelor of Science in Business Administration major in Financial Management is 88.17%. This suggests that the program has a high success rate in preparing graduates for the workforce and that there is strong demand for individuals with this particular qualification in the job market. On the other hand, 82.84% from the respondents are working full-time and 37% secured regular positions. The survey also revealed that their college degree is very relevant on their field of work. The high relevance of the college degree to their field of work suggests that the Bachelor of Science in Business Administration major in Financial Management program adequately prepares graduates with the skills and knowledge needed for their chosen profession. Also, the significant proportion of graduates working full-time and securing regular positions indicates stability in employment. It suggests that these graduates are not only finding jobs but also establishing themselves in stable, potentially long-term positions within their field.

The survey revealed that the level of attitude to work of the BSBA financial management is very high which indicates that graduates from the program possess a strong work ethic. They are likely motivated, dedicated, and committed to performing well in their professional roles, which can lead to higher productivity, job satisfaction, and career success. Also, the high level of quality education provisions implies that BSBA Financial Management program is very relevant and delivered with quality. The curriculum, teaching methodologies, resources, and faculty expertise contribute significantly to the students' learning experience and academic achievement. Lastly, the skills and abilities development of the graduates were found to be very high. This suggests that graduates have acquired a comprehensive set of competencies relevant to their field. These may include technical skills specific to financial management, as well as soft skills such as communication, problem-solving, and leadership abilities.

Recommendations

Based on the summarized findings and conclusions of the study, the following recommendations are proposed: First, given the percentage of unemployed graduates the institution and the program must forge and strengthen partnerships with businesses, financial institutions, and industry associations to provide students with opportunities for internships, mentorship programs, and networking events. The job placement

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coordinator of this institution must actively seek out job openings, internship opportunities, and recruitment events relevant to graduates' fields of study. They can curate job listings, organize career fairs, and facilitate connections between graduates and hiring managers to increase job placement rates. Second, due to the notable percentage of graduates working in unrelated fields which may pose a risk that they may not apply the knowledge and skills they acquired and may lead to a waste of their potential, it is then recommended that the institution's job placement coordinator and alumni association's officers must facilitate connections between current students and alumni working in relevant industries to provide mentorship and networking opportunities. Third, since the computer and ICT skills got the lowest mean score, it is recommended that the program must provide hands-on training sessions, workshops, or laboratory sessions to help students develop practical computer and ICT skills. Offer opportunities for students to practice using computer software, tools, and applications in simulated business scenarios or real-world projects. Fourth, given that the majority of graduates who took vocational education were related to bookkeeping, it is advisable for both the institution and the BSBA Financial Management program to maintain and enhance their efforts in providing students with opportunities for immersive training in bookkeeping. This includes offering international bookkeeping training programs that offers international certifications.

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A TRACER STUDY OF BACHELOR IN PUBLIC ADMINISTRATION GRADUATES FROM ACADEMIC YEAR 2018 TO 2023

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ABSTRACT

This quantitative descriptive study aimed to determine the profile of the 118 Bachelor of Public Administration (BPA) graduates from the Academic Year 2018 to 2023 at Kapalong College of Agriculture, Sciences and Technology (KCAST). This tracer study involves the gathering of quantitative information through the use of online survey forms to get the necessary data, the study employed the descriptive quantitative technique of research. According to findings, 65% of graduates are currently employed, with the majority of them holding full-time jobs, the remaining 35% are not working yet because of their job preferences. Further, the results showed that 44% are working full-time, 25% are working on contractual basis, 10% in regular positions, 2% are working part-time, and another 1% are self-employed. Then, 43% are employed in the government, 18% as office-based clerk, 9% as sales agent/representatives, 18% as account specialist, 8% as marketing specialist, and the remaining 4% as call center agent. The level of attitude to work obtained a very high descriptive rating which means that the public administration graduates always manifested the said behavior. The quality education provisions of the institution as well as skills and abilities development obtained a high descriptive rating which means that the public administration graduates manifested the influence of the factor as extensive. It is recommended that to achieve the program's core academic goals and objectives, the institution should strengthen its connections, collaborations, and partnerships with other governmental and non-governmental organizations.

KEYWORDS: *descriptive-quantitative method, graduate tracer study, public administration study*

INTRODUCTION

Rationale

The discipline of public administration is an application of both art and science, not simply one of them. A degree program in public administration trains students for positions in government and public administration. It is meant for students who aspire to dedicate their lives to serving the public in civil society and government (CHED Memorandum Order 6 s. 2010).

A three-year 2006–2008 study of Open University Malaysia (OUM) graduates was conducted in Malaysia. According to their findings, OUM graduates' satisfaction with the institution's services has grown during the previous three years. Graduates' overall development, especially in terms of maturity, independence, and teamwork, was greatly impacted by their study programs. Further evidence of the importance of lifelong learning comes from the fact that over 75% of respondents said they would be interested in continuing their education after graduation (Latif & Bahroom, 2010).

According to the University of Pangasinan's Graduate Tracer Study, recent graduates face difficulties finding employment, which logically causes them to wait longer for positions due to inexperience (Rocaberte, 2016). Additionally, Verona (2011) provides support for the idea that the government should address labor mismatch concerns, which arise when there is not enough labor available overall to solve the loss in productive labor, particularly in urban or semi-urban areas.

The government, which is the biggest employer in the nation, has to have a steady supply of people who will be devoted and committed public servants notwithstanding the challenges facing public administration. In order to pursue causes aimed at the public benefit, civil society organizations require employees and volunteers who share the same ideals to lead and oversee their advocacy and service delivery programs (CHED Memorandum Order 6 s. 2010).

The Kapalong College of Agriculture, Sciences, and Technology was the first local college in Region XI to receive accreditation from the Association of Local Colleges and Universities – Commission on Accreditation (ALCUCOA) Level 1 upon its establishment in 2005. As part of its ongoing efforts to improve its pedagogies and prepare its graduates for the workforce, the college decided it was appropriate to carry out a tracer study on its professional graduates in order to determine their employability, including their employment status. Additionally, this is to gather information for the institution regarding innovations or enhancements that can be added to the current curriculum to help its young professionals

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become even more employable in the field of employability related to their course of study and field of expertise.

Therefore, based on this premise, a tracer study must be carried out to ascertain the employment rate and status of the graduate students as well as their self-rated assessments regarding their work ethic, the institution's quality of education, and the graduates' acquisition of skills and abilities after earning a Bachelor of Public Administration (BPA). This is the institution's way of responding to its ideals and social responsibilities by creating a curriculum that will guarantee students' employment after graduation and strengthen and expanding its ongoing provision of high-quality education.

OBJECTIVES OF THE STUDY

High rates of underemployment and unemployment affects the Philippines. It has 21% of jobless individuals held a college degree in 2012. The country's unemployment rate was 7% at that time (Bureau of Labor and Employment Statistics, 2012). Thus, the target audience for this study was KCAST public administration graduates from the 2018–2023 academic year. Specifically, this study sought to answer the following research objectives:

1. To describe the demographic characteristics of the graduate-respondents in terms of:
    1.1. sex;
    1.2. civil status;
    1.3. age;
    1.4. year graduated;
    1.5. educational attainment and development; and
    1.6. relevance of the degree to their present job:
2. To describe the employment profile and features of the graduate-respondents in terms of:
    2.1. employment rate;
    2.2. employment status;
    2.3. level of income;
    2.4. period of seeking the first job after college
    2.5. Nature of job;
    2.6. relevance of college degree to the present job; and
    2.7. job mismatching.
3. What is the level of the graduates-respondent self-rated evaluation with their attitude to work?
4. What is the level of the graduates-respondent self-rated evaluation with the quality of education provision of the institution?
5. What is the level of the graduates-respondent self-rated evaluation with the skills and abilities obtained in the institution and its usability with their present occupation?

METHODS

Research Design

This study employed a quantitative descriptive design. The fundamental nature of descriptive studies is the collecting of quantitative data that can be compiled in numerical form, this tracer study employed the descriptive technique of research. It is also underlined that the features of the population or phenomenon under study were described using this method. Without emphasizing the reasons behind a certain phenomenon, the primary goal of this research method is to characterize the characteristics of a demographic segment. Also, it discusses the research topic but leaves out the explanation for why it occurs. In order to test theories or find answers, data collection is also necessary. It also ascertains and documents the current state of affairs. Lastly, descriptive research is a subset of scientific study that methodically describes a phenomenon, event, condition, or fact pertaining to a particular region or population (Gay, 2016).

In context of the current study, the descriptive method of research was utilized to describe the employment rate and employment status of the Kapalong College of Agriculture, Sciences, and Technology, Bachelor of Public Administration. This is done in order to quantify graduates' employment rate and to clearly identify their work status and demographic profile, including gender, age, and marital status.

Population and Sample

Primarily, the population and sample of this tracer study were the graduates of Bachelor of Public Administration in Kapalong College of Agriculture, Sciences and Technology from academic year 2018 up until academic year 2023. Hence, the study used complete enumeration random sampling since the very purpose of the study is to track and trace graduates in terms of their employment status and rate. To be specific, in year 2018, there are 32 respondents of which there are 11 males and 21 females; in year 2019, there are 26 males and 26 females; in year 2022, there are 5 males and 14 females; lastly, in year 2023, there are 10 males and 5 females which make a total of 118 respondents. Thus, the total population and sample of this study were 52 males and 66 females for a total of 118 Public Administration respondents.

Research Instrument

This study utilized a researchers-made tracer survey questionnaire which was validated by the panel of experts and examiners in order to ascertain the content validity and reliability of the survey questionnaire and to verify if the survey's design and content would accurately measure the study's desired outcome. Experts also determine this by assessing the items' and directions' clarity, presentation and organization, the items' suitability and adequateness within each category, the items' achievement of the intended goal, their impartiality, and the rating system's scale evaluation.

Furthermore, the aim of the tracer survey questionnaire was to track the study's employment history and current status, to keep track of their educational progress, to gauge their level of work-related attitude, to verify their assessment of the institution's quality of education, and, finally, to gauge the degree to which the institution fostered and enhanced their diverse skill set while they were enrolled in KCAST.

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The parameter limits below were used in the interpretation of the degree of attitude toward work, evaluation of the quality education provision, and the skills and abilities of the Bachelor of Public Administration graduates in KCAST in order to provide a clear understanding and interpretation of the results and data gathered in this tracer study.

Data Collection Procedure

Data collection is the process of gathering, quantifying, and interpreting precise research insights through the application of established, verified methods. Furthermore, regardless of the research subject, it is typically the first and most crucial phase in the process (Questionpro, 2020). Thus, the following primary steps were taken responsibly to gather the needed data of the study.

First, the researcher asked the college registrar for the total number of graduates from the academic year 2018 to the academic year 2023, since the population and sample of the study includes the institution's graduate students pursuing a bachelor's degree in public administration. This ensures that precise and accurate data are taken into account and given priority.

Second, the researcher developed the survey tracer questionnaire after determining the total number of graduates. This helped to ascertain the graduates' employment rate, employment status, educational attainment and development, work attitude, access to high-quality education, and growth of their skills and abilities.

Third, using Google Forms, the researcher began tracking the graduates to learn about their employment status and rate, educational attainment and development, work attitude, access to high-quality education, and skill and ability development after creating the survey questionnaire.

Fourth, the researcher grasped the questionnaire and began the tally in order to get ready for the data analysis after completely answered by graduate students.

Finally, the data was examined and processed by the school's designated statistician in order to display the collected data in a tabular and graphical format that would make understanding the outcome easier and better.

Data Analysis

For analyzing the data, mean was used for getting the average score in measuring the level of graduate's attitude to work, evaluation of quality education provision and the development of different skills and abilities.

RESULTS AND DISCUSSION

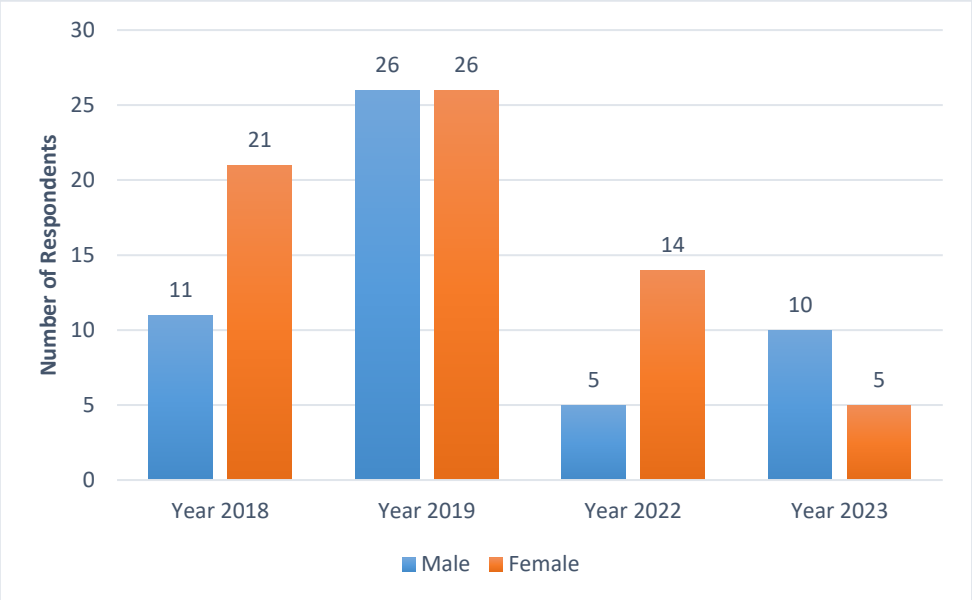
The study's statistical applications led to the discussion of the interpretation and descriptive-quantitative analyses, which were based on the responses obtained from the data gathering instrument and the profile of the BPA graduates.

Demographic Characteristics of the Graduate Respondents

Sex

Figure shows in year 2018, there are 32 respondents of which there are 11 or 34% males and 21 or 66% females; in year 2019, there are 26 or 50% males and another 26 or 50% females; in year 2022, there are 5 or 26% males and 14 or 74% females; lastly, in year 2023, there are 10 or 67% males and 5 or 33% females which make a total of 118 respondents in which 56% were female and 44% were male.

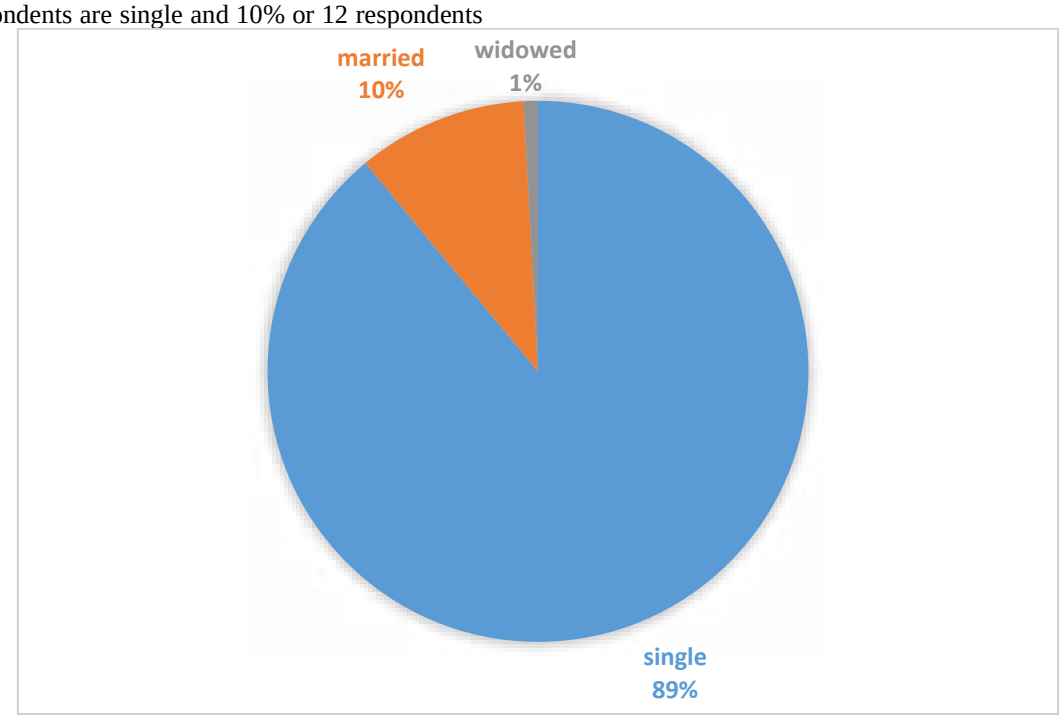
Figure 1. Profile as to Sex



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Civil Status

As shown in the figure, the majority of graduate respondents 89% or 105 respondents are single and 10% or 12 respondents are married, and the remaining 1% or 1 is having the widowed civil status.

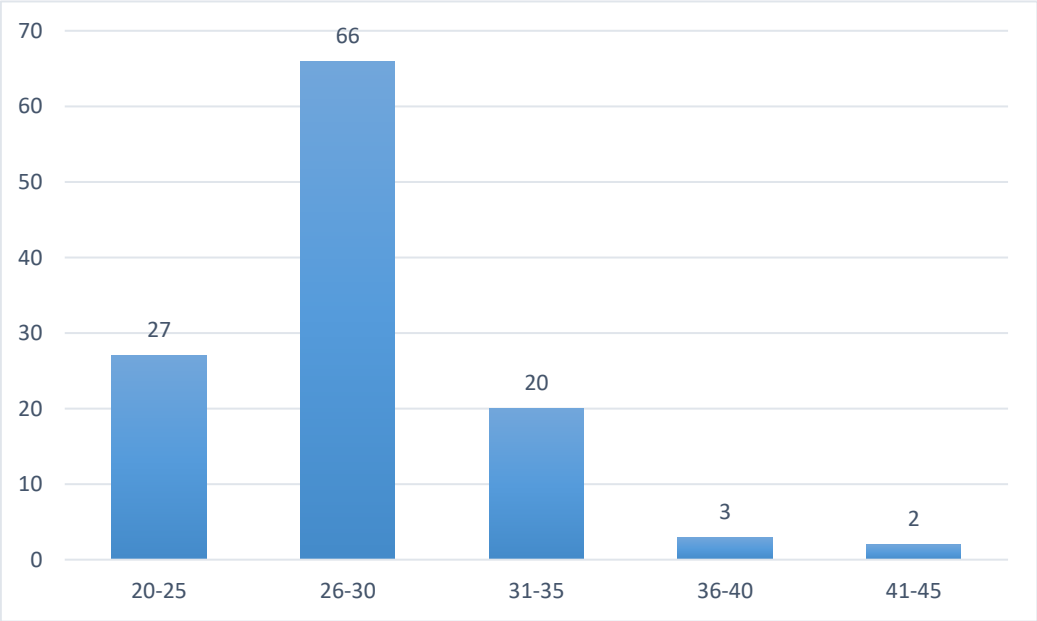


Age

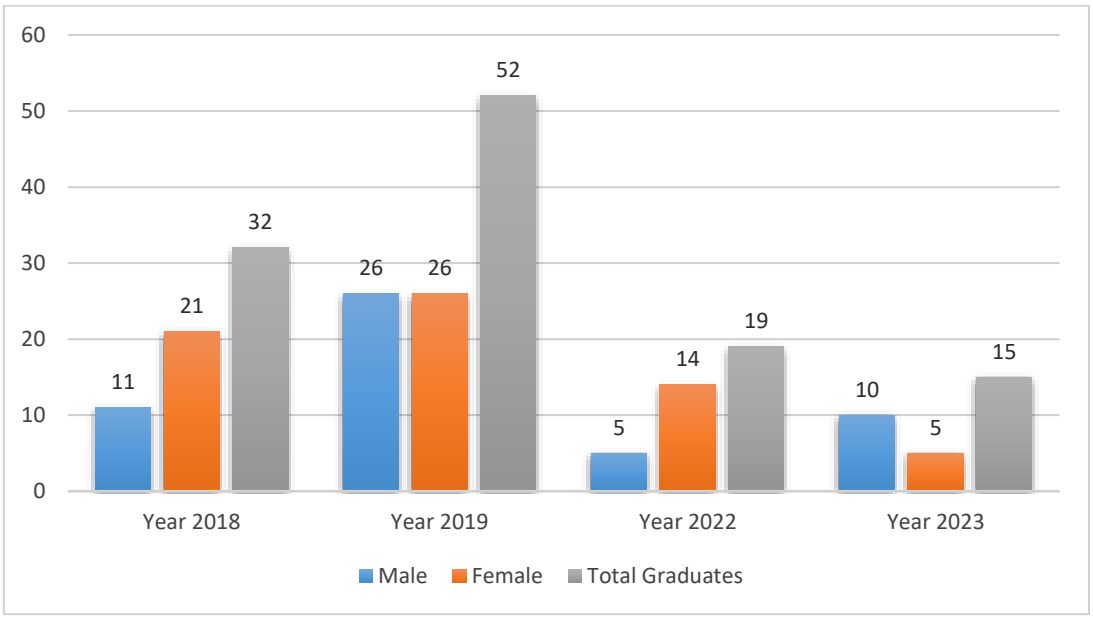
Shown in the figure is the age of the Bachelor of Public Administration from academic year 2017-2018 to 2022-2023. From the total of 118 graduates who responded to the online survey conducted through google forms, there are 27 graduates whose age ranges from 20-25, another 66 graduates whose age ranges from 26-30 and 20 graduates whose age ranges from 31-35 and there are 3 graduates whose age ranges from 36-40 and lastly, the remaining 2 graduates whose age ranges from 41-45.

Year Graduated

Shown in the figure is the total number of Bachelor of Public Administration from academic year 217-2018 to 2022-2023. For the year 2018, there are 32 respondents of which 21 are males and 32 females. In 2019, there are 52 respondents and 26 of this are males and another 26 are females. In 2022, there are 19 respondents which composed of 5 males and 14 females. Lastly, in 2019, there are 15 respondents which composed of 10 males and 5 females.

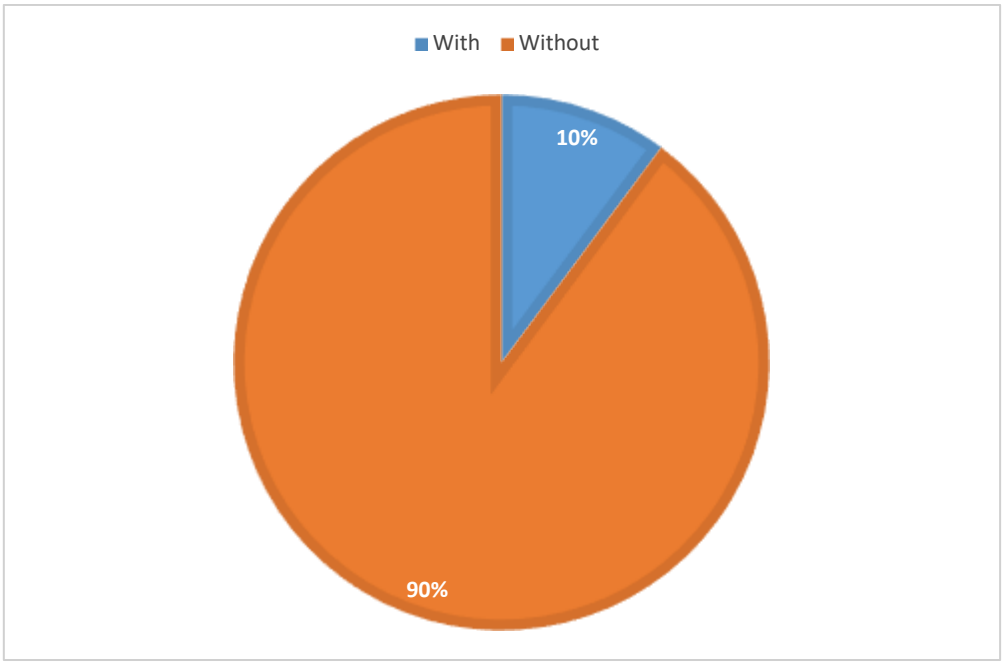


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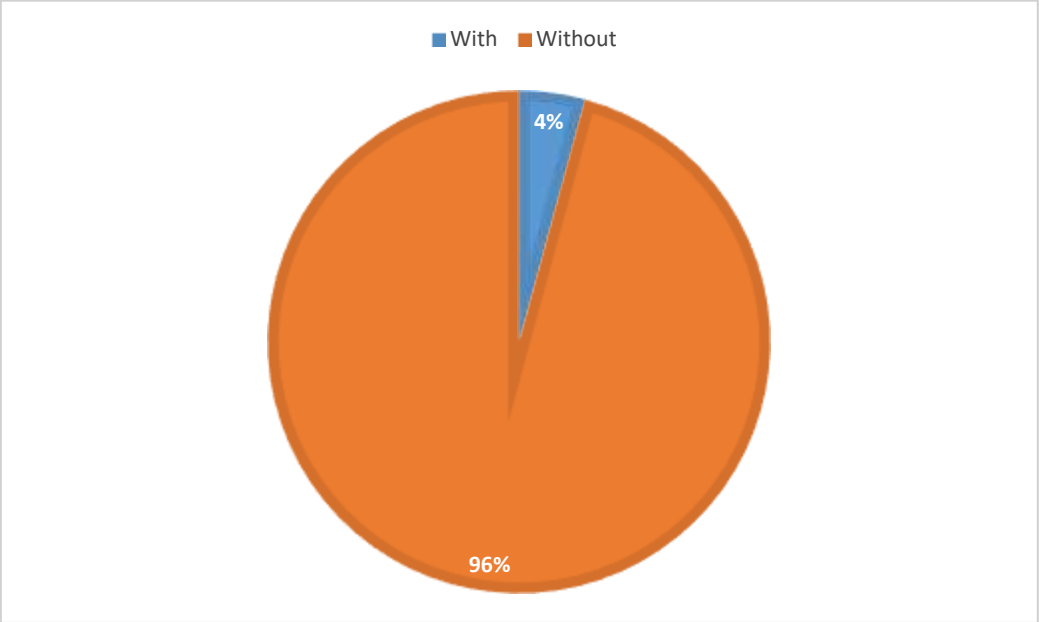
Educational Attainment and Development

Shown in the figure is the total number of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023 who obtained a vocational education and/or national certificate. The survey reported that there are 10% of he graduates who obtained vocational education and 90% who does not obtain vocational education. This vocational education includes Automotive Servicing, Massage Theraphy, Electrical Installation and Maintenance, Trainers Methodology, Health Care Service, Computer Science, Computer Hardware Servicing, Driving, Electrician and Computer Technology.



Shown in the figure is the total number of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023 who obtained and undergone post graduate degree or studies. The survey reported that there are only 4% of the respondents who obtained and undergone post graduate studies or degree and there are 96% who do not proceed to further studies. Further, survey reported that there are only two degrees which graduates obtained and these are the ongoing Master in Public Administration, and earning units of Bachelor of Secondary Education major in Social Studies to which the source of their funding is their work and family income, and the institution which they enrolled are Kapalong College of Agriculture, Sciences and Technology, North Davao College of Tagum and University of Mindanao.

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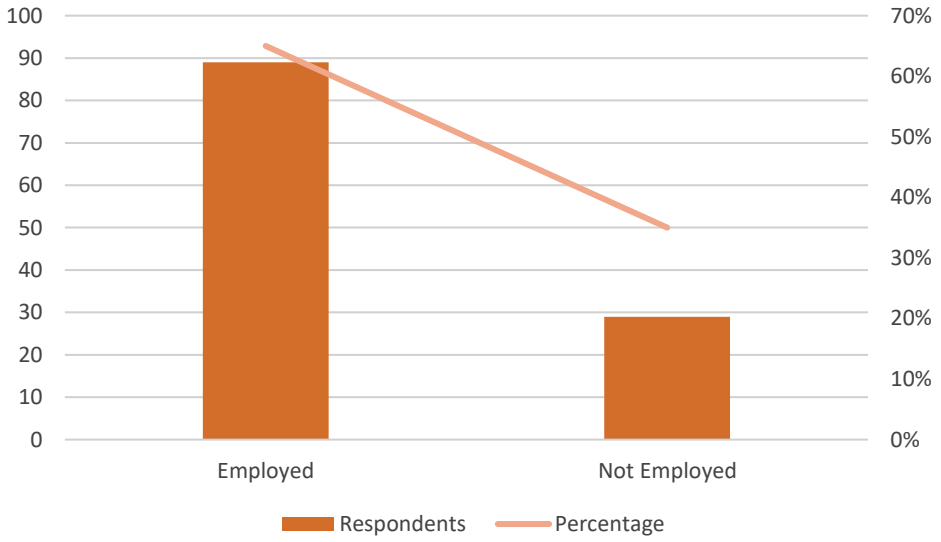


Employment Profile and Features of BPA Graduates

The second research objective of this tracer study is to determine the employment profile and features of the Bachelor of Public Administration from academic year 2017-1018 to 2022-2023 which includes the following: employment rate; employment status; level of income; period of seeking the first job after college; relevance of college degree to the present job; and job mismatching.

Employment Rate

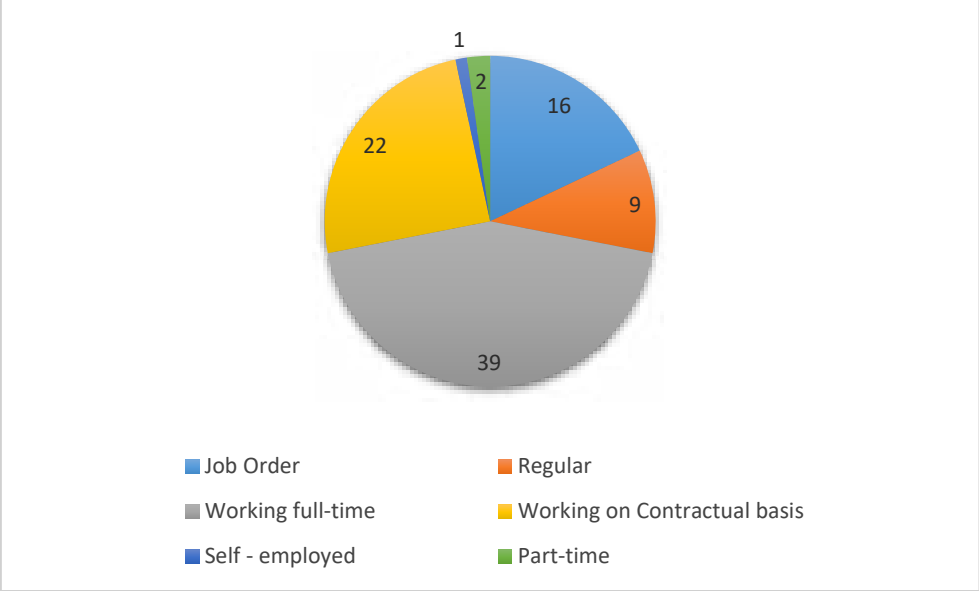
As to the employment rate of the respondents of Bachelor of Public Administration, shown in the figure from academic year 2017-2018 to 2022-2023, approximately 89 or 65% of the graduates are working both public and private field, and 29 or 35% are not working yet because of their job preferences.



Employment Status

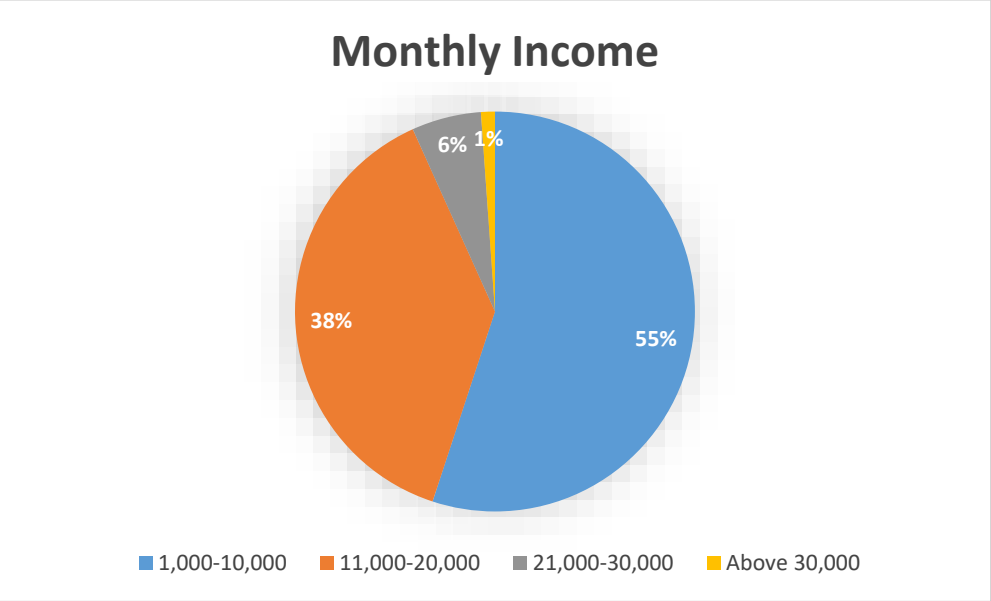
Shown in the figure is the employment status of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023. Result of the survey showed that from the 118 respondents in this aspect, 39 of them are working full-time, 22 are on a contractual basis, another 16 working in job order, the other 9 working as regular employee, 2 are working part-time and lastly, the remaining 1 respondent is self-employed.

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Level of Income

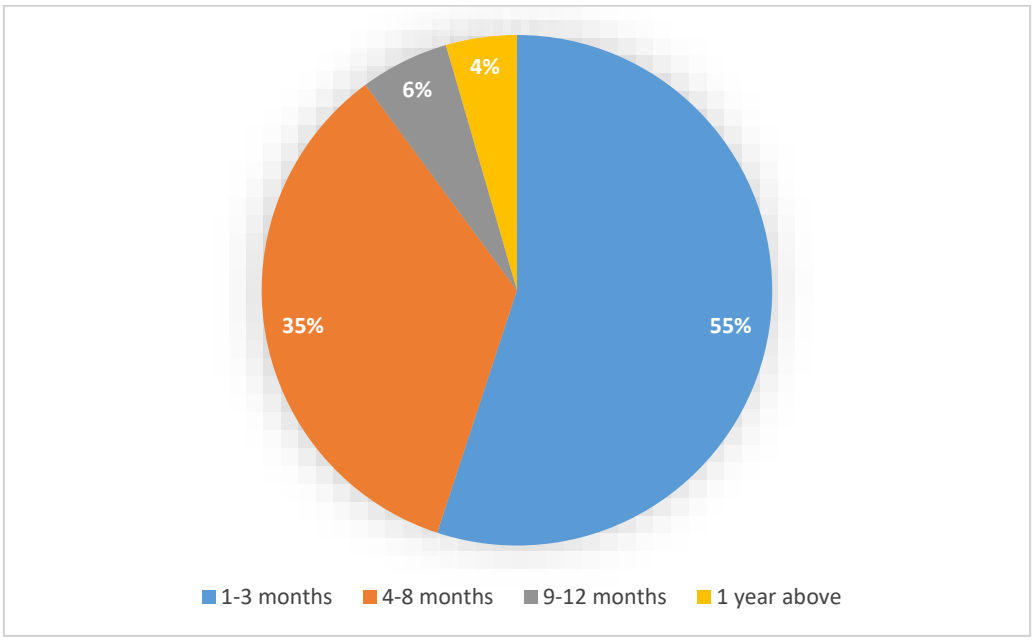
Pertaining to the level of income of the respondents as shown in the figure of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023. Result of the survey showed that 49 or 55% earned 1,000-10,000 salary every month, 34 or 38% who earned 11,000-20,000 a month and another 5 or 6% 21,000-30,000 a month and lastly, there is 1 or 1% who earned above 30,000 per month.



Period Seeking of Job after College

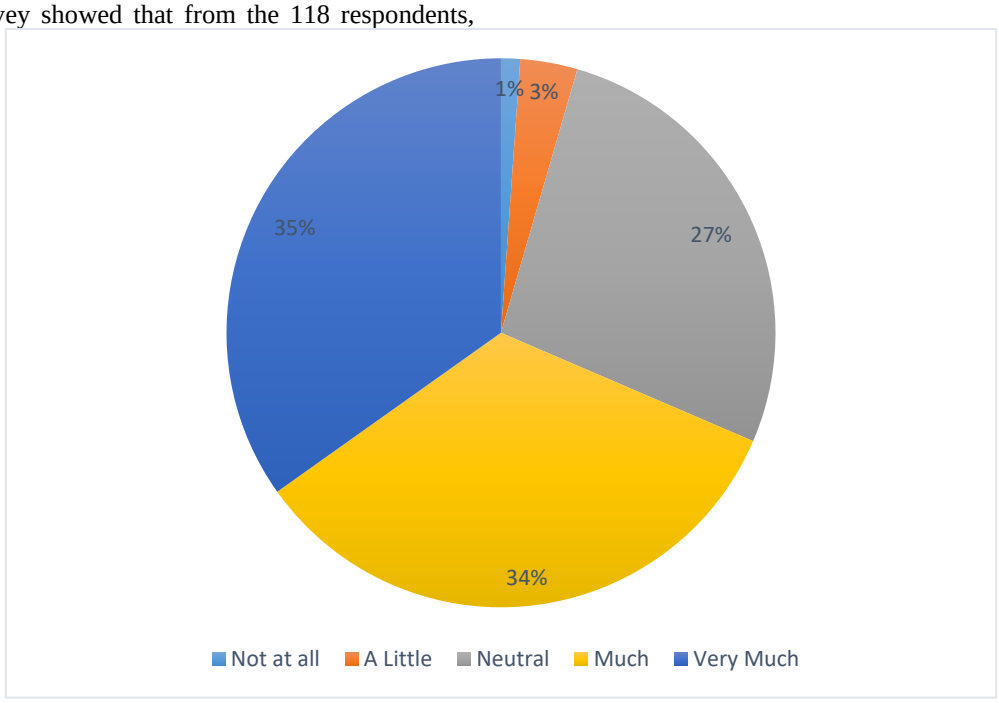
Data in figure further established the period seeking of job after college of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023. Result of the survey showed that from 118 respondents in this aspect, there are 49 or 55% was already earning 1-3 months after graduation, 31 or 35% was hired in 4-8 months after graduation, 5 or 6% within 9-12 months and lastly, 4 or 4% landed a job after a year already.

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Relevance of College Degree to the Present Job

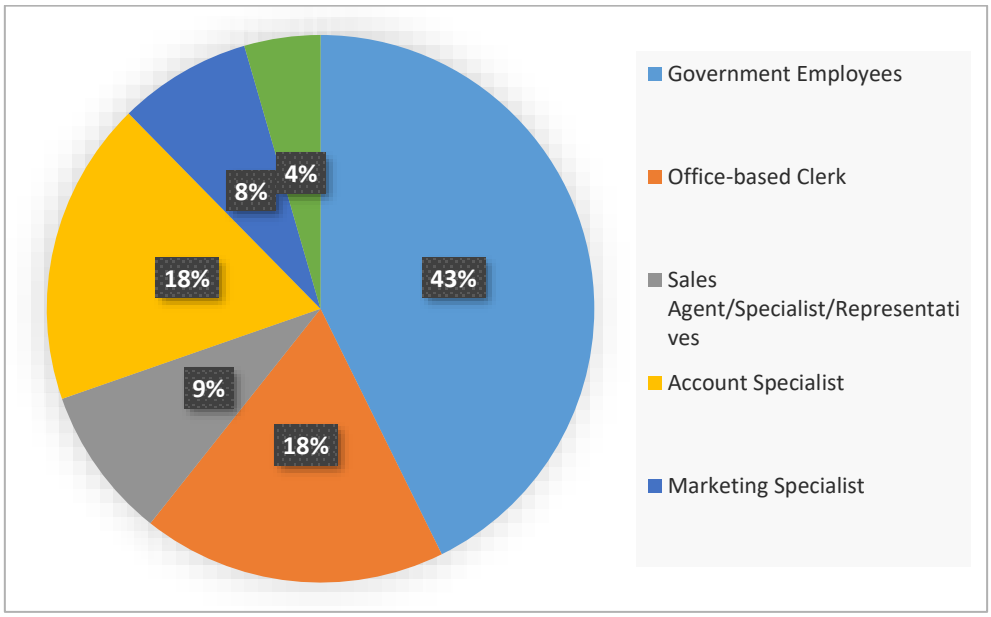
Shown in the figure is the relevance the college degree of the respondents of Bachelor of Public Administration from academic year 2017-2018 to 2022-2023 to their present job. Result of the survey showed that from the 118 respondents, there are 31 or 35% chose very much relevance of the degree to their job, 30 or 34% chose much relevant and another 24 or 27% chose neither. The other 3 or 3% chose a little relevant and lastly, the remaining 1 or 1% chose not at all.



Job Mismatching

Showed in the figure gathered from the respondents of the Bachelor of Public Administration from academic year 2018-2023. Result of the survey showed that from the 118 graduates, respondents are employed in the government that has 38 or 43% which includes instructor, teacher, administrative staff/aide, liason officer, facilitator, mayor's secretary, Barangay Kagawad, executive assistant, enlisted personnel (private), fire officer, enumerator, and social welfare aide. The respondents working in private sector which is 16 or 18% was working in the office-based clerk, there are 8 or 9% working as sales agent/specialist/representatives, another 16 or 18% working as account specialist, the other 7 or 8% working as marketing specialist. Lastly, the remaining 4 or 4% are working as call center agent and/or representative.

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Level of the Bachelor of Public Administration Graduates Attitude to Work

Shown in Table 1 is the level of the Bachelor of Public Administration graduates with their attitude to work which obtained and earned an overall mean score of 4.36 described as very high. This implied that the level of graduates-respondent self-rated evaluation with their attitude to work is always manifested since the respondents strongly agree to all the identified sub-questions under attitude to work.

The overall mean score was based from the very high mean and to the very low mean. In the table, it showed that of all the ten sub-questions, item number 3 stating - *I accepted assignments and tasks given to me at work without complaints* with the mean score of 4.51 or very high got the highest mean connoted that the attitude to work influence of the factor is very extensive. And also, item number 1 - *I am very interested, happy and satisfied with my work and it is very important for me* with the mean score 4.22 got the lowest mean among all which connoted that the attitude to work influence of the factor is still very extensive.

Table 1: Level of the Bachelor of Public Administration Graduates Attitude to Work

Items	Mean	Descriptive Equivalent
1. I am very interested, happy and satisfied with my work and it is very important for me.	4.22	Very High
2. I like the kind of job and work I am doing.	4.25	Very High
3. I accepted assignments and tasks given to me at work without complaints.	4.51	Very High
4. I arrived on time to prepare my work and extend working hours if necessary.	4.34	Very High
5. I can work better and functional under different working environment and situations.	4.31	Very High
6. I participated in all activities and events inside my workplace.	4.32	Very High
7. I have a good relationship with my colleagues and co-employees.	4.37	Very High
8. I submitted necessary documents and papers on time and beat deadlines.	4.46	Very High
9. I performed my task and job with excellence and outstanding quality.	4.37	Very High
10. I seek assistance and help from others whenever I have clarifications and queries.	4.37	Very High
Overall	4.36	Very High

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Level of the Bachelor of Public Administration Graduates Quality Education Provisions

Shown in Table 2 is the level of the Bachelor of Public Administration graduates with quality education provision which obtained and earned an oerall mean score of 4.14 described as high. This descriptive meaning and equivalent entails that the quality of education provision in the institution influence of the factor is extensive since the respondents always agree to all of the identified sub-questions under quality education provision.

From the ten sub-questions, item number 8 stating *well-trained and self-renewing faculty members and staffs*, with the mean score of 4.21 or very high which connotes that the influence of the factor is always extensive. Further, item number 5 stating *quality of learning facilities for first-hand and direct experiences like of different laboratories* got the lowest mean among all. This connoted that the quality of education provision influence of the factor is still manifested.

Table 2: Level of the Bachelor of Public Administration Graduates Quality Education Provisions

Items	Mean	Descriptive Equivalent
1. Availability of course materials and different learning resources needed for our studies.	4.14	High
2. Quality of course contents from courses offered as well as the teaching and learning process.	4.13	High
3. Conduciveness of the learning environment and atmosphere.	4.10	High
4. Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.18	High
5. Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.02	High
6. Quality of different courses offered in the program that develops the total sum of the student skills.	4.14	High
7. Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.17	High
8. Well-trained and self-renewing Faculty members and staffs.	4.21	Very High
9. Different trainings, seminars and workshops that prepare students for employment.	4.19	High
10. Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.14	High
Overall	4.14	High

Level of the Bachelor of Public Administration Graduates Skills and Abilities Development

Shown in Table 3 is the level of the Bachelor of Public Administration graduates with skills and abilities development obtained in the institution and its usability with their present occupation. The data manifested an overall mean score of 4.17 this implied that the level of skills and abilities was high.

The overall mean score was based from the very high mean and to the very low mean, as to item number 5 stating *time management and decision-making skills* has the highest mean score of 4.25 or very high. This connoted that the influence of the factor is very extensive. Additionally, item number 9 stating *technical and entrepreneurial skills* with the lowest mean score obtained 4.06 or high. This connotes that the technical and entrepreneurial skills influence of the factor is manifested.

Table 3: Level of the Bachelor of Public Administration Graduates Skills and Abilities Development

Items	Mean	Descriptive Equivalent
1. Organizational and leadership skill.	4.12	High
2. Problem solving and critical thinking skills	4.20	Very High
3. Ability to work independently as well as team work and team play.	4.18	High
4. Creative thinking and creativity, initiative and taking a risk if necessary.	4.18	High
5. Time Management and decision-making skills.	4.25	Very High
6. Writing competence and skills including technical	4.10	High

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writing.		
7. Communication and interpersonal skills.	4.15	High
8. Computer and ICT Skills	4.18	High
9. Technical and Entrepreneurial Skills	4.06	High
10. Ability to work under pressure.	4.22	Very High
11. Ability to write the essentials and basics of effective community planning.	4.13	High
12. Code of ethical standards applied in my profession.	4.24	Very High
13. Knowledge in public leadership and good governance through seminars and workshop.	4.19	High
14. Expertise about research and development for good governance.	4.17	High
15. Skills and organizational management in public relation.	4.18	High
Overall	4.17	High

DISCUSSION

Below is the summary of findings based on the gathered data conducted through online survey using google forms, the conclusions drawn and the recommendations.

Demographic Profile of the Bachelor of Public Administration Graduates

The first research objective of the study was to identify the demographic profile of the Bachelor of Public Administration graduates from batch 2018 to batch 2023. Result of the survey showed that most of the respondents were female and majority working in the private sector which is also part of the context of public administration. Given that the distribution is almost equal, the respondents' composition is beneficial because both sexes are adequately represented. Also, more than half of the total population were single and their age ranges from 26-30.

The findings could be explained by a survey finding that many millennials desire to establish their place in the world financially and professionally because of the uncertain state of the global economy. Because of this, a lot of young professionals don't get married (Power of Positivity). As stated (Rachelle, 2012), among other things, information about the graduates' professional careers, status, and income is needed, as is information about the value of and connection between knowledge and skills, job needs, location of the workplace, and position.

According to studies, a person's sex can have an impact on their employment. A study on young people's employment revealed the disparities between the employed and unemployed youth in terms of sex, gender identity, and how these factors interact with views of employability. Women appear to be more optimistic about their chances of finding work when they are unemployed when it comes to sex. Men, on the other hand, are more optimistic than women about their prospects of finding work in their company (Cifre et al., 2018).

Another claim clarified why it's more difficult for women than for males to find employment when they wish to work. With almost 16% of women unemployed, Northern Africa and the Arab States are severely affected by this issue. Moreover, although vulnerable employment is common for both men and women, there are some vulnerable job categories where women are prominent compared to men: women are more likely to assist in their homes or in the businesses of their relatives, whereas men are more likely to work in own-account employment (International Labor Organisation, 2017).

Furthermore, a study pointed out and discovered that married women with small children at home who could work part-time reported higher levels of satisfaction with their work-life balance than older women without children. This study shows that married women who choose to work part-time tend to be more successful than those who remarry and have no kids. On the other hand, mothers of little children who work full-time experience is opposite (Kifle et al., 2014).

Similarly, a different study found a statistically significant three-way interaction with statistically significant differences in the mean applicant rating scores for females. Lesbian women were rated higher when they were single than when they were married, and heterosexual females were rated higher when they were alone. It is imperative for recruiting managers to acknowledge that biases related to marital status, gender, and sexual orientation might influence hiring decisions and introduce unintentional bias. In order to ensure that non-job-relevant factors do not affect their hiring decisions, hiring managers should also adopt preventative measures (Nadler & Kufahl, 2016).

In the meantime, studies have shown that people who are more willing to try a new experience will be more likely to switch careers. In addition, it has been pointed out that factors influencing career mobility and career change are both individual characteristics and the labor market. As a result, when people were younger, they were more likely to change their organization, industry, and profession, with age having the strongest influence (University of East Anglia, 2018).

Finally, another study showed that younger workers are more concerned with the variety of tasks as opposed to older workers. For example, a survey has shown that younger workers with a higher variety of tasks are more satisfied with their work, as

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they are able to perform a variety of tasks. In contrast, older workers are more likely than younger workers to be attracted to work that has a higher level of significance for their tasks, contrary to the idea that younger workers have greater attraction to jobs with lower levels of importance (Zacher et al., 2017).

Educational Attainment and Development

The tracer study also describes the degree of education acquired by Bachelor of Public Administration graduates who, according to the results of the survey, 10% have completed and attained a diploma or higher national certificate level II.

This includes a national certificate in automotive servicing, massage therapy, electrical installation and maintenance, trainer methodology, health care service, computer science, computer hardware servicing, driving, electrician and computer technology. Moreover, some graduates have continued their studies and acquired degrees from the Faculty of Public Administration as Master of Social Studies or earned units for a bachelor's secondary education degree.

The majority of respondents want to improve their skills in order to secure employment in the future, especially in the Public Sector, as well as enhance their competences and qualifications. According to Loughlin & Barling (2001), there are two main arguments as to how experience affects one's views on a job. The first argument is that the motivation of the employee is a response to the company; that is, the employee's attitudes are likely to change as a result of the company.

This suggests that after they start working, those with no prior work experience will no longer have their idealistic expectations. First, consider salary as an example: someone joining the government agency could find that their wages are too low. A man who has decided to remain with the company may undergo a process of rationalization in order to convince himself that massive income is not his first priority (Houston, 2000).

Employment Profile and Features of Bachelor of Public Administration Graduates

Based on the result of the survey of this tracer study, more than half of the graduates are already employed and majority of them are working in the private sector as part of the context of public administration however, some are working in the government, in call center agents, office-based clerk, sales agent, account & marketing specialist. Moreover, they work fulltime jobs that pay from 1000 to 20,000 a month.

Moreover, the tracer study also showed that graduates have a job within less than one month of their graduation and are currently employed with salaries ranging from P10,000.00 to less than P15,000.00 per month. Similarly, according to Lalican (2007) standpoint, she stressed that gaining knowledge in a field of specialization together with skills and competencies can help graduates become more productive, efficient, and knowledgeable in their current roles.

There were only 4 pursuing Master of Public Administration degrees as their highest educational attainment and none among the respondents who were holders of Doctor of Public Administration. In terms of employment status, 39 fulltime workers, 22 contract workers, 16 occupational orders, 9 regular workers, 2 part-time workers and 1 unemployed worker were employed. The curriculum relevance according to the respondents was 31 and those who answered NO did not give any suggestions to further improve the curriculum. Among the competencies measured, time management skills ranked 1st, code of ethical standards ranked 2nd while work under pressure ranked 3rd. In addition to information on the value and correlation of knowledge and skills, job requirements or places of employment, Rachelle (2012) pointed out that graduates should also be aware of their professional career, status and income.

Due to a large underemployed and unemployment rate, the Philippines, a developing country, is facing the same problems that have plagued it for decades. The rate of population growth and labour force expansion is still above the level of officially created jobs. However, the creation of jobs is not the same as the granting of degrees by universities (De Ocampo et al., 2012). This will provide graduates with a chance to succeed, find work and be recognized in their fields as well as the capacity to act as valuable resources on a market which is highly competitive (Menez, 2014).

Menez (2014) claims that higher education institutions are not only focused on teaching, but also have a key role in maintaining competitive economies as well as ensuring graduates' desire to find employment, gain societal recognition and succeed in their chosen fields.

Typical factors that contribute to this mismatch between industry demand and education supply are the lack of existing labour market information on student choice, course selection or staffing plans as well as an insufficient level of training for graduates in view of Industry's limited involvement in teaching and curriculum development.

Level of the Bachelor of Public Administration Graduates Attitude to Work

It was noted that the degree of bachelor of public administration graduates was very high in terms of their attitude to work. This indicates that, as the respondents strongly agree with all of the identified sub-questions on the attitude to work, the respondents' own assessments of the attitudes of the graduates to work are always manifested.

In addition, according to Moreland (2006), employability is a combination of skills, knowledge, and character traits that increase a person's chances of securing and succeeding in his or her chosen career for the benefit of himself, his family, the workforce, and the economy. In order to get a job, graduates must have the majority of their skills required by employers. In order to participate in the knowledge economy, which will increase their economic status and national prosperity, they must also be able to make use of what they learn from college.

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Level of the Bachelor of Public Administration Graduates Quality Education Provisions

It was noted that the level of graduates with a degree in public administration with quality education was high. This descriptive meaning and equivalent entails that the level of the BPA graduates' quality education provision is manifested since the respondents agree to all of the identified sub-questions under quality education provision.

In the real world of academic, the role of higher education institutions extends beyond providing instruction; they are also responsible for ensuring that their graduates succeed in their fields, are employable, and are valuable assets in a market that is highly competitive. However, one of the main causes of underemployment and the challenge of obtaining work is graduates' incapacity to satisfy the industry's requirements for skills and competencies Higher education institutions play an important role in the academic world beyond providing training; they also bear responsibility for ensuring that their graduates are able to find employment, and have valuable assets on a market which is highly competitive. However, the lack of graduates who are able to fulfil industry requirements in terms of skills and competences is one of the major causes for under employment and job challenges (Menez, 2014). Moreover, higher education is one of the most important tools to adapt to changes in 21st century's complex and evolving character. In addition to the additional functions of research, higher education is an important and strategic part of development as it fulfils a trilateral role in production, research and teaching.

L***evel of the Bachelor of Public Administration Graduates Skills and Abilities Development***

The level of a bachelor's degree in public administration with developing skills and abilities is high. The level of skills and abilities developed by BPA graduates needs to be reflected in this descriptive meaning and equivalent is manifested.

One of the main challenges facing today's universities is to link training with employability. In order to gain a deeper understanding of these ideas, the researcher relies on several theories concerning the relationship between education and employability in graduate studies. One of these theories is the human capital hypothesis, which argues that education gives people a means to acquire useful abilities. In the area of education, this theory claims that knowledge and skills which directly affect workers' work are acquired by training (Becker, 2002).

In addition, another study has shown that today's society is in need of appropriate and proper implementation of life skills training. Facilitating the teaching of life skill to students can help, because it addresses children's needs in a specific way and provides them with motivation for learning how to change their lives: Practical, mental, emotion, social and management knowledge. Furthermore, it is noted that providing students with life skills training has a positive impact on changing their attitudes, thinking and behaviour by giving them an environment where they are supported (Ravindra et al., 2017).

Summary of Findings

The results of the survey, which was successful in answering more than half of the respondents, are summarized as follows: the institution, Kapalong College of Agriculture, Science and Technology produced a total of 118 graduates consisting of 52 males and 66 females. In terms of civil status, the survey showed that 89% of the graduates is single and 10% is married, and the remaining 1% is widowed. About age, the majority of graduates aged 26 to 30, only two people who are over 41 years old above. In addition, the highest number of respondents was 52 graduates in class 2019 and the lowest were 15 respondents in class 2023. Lastly, there are 10% of the graduates obtained a vocational course or national certificate and only 4% of the graduate proceed to further studies.

In terms of employment, 65% of graduates are employed, while 35% are unemployed. The survey also revealed that nearly half of the graduates responding to the survey are employed full-time, while the remaining are employed contractual, part-time, regular, on a job order, or as self-employed workers. Further, most of the graduates have a monthly income of 1,000 to 10,000 and there are only few who earned at least 30,000 above monthly and most of them took 0-3 and 4-8 months to land a job after college to which most graduates agreed that their college degree is very much relevant with their present as it obtained a total of 35%. Lastly, the number of graduates who responded to this survey working in government stands at 43%.

The survey also showed that graduates of the Bachelor in Public Administration have a very high level of attitude towards their work, the level of quality of education provided by the institution is good and that the level of skills and abilities is high.

CONCLUSION

After the conduct of the survey, the following were the conclusions drawn: the employment rate of the BPA graduates from batch 2018-2023 is 65% which can be gleaned that three-fourth of the graduates is competent enough to look for and to land a job. And most of the graduates are working on full-time basis.

Finally, it can be noted that the institution offers a quality education with courses and disciplines that prepare graduates to enter the labour market, given that the survey showed that the college degree is very important to the job.

In addition, the level of the attitude of work of the graduates' students obtained a descriptive equivalent of strongly agree to which it signifies that the graduates' students perform their tasks and responsibilities efficiently and effectively.

In addition, the level of the institution's quality education provision has been described as good enough to indicate that KCAST offers quality education to most of its graduates through the provision of different trainings and seminars, the provision of different learning resources and materials, as well as qualified and experienced faculty and staff.

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Finally, the degree of skills and abilities developed by graduates is high which indicates that KCAST was able to develop, fine tune and enhance a variety of interests, competences and capabilities within its students during their studies in this institution.

RECOMMENDATIONS

The following recommendations are based upon the summary findings and conclusions of the study: First, in order to meet the basic academic goals and objectives of the program, it is recommended that public administration pursue partnerships, collaboration or partnership with other government and non-governmental organizations. This is particularly important since the current implementation of education based on outcomes is being carried out by public authorities.

Secondly, the program of Public Administration will continue to offer program which respond to students' different needs whether or not they are connected with government bodies.

Finally, more research on tracer studies should be carried out by future researchers on the wide range of methods for obtaining the best feedback from graduates and on the skills developed by graduates.

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A TRACER STUDY ON THE BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION MAJOR IN MARKETING MANAGEMENT GRADUATES FROM BATCH 2022-2023

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ABSTRACT
This tracer study assessed the employment status and job readiness of graduates from the Bachelor of Science in Business Administration-Marketing Management program at a local college in Kapalong, Davao del Norte, focusing on batches from 2022 to 2023. Using a descriptive research methodology, the study gathered data from 143 alumni through an online survey conducted via Google Forms. Findings revealed that 88.11% of the surveyed graduates were employed, with 46.85% working in marketing-related jobs, 6.29% in academia, and 34.97% in government or non-job-related professions. Employment status varied, with 38.46% as a permanent position, 27.27% on contractual terms, 10.49% as job orders, another 10.49% self-employed, and 1.40% in probationary positions. In the same manner, 35.66% of these graduate-respondents are now earning a salary range of Php.11,000-15,000 and 53.15% of them were able to find a job within 1-3 months after graduation. Additionally, 2.10% of the respondents were pursuing further studies, specifically master's degrees. The graduates rated very high in terms of work attitude, the quality of education provided, and the development of skills and abilities, consistently exhibiting these positive attributes. However, the study identified a notable deficiency in computer and ICT skills among the graduates. Thus, it is recommended that the college enhance its marketing curriculum by incorporating practical training in commonly used computer and ICT software to better prepare students for the demands of the job market.

KEYWORDS: *Tracer Study, Marketing Management Graduates, Employment*

INTRODUCTION
Higher Education Institutions (HEIs) play a pivotal role in preparing students to acquire essential knowledge and professional skills essential for the progress of their chosen disciplines. Academic establishments deliver high-quality instruction, engage in pertinent research endeavors, and undertake meaningful extension activities to cultivate undergraduate students into proficient and high-caliber future professionals who align with the demands of the job market and the global community (Camuyong et al., 2023).

Enhancing educational attainment in the labor force is anticipated to bring about enhanced opportunities and higher income expectations in the job market. However, despite a reported high employability rate of graduates surpassing 80%, Malaysia grapples with a persistent challenge— a noticeable mismatch between education and occupation leading to labor shortages in skilled jobs, as highlighted in a 2019 World Bank report. This structural issue intensifies the broader skills gap problem in the country, with employers consistently facing a scarcity of qualified workers (MOHE, various years). This posits that graduates in developing countries, particularly in Malaysia, encounter formidable barriers such as a discernible skills gap, the concentration of skilled jobs in urban areas disadvantaging rural youth, insufficient wages, and prevalent gender and ethnic discrimination in the labor market. Additional barriers include financial constraints impeding self-employment and informal decisions at the individual and family level hindering youths from realizing their life and career aspirations. This comparison of high graduate employability rates and the persistent mismatch between education and labor market needs underscores the critical nature of addressing these structural challenges to bridge the skills gap and ensure meaningful employment for graduates in Malaysia (Abu Rahim et al, 2023).

Unemployment and underemployment pose persistent challenges for graduates in the Philippines, distinguishing it from its Asian counterparts. The root cause lies in the continuous outpacing of the working-age population and labor force size, surpassing the creation of new job opportunities. The intense competition for employment among qualified graduates from higher education institutions (HEIs) worsens the issue, leaving many well-qualified individuals unemployed. Additionally, the plain disparity between industry expectations for graduates' expertise and the actual performance of HEI graduates creates a significant hurdle in the transition from education to employment. The mismatch between taught skills and the evolving demands of the job market further complicates graduates' efforts to secure meaningful employment,

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emphasizing the pressing need for a comprehensive and adaptable approach to align education with the dynamic needs of society (Ebuenga et al, 2023).

The inception of Kapalong College of Agriculture, Sciences and Technology dates back to 2005, marking its distinction as the first local college accredited at Level 1 by the Association of Local Colleges and Universities - Commission on Accreditation (ALCUCOA) in Region XI. With a commitment to continually elevate its educational standards, the institution now aims to enhance its teaching methodologies further. To achieve this, the college has initiated a tracer study for its professional graduates, focusing on their employability and current employment status. This endeavor seeks not only to gauge the success of its graduates but also to garner insights and recommendations for potential enhancements or innovations in the curriculum, ensuring the sustained competence and employability of its professionals in their respective fields.

In light of these considerations, it becomes imperative to undertake a tracer study examining the employment rates and statuses of graduates, particularly their self-assessed attitudes toward work, the quality of education provided by the institution, and the skill and ability development of those who have completed the Bachelor of Science in Business Administration - Major in Marketing Management (BSBA-MM) program. This initiative is driven by the institution's commitment to fulfilling its social responsibilities and values. The primary objective is to inform the development and refinement of curricula, ensuring graduates' employability post-graduation. Through this, the institution aims to fortify its commitment to consistently offering high-quality education.

Research Objectives

This study aimed to identify the employability of the KCAST graduates in the program of Business Administration major in Marketing Management from the academic year 2022 to academic year 2023. Specifically, this study sought to answer the following research objectives:

1. To determine the demographic characteristics of the graduate-respondents in terms of:
   1.1. sex when grouped per academic year;
   1.2. civil status;
   1.3. age;
   1.4. year graduated; and
   1.5. educational attainment and development.
2. To determine the employment profile and features of the graduate-respondents in terms of:
   2.1. employment rate:
   2.2. employment status;
   2.3. level of income;
   2.4. period of seeking the first job after college;
   2.5. relevance of a college degree to the present job; and
   2.6. career alignment.
3. To determine the level of the graduate-respondents' self-rated evaluation with their attitude to work.
4. To determine the level of the graduate-respondents' self-rated evaluation with the quality of education provision of the institution
5. To determine the level of the graduate-respondents' self-rated evaluation with the skills and abilities obtained in the institution and its usability with their present occupation

METHOD

This chapter discusses the research design, research instrument, and the statistical tool used by the researchers in gathering data. This also includes the research locale where the researchers conducted their study.

Research Design

The research employed the descriptive research method, chosen due to the quantitative nature of this tracer study, involving the collection of numerical data that were organized and presented in tabular form. Descriptive studies are inherently characterized by this nature of presenting information in a numerical format. The primary purpose of this method was to offer a comprehensive depiction of the characteristics of the population or phenomenon under investigation. Descriptive research is particularly adept at portraying the attributes of a demographic segment without delving into the causation of a specific phenomenon. In essence, it seeks to delineate the subject of the research without explicating the reasons behind its occurrence (Pamaran & Pamaran, 2013). To elaborate further, descriptive research is a scientific investigation method that concentrates on providing a detailed account of one or more variables without involving any manipulation. Unlike experimental research, which involves deliberate intervention and control of variables, descriptive research maintains an observational and non-intrusive stance, focusing solely on the depiction and analysis of existing characteristics (McCombes, 2020).

In the present study, the descriptive research method was applied to outline and analyze the employment rate and employment status of BSBA-Marketing Management graduates from Kapalong College of Agriculture, Sciences, and Technology (KCAST). The primary objective of this tracer study was to quantify the extent of graduates' employment, particularly on their employment rate, employment status, level of income, period of seeking the first job after college, relevance of college degree to the present job, and career alignment. Further, its other objective was to ascertain their demographic profile, focusing particularly on sex when grouped per academic year, civil status, age, year graduates, and education attainment and development. And lastly, to determine the level of graduates' attitude to work, quality of education provision, and skills and abilities. This approach allows for a thorough examination of the employment outcomes of the graduates, offering insights into both the quantitative aspects of employment rates and the qualitative aspects of employment status and demographic characteristics.

Research Locale

The tracer study took place at Kapalong College of Agriculture Sciences and Technology, a community-based institution located in the Municipality of Kapalong within the province of Davao del Norte. This college holds the distinction of being the inaugural local college in Region XI to attain Level 1 accreditation from the Association of Local Colleges and

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Universities Commission on Accreditation (ALCUCOA). Commencing its operations in 2005, the college provides a range of seven programs to its student body.

Research Respondents

Primarily, the respondents of this tracer study were the graduates of BSBA-MM alumni in KCAST from 2022 to 2023. As shown in the table, in year 2022 there were 153 graduates of which there are 53 males and 100 females, while in 2023, there were 173 graduates of which 81 are males and 92 are females who composed the graduates. The constitutes to a total population of 326 graduates.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION – MAJOR IN MARKETING MANAGEMENT			
Year	**Male**	**Female**	**Total**
2022	53	100	153
2023	81	92	173
TOTAL	134	192	326

The tracer study questionnaire was distributed online to all graduates, however only 143 graduates responded to the survey. Overall, this study was composed of 143 graduate-respondents of which 60 are males and 83 are females, representing the BSBA major in Marketing Management graduates from the past two (2) years.

Research Instrument

The research instrument used in this study was adapted from the study of Escandallo (2024) entitled "A Tracer Study on the Elementary Education Graduates from Academic Year 2015 to 2019: Employment in Focus" with a Cronbach's alpha of 0.955. Thus, it can be ensured that the internal consistency of the questionnaire used is excellent. The said questionnaire had undergone validation by a panel of experts and examiners. This validation aimed to ensure that the questionnaire's constructs and content reliably and effectively measured the intended outcomes of the study. The experts assessed the clarity of directions and items, the organization of items, item suitability, adequacy per category, alignment with the study's purpose, objectivity, and the rating system's scale evaluation. The tracer survey questionnaire aimed to trace the employment records and statuses of the graduates, monitor their educational attainment and development, gauge their attitudes toward their work, evaluate their perceptions of the institution's education quality, and assess the extent to which the institution had enhanced their diverse skills and abilities during their tenure at KCAST.

Data Gathering Procedure

Data collection is characterized as the systematic process of gathering, measuring, and analyzing precise information for research purposes, employing standardized and validated techniques. In most instances, it stands as the foremost and crucial step in research, irrespective of the field of focus (Questionpro, 2020). Therefore, the study diligently undertook the following primary steps to responsibly collect the necessary data.

Identifying the total number of respondents. As the study encompasses the population and sample of BSBA-MM graduates from the institution, the researchers sought the total number of graduates from Academic Year 2022 to Academic Year 2023 directly from the college registrar. This approach was taken to ensure the precision and accuracy of the data, emphasizing the importance of obtaining exact and reliable information for the study.

Questionnaire adaptation. A survey tracer questionnaire adapted from Escandallo (2024), covering aspects such as employment rate, employment status, educational progression, work attitude, quality of education, and skills development for each graduate. The questionnaire aimed to comprehensively capture and analyze these key dimensions to gather insightful and valuable data for the study.

Distribution and retrieval of the questionnaires. Upon finalizing the survey questionnaire, the researcher initiated the process of tracing the graduates to gather information on their employment status and rate, educational attainment and development, attitude towards work, quality of education provision, and skills and abilities development. This tracing process was facilitated through the utilization of Google Forms, providing a convenient and efficient platform for data collection. Using this digital tool allowed for streamlined and organized data gathering, enhancing the overall efficiency of the study.

Collection and Tabulation of the Data. Once each participating graduate had fully completed the questionnaire, the researcher collected the responses and proceeded to tally the data. The collected data were then handed over to the designated school statistician for analysis and interpretation. The statistician played a crucial role in presenting the retrieved data in a tabular format, facilitating an easy and comprehensive understanding of the results. This systematic process of data analysis ensured clarity and accessibility in interpreting the findings of the study.

Statistical Tool

Mean was used for getting the average score in measuring the level of graduates' attitude to work, evaluation of quality education provision and the development of different skills and abilities.

Frequency and ***percentage*** were used to represent most personal information of the graduates' demographic and employment profiles.

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RESULTS AND DISCUSSION

The results and discussion are provided in response to the established objectives of the study.

Demographic Characteristics of Business Administration-Marketing Management

The first objective of this tracer study is to describe the demographic characteristics of the Business Administration-Marketing Management graduates from the academic year 2022 up until the academic year 2023. These demographic characteristics encompass sex, civil status, age, year graduated, and educational attainment and development.

Sex. Presented in Table 1 is the sex distribution of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. In batch 2022, comprised of 64 graduate-respondents, it could be gleaned that 34 or 53.13% are female and the remaining 30 or 46.88% are males. Meanwhile in batch 2023, comprised of 79 graduate-respondents, 49 or 62.03% are females and the remaining 30 or 37.97% are males.

Table 1: Sex Distribution of Marketing Management Graduate-Respondents

Year Graduated	Sex	Frequency	Percent
2022	Female	34	53.13%
	Male	30	46.88%
	Total	**64**	**100%**
2023	Female	49	62.03%
	Male	30	37.97%
	Total	**79**	**100%**

Civil Status. Presented in Table 2 is the civil status of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. As emphasized, 127 or 88.81% of the graduate-respondents are single, 15 or 10.49% are married, and only 1 or 0.70% are separated. This implies that majority of the graduate-respondents are not yet married.

Table 2: Civil Status of Marketing Management Graduate-Respondents

Civil Status	Frequency	Percent
Single	127	88.81%
Married	15	10.49%
Separated	1	0.70%
Total	**143**	**100%**

Age. Presented in Table 3 is the age distribution of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. As reflected on the data below, 75 or 52.45% of the graduate-respondents are aged 22-24, 41 or 28.67% are aged 25-27, 13 or 9.09% are aged 28-30, 8 or 5.59% are aged 31-33, and lastly, 6 or 4.20% are aged 34-36. This implies that majority of the graduate-respondents are 22-24 years of age.

Table 3: Age Distribution of Marketing Management Graduate-Respondents

Age	Frequency	Percent
22-24	75	52.45%
25-27	41	28.67%
28-30	13	9.09%
31-33	8	5.59%
34-36	6	4.20%
Total	**143**	**100%**

Year Graduated. Presented in Table 4 is the year graduated of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. For the year 2022, there are 64 graduate-respondents, comprising 44.76%; while for the year 2023, there are 79 graduate-respondents, comprising 55.24%.

Table 4: Year Graduated of Marketing Management Graduate-Respondents

Year Graduated	Frequency	Percent
2022	64	44.76%
2023	79	55.24%
Total	**143**	**100%**

Educational Attainment and Development. Presented in Table 5 is the data on vocational education of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. It can be interpreted from the data that 124 or 86.71% of the graduate-respondents had not undertaken vocational education; while 19 or 13.29% had obtained training and national certifications from Technical Education and Skills

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Development Authority. Some of which are: Heavy-Equipment Operation NC II, Food and Beverage NC II, Shielded Metal Arc Welding NC II, Electrical Installation and Maintenance NC II, Automotive Servicing NC II, and Computer System Servicing NC II.

Table 5: Vocational Education of Marketing Management Graduate-Respondents

Vocational Education	Frequency	Percent
With	19	13.29%
Without	124	86.71%
Total	**143**	**100%**

Furthermore, presented in Table 6 is the postgraduate studies of the Bachelor of Science in Business Administration major in Marketing Management from the academic year 2021-2022 to academic year 2022-2023. As detailed below, 140 or 97.90% of the graduate-respondents did not acquire any postgraduate degree; while only 3 or 2.10% pursued postgraduate studies. To be specific, these individuals are currently undertaking their Master's Degree in Business Administration at the University of the Immaculate Conception, an institution renowned for producing quality and competitive graduates.

Table 6: Postgraduate Studies of Marketing Management Graduate-Respondents

Postgraduate Studies	Frequency	Percent
With	3	2.10%
Without	140	97.90%
Total	**143**	**100%**

Employment Profile and Features of Business Administration-Marketing Management Graduates

The second objective of this tracer study is to describe the employment profile and features of the Business Administration-Marketing Management graduates from academic year 2022 up until academic year 2023. These employment profile and features encompass employment rate, employment status, level of income, period of seeking the first job after college, relevance of college degree to the present job, and job mismatching.

Employment Rate. Presented in Table 7 is the employment rate of the Bachelor of Business Administration major in Marketing Management graduates from the academic year 2021-2022 to academic year 2022-2023. It could be gleaned from the data that 88.11% of the graduate-respondents are now currently employed while the remaining 11.89% are not working. This implies that majority of the marketing management graduate-respondents already have work.

Table 7. Employment rate of Marketing Management Graduate-Respondents

Employment Rate	Frequency	Percent
Employed	126	88.11%
Unemployed	17	11.89%
Total	**143**	**100%**

Employment Status. Presented in Table 8 is the employment status of the Bachelor of Science in Business Administration major in Marketing graduate-respondents from the academic year 2021-2022 to academic year 2022-2023. It is evident from the data that 55 or 38.46% of the graduate-respondents are working regular; 39 or 27.27% of the marketing management graduate-respondents are working on contractual basis; 15 or 10.49% of the graduate-respondents are working on job order basis; 15 or 10.49% are self-employed and 2 or 1.40% are under probationary. This implies that the majority of the marketing management graduate-respondents are working on regular basis.

Table 8: Employment Status of Marketing Management Graduate-Respondents

Employment Status	Frequency	Percent
Regular	55	38.46%
Contractual	39	27.27%
Job Order	15	10.49%
Probationary	2	1.40%
Self-employed	15	10.49%
Total	**126**	**88.11%**

Level of Income. Presented in Table 9 is the level of income of the Bachelor of Science in Business Administration major in Marketing graduate-respondents from the academic year 2021-2022 to academic year 2022-2023. From the data, it can be seen that 51 or 35.66% of the marketing management graduate-respondents are having a salary range of Php11,000-15,000 monthly; 32 or 22.38% of the graduate-respondents are earning Php6,000-10,000 monthly; 20 or 13.99% of the marketing management graduate-respondents are having a monthly income of Php5,000 below; 13 or 9.09% of the marketing management graduate-respondents are having a monthly salary range of Php16,000-20,000; 7 or 4.90% of marketing

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management graduate-respondents are earning monthly Php21,000-25,000 meanwhile, 3 or 2.10% of the graduate-respondents are earning a monthly salary of Php26,000 and above. In summary, out of 126 or 88.11% graduate-respondents that are employed 35.66% earning monthly Php11,000-15,000.

Table 9: Level of Income of Marketing Management Graduate-Respondents

Income	Frequency	Percent
Below 5,000	20	13.99%
6,000-10,000	32	22.38%
11,000-15,000	51	35.66%
16,000-20,000	13	9.09%
21,000-25,000	7	4.90%
Above 26,000	3	2.10%
Total	**126**	**88.11%**

Period of Seeking the First Job after College. Presented in Table 10 is the period of seeking the first job after college of the Bachelor of Science in Business Administration major in Marketing Management graduate-respondents from the academic year 2021-2022 to academic year 2022-2023. The survey results indicate that 76 or 53.15% of the graduate-respondents found work within 1-3 months after graduation; 29 or 20.28% of the graduate-respondents found work within 4-8 months after graduation; 15 or 10.49% of the graduate-respondents found work a year after graduation. Meanwhile 6 or 4.20% of the graduate-respondents found work within 9-12 months after graduation. This implies that majority of the marketing management graduate-respondents attained employment right after graduation.

Table 10. Period of Seeking the First Job after Collegeof Marketing Management Graduate-Respondents

Period	Frequency	Percent
1-3 months	76	53.15%
4-8 months	29	20.28%
9-12 months	6	4.20%
Above 1 year	15	10.49%
Total	**126**	**88.11%**

Relevance of College Degree to the Present Job. Presented in Table 11 is the relevance of college degree to the present job of the Bachelor of Science in Business Administration major in Marketing Management graduate-respondents from the academic year 2021-2022 to academic year 2022-2023. As revealed in the data below, it could be gleaned that 63 or 44.06% of the graduate-respondents described their college degree as *very much relevant* to their current work; 33 or 23.08% described it as *much relevant;* 19 or 13.29% described it as *neutrally relevant;* 9 or 6.29% described it as *not at all;* and lastly, 2 or 1.40% described it as *a little relevant.* Overall, this shows that majority of the marketing management graduate-respondents found their college degree as highly relevant to their current field of employment.

Table 11. Relevance of College Degree to the Present Job of Marketing Management Graduate-Respondents

Relevance of Degree	Frequency	Percent
Very much	63	44.06%
Much	33	23.08%
Neutral	19	13.29%
A little	2	1.40%
Not at all	9	6.29%
Total	**126**	**88.11%**

Job Mismatching. Presented in Table 11 is the status of job alignment of the Bachelor of Science in Business Administration major in Marketing Management graduate-respondents from the academic year 2021-2022 to academic year 2022-2023. The survey results show that 67 or 46.85% of the graduate-respondents pursued job-related professions; 50 or 34.97% took up non-related professions; and lastly, the remaining 9 or 6.29% attained employment in the academe.

Specifically, under the job-related profession, some graduates work as receptionists, customer service agents, sales/merchandising agents/assistants, marketing specialists, entrepreneurs and business managers/owners, service crew, and staff in marketing and sales departments. Further, in the academe, some of the graduates currently work as instructors and administration staff.

However, under the non-related profession, some graduates work as website editors, content creators, government employees, baggers/checkers, credit investigators, bookkeepers/ record keepers, finance officers, farmers, security guards, drivers, and pump attendants.

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Table 12: Job Alignment Status of Marketing Management Graduate-Respondents

Job Alignment	Frequency	Percent
Academe	9	6.29%
Job-related Profession	67	46.85%
Non-related Profession	50	34.97%
Total	**126**	**88.11%**

Level of Business Administration-Marketing Management Graduate-Respondents Attitude to Work

Table 13 displays the attitude towards work among Business Administration-Marketing Management Graduate-Respondents, with an overall mean score of 4.34, indicating a very high level. This suggests that the graduates consistently exhibit positive attitudes across all aspects of their work, as they strongly agree with all sub-questions.

Table 13: Level of the BSBA Marketing Management Graduates Attitude to Work

Attitude to Work	Mean	Description
1. I am very interested, happy and satisfied with my work and it is very important for me.	4.25	Very High
2. I like the kind of job and work I am doing.	4.27	Very High
3. I accepted assignments and tasks given to me at work without complaints.	4.39	Very High
4. I arrived on time to prepare my work and extend working hours if necessary.	4.41	Very High
5. I can work better and functional under different working environment and situations.	4.33	Very High
6. I participated in all activities and events inside my workplace.	4.36	Very High
7. I have a good relationship with my colleagues and co-employees.	4.34	Very High
8. I submitted necessary documents and papers on time and beat deadlines.	4.31	Very High
9. I performed my task and job with excellence and outstanding quality.	4.33	Very High
10. I seek assistance and help from others whenever I have clarifications and queries.	4.40	Very High
Overall	**4.34**	Very High

Notably, item 4– *I arrived on time to prepare my work and extend working hours if necessary*, received the highest mean score of 4.41, reaffirming their consistent manifestation among marketing management graduate-respondents in their workplace. Conversely, item number 1– *I am very interested, happy and satisfied with my work and it is very important for me*, received the lowest mean score of 4.25, yet still considered very high, indicating consistent manifestation among graduates related to work attitude.

Level of Business Administration-Marketing Management Graduate-Respondents Quality Education Provisions

Table 14 presents the evaluation of quality education provisions among Business Administration-Marketing Management Graduate-Respondents, yielding an overall mean score of 4.41, indicating a very high level. This suggests that the graduates consistently experience high-quality education provisions, as they consistently agree with all identified sub-questions related to this aspect.

Table 14: Level of the BSBA Marketing Management Graduates Quality Education Provision

Quality Education Provision	Mean	Description
1. Availability of course materials and different learning resources needed for our studies.	4.38	Very High
2. Quality of course contents from courses offered as well as the teaching and learning process.	4.45	Very High
3. Conduciveness of the learning environment and atmosphere.	4.36	Very High
4. Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.43	Very High
5. Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.40	Very High
6. Quality of different courses offered in the program that develops the total sum of the student skills.	4.34	Very High

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7. Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.37	Very High
8. Well-trained and self-renewing Faculty members and staffs.	4.41	Very High
9. Different trainings, seminars and workshops that prepare students for employment.	4.50	Very High
10. Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.50	Very High
Overall	**4.41**	Very High

Among these, item number 9– Different trainings, seminars and workshops that prepare students for employment and item number 10- Varied learning assessments and instructions which assess students' progress and learning fairly and equally both received the highest mean score of 4.50, reaffirming its consistent manifestation among marketing management graduates, particularly those who studied at Kapalong College of Agriculture, Sciences and Technology (KCAST). Conversely, item number 6– Quality of different courses offered in the program that develops the total sum of the student skills, received the lowest mean score of 4.34, still considered very high, indicating consistent manifestation among marketing management graduates, particularly those who studied at KCAST.

Level of Business Administration-Marketing Management Graduate-Respondents Skills and Abilities Development

Table 15 illustrates the skills and abilities development among Business Administration-Marketing Management Graduate-Respondents. The overall mean score of 4.38 suggests a notably very high level of skills and abilities development of the marketing management graduates, as they consistently agree with all evaluated aspects.

Table 15: Level of the BSBA Marketing Management GraduatesSkills and Abilities Development

Skills and Abilities Development	Mean	Description
1. Organizational and leadership skill.	4.41	Very High
2. Problem solving and critical thinking skills.	4.42	Very High
3. Ability to work independently as well as team work and team play.	4.52	Very High
4. Creative thinking and creativity, initiative and taking a risk if necessary.	4.46	Very High
5. Time Management and decision-making skills.	4.52	Very High
6. Writing competence and skills including technical writing.	4.24	Very High
7. Communication and interpersonal skills.	4.36	Very High
8. Computer and ICT Skills.	4.11	High
9. Technical and Entrepreneurial Skills	4.38	Very High
10. Ability to work under pressure.	4.33	Very High
11. Ability to prepare any reports essential to my field of expertise	4.32	Very High
12. Ability to follow the legal, ethical, and moral standards of society.	4.44	Very High
13. Knowledge with marketing management skills such as advertising, editing and any forms of skills related to my field.	4.31	Very High
14. Analytical and Investigative skills.	4.35	Very High
15. Trainings, seminars and workshops about the preparation and evaluation of strategic management planning applied in business.	4.50	Very High
Overall	**4.38**	Very High

Specifically, item number 3– Ability to work independently as well as team work and team play., received the highest mean score of 4.52, indicating a very high level of manifestation among marketing management graduate-respondents. Conversely, item number 9– Computer and ICT Skills., received the lowest mean score of 4.11, considered as high, suggesting consistent manifestation among marketing managements graduates, particularly those from KCAST.

DISCUSSION

Below is a summary of the findings derived from the collected data via an online survey administered through Google Forms, along with the conclusions reached and the recommendations provided.

Demographic Profile of Business Administration-Marketing Management Graduate-Respondents

The primary research objective of this study was to identify the demographic profile of Bachelor of Science in Business Administration major in Marketing Management graduates, spanning from batch 2022 to batch 2023.

The study revealed that most of the graduate-respondents were female consisting of 58.04% while the male only composed of 41.96%. In relation, such findings are related to the study of Gustafson (2018) who quoted Yamauchi and Marites Tiongco of De La Salle University in the Philippines that girls tend to receive more schooling than boys. Also, most of the graduates mark themselves as single.

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On the other hand, most of the graduate-respondents age as of now are ranging from 22 – 24 years old. The results show that the majority of the graduates were in their early adulthood, which is the typical age range for students completing their college education Cuadra et al. (2019). Additionally, it can be gleaned from the results that there were 64 graduate respondents in 2022, while in 2023, there were 79 graduate respondents. This indicates that there is a significant increase in produced graduates from the pioneering batch of marketing management students and the following year. Furthermore, this study reveals the educational achievements of graduates in marketing management. It shows that 13.29% of the graduate respondents hold vocational qualifications, and 2.20% have pursued further studies, taking up Master's Degrees in Business Administration. This indicates that the graduate respondents have acquired a diverse set of skills and knowledge, allowing them to be more competitive compared to graduates from other schools. Additionally, advancing their educational attainment gives these graduates increased chances of employment. In some industries or fields, younger, well-educated workers are highly sought after. With this, they may receive more job offers or opportunities (Fehrmann, 2019).

Employment Profile and Features of Business Administration-Marketing Management Graduate-Respondents

Based on the result of the survey of this tracer study, 88.11% of the graduate-respondents in Business Administration-Marketing Management are already employed and the majority of them are working in the marketing and sales department. This indicates the effectiveness of the program particularly in helping the graduates to land a job after graduation. The number of employed graduates is in consonance to the study of Baking and Colleagues (2015) were their study results revealed that the majority of their graduates were employed.

On the other hand, most of the graduates who are employed are working under regular status Similarly, a tracer study of the Lyceum of the Philippines presented almost the same percentage of employed respondents with regular or permanent status (Macatangay, 2013). In addition, most of the graduate-respondents of Business Administration major in Marketing Management are now earning a monthly salary ranging from Php11,000-15,000. Amazingly, these graduate-respondents are employed or found a job within 1-3 months after graduation. Indicates willingness and the demand of human resources.

Moreover, the study shows that most of the graduate-respondents find their degree relevant particularly in landing their individual job. Further, it is revealed in the study that 6.29% are working in academe, 34.97% are working in non-related positions and 46.85% are working in related position to their degree. This highlights that most of the graduates are able to use the knowledge and skills they have gained since they are currently connected in the marketing field. This finding suggests that the majority of graduates believe their degree programs equipped them with the essential knowledge and skills needed for their respective careers Cuadra et al., (2019).

Level of Business Administration-Marketing Management Graduate-Respondents Attitude Toward Work

The work attitudes of Bachelor of Science in Business Administration graduates, majoring in Marketing Management, were described as very high. This assessment means that the graduates' attitudes toward work are consistently positive, as indicated by their strong agreement with all the sub-questions related to work attitudes. This implies that these graduates demonstrate great respect for their work in their respective workplaces and strive to uphold their reputations by avoiding actions that could tarnish their names.

Relating to the findings, the college serves as a transformative environment where young, inexperienced students evolve into highly sought-after graduates and potential employees. Universities align with societal needs by equipping students with essential skills upon graduation. These include communication, human relations, critical thinking, problem-solving, information technology, and marketing skills. Possessing such skills is crucial for graduates as they transition into the workforce, where a strong work ethic and positive attitude are invaluable (Hansen and Hansen, 2019).

Furthermore, Pentang et al. (2022) discovered in their study that have shown a high level of proficiency and capability, excelling in both professional and academic settings. The institution has deliberately prepared them for the workforce, emphasizing their work ethic and personal attributes over traditional benchmarks. Their readiness for the employability world and their outstanding professional conduct serves as concrete proof of their successful adaptation to their respective positions (Pentang et al., 2022).

Level of Business Administration-Marketing Management Graduate-Respondents Quality Education Provisions

The level of quality education provision for Bachelor of Science in Business Administration graduates was described as very high. This descriptive meaning and equivalent entail that the level of the marketing management graduate-respondents' quality education provision is consistently manifested, as the respondents always agree to all of the identified sub-questions under quality education provision.

Consequently, the findings from Asoy et al. (2024) highlight the effectiveness of the educational strategies employed by the institution. The very good rating attributed to the institution's quality education provisions suggests a robust educational framework that significantly benefits the students. This framework likely includes a comprehensive approach that integrates practical training sessions and seminars, which are essential for applying theoretical knowledge in real-world scenarios. Additionally, the availability of ample resources supports an enriched learning environment that caters to the diverse needs of the students.

Additionally, another study by Harrison et al. (2022) emphasized that high-quality teaching is crucial within the higher education sector. The pursuit of excellence in teaching has intensified due to increased competition among institutions and the expanding opportunities for global study through

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various modes. This trend underscores the need for educational institutions to continually enhance their teaching methodologies and faculty capabilities to maintain relevance and attractiveness to a diverse student body.

Level of Business Administration-Marketing Management Graduate-Respondents Skills and Abilities Development

The level of skills and abilities development in Bachelor of Science in Business Administration graduates majoring in Marketing Management was described as very high. This illustrative significance and equivalent demand show that the degree of skills and abilities development is consistently demonstrated. This implies that the institution from which the graduates came has successfully equipped them with sufficient knowledge, skills, and relevant learning that they are now applying in their workplaces.

In consonance, the degree programs that students pursue help improve their skills and their employment status. These are manifested by the high percentage of respondents whose degrees are highly related and relevant to their current jobs; that several skills they learned are found useful in the performance of their jobs, and that they are having regular and/or permanent items. The respondents are generally satisfied with the delivery of the undergraduate degree programs of the university; likewise, they give high average ratings on the curricular offering (Cuadra et. al., 2019).

Andari (2021) noted that graduates reported their academic knowledge, skills, and competencies as significantly contributing to their job performance. By integrating advanced knowledge and skills that are continually refined, business programs can provide a graduate profile tailored to meet the demands of the workforce. The effectiveness of these programs is evident in the graduates' ability to fulfill the expected learning outcomes within their respective fields of work.

Summary of Findings

Following the successful completion of a survey that received responses from all graduates of the Bachelor of Science in Business Administration major in Marketing Management program at Kapalong College of Agriculture, Sciences, and Technology during the academic years 2022 to 2023, the following key findings emerged:

The institution produced a total of 326 graduates; however, only 143 graduate-respondents answered the survey, who then became the focus of this study. These 143 graduate-respondents consisted of 83 females and 60 males. Regarding civil status, 88.81% of the graduates are single, while 10.49% are married, and 0.70% are separated. In terms of age distribution, 52.45% fall within the 22-24 age bracket, 28.67% are aged 25-27, 9.09% are aged 28-30, 5.59% are aged 31-33, and 4.20% are aged 34-36. The first batch, in 2022, consisted of 64 graduates, while the second batch, in 2023, produced 79 graduates. Only 19 graduates obtained vocational courses and national certifications, with 3 pursuing post-graduate studies.

In terms of employment, 88.11% of the graduate-respondents are employed, with 11.59% unemployed. Of those employed, 38.46% work regularly, and 27.27% are on contractual terms, while 10.49% are in job order or self-employed positions, and 1.40% are under probationary status. Additionally, 35.66% of the graduates earn a monthly income ranging from Php 11,000 to Php 15,000, with 53.15% securing employment within 0-3 months. Nearly half (44.06%) agreed that their college degree is highly relevant to their current work. However, 34.97% of the graduates are employed in roles not related to their field of study.

The survey revealed a very high level of work attitude among the marketing management graduate-respondents and indicated that the institution provides a very high quality of education. Additionally, the level of skills and abilities development among the graduates was assessed as exceptionally high.

Conclusion

After conducting the survey, it was determined that the employment rate of marketing management graduate-respondents from batches 2022 to 2023 is 88.11%, indicating that almost all of the graduate-respondents are sufficiently skilled to seek and obtain employment in the marketing field; additionally, the majority are already employed into regular positions within 1-3 months from graduation. From this, it can be inferred that the marketing management graduate-respondents are highly employable and possess the necessary skills to secure jobs in the marketing field. The fact that the majority of them have obtained regular positions within a relatively short period after graduation suggests that they are in demand and valued by employers. This high employment rate and quick transition into regular positions reflect positively on the quality of education and training they received in their marketing management program.

Moreover, the survey indicated that the college degree of marketing graduate students aligns closely with their job requirements, implying that the institution delivers high-quality education tailored to their field. Furthermore, respondents strongly agreed on the graduates' diligent work ethic, indicating their proficiency in task execution, while the institution's education offerings received high ratings, suggesting access to diverse training, seminars, resources, and skilled faculty. Finally, the assessment of graduates' skills and abilities revealed a high level of development, showcasing the institution's effectiveness in nurturing a broad spectrum of competencies among its marketing students.

Recommendation

Based on the summary of findings and conclusions drawn from the study, the following recommendations are made: First, given that a percentage of the graduates are unemployed, it is advised that the school establish a graduate and employability coordinator role. This position would track and monitor graduates' employment status and could also facilitate online forums to inform graduates about various job vacancies and opportunities available for application.

Secondly, it is noted that the graduate-respondents' interest and satisfaction with their work got the lowest mean in the survey. Thus, it is recommended that the institution may offer comprehensive career counseling services to identify strengths

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and aspirations, provide professional skills development workshops, fostering alumni support networks for guidance, collaborate with industry partners to keep the curriculum relevant, emphasize personal values alignment with career choices, and soliciting continuous feedback for improvement. Through these efforts, the institution can empower graduates to make informed career decisions, pursue fulfilling opportunities, and ultimately find satisfaction and happiness in their professional lives.

Thirdly, it can be seen that the graduate-respondents' overall enhancement with their skill set got the lowest mean. With this, it is recommended that the program may offer a diverse array of courses that comprehensively develop students' skills across multiple dimensions. It is recommended that each course includes measurable learning outcomes and integrates practical applications to ensure students acquire and can apply critical competencies effectively in real-world scenarios, thus enhancing both their personal growth and professional readiness.

Lastly, it is shown the graduate-respondents' ICT skills also got the lowest mean. Therefore, to improve the practical application of computer and ICT skills in marketing courses, it is essential to integrate foundational training on widely used software applications. Specifically, including modules on Microsoft Word, PowerPoint, and Excel will enable students to master data organization, presentation creation, and document formatting—skills crucial for effective communication in the marketing field. Additionally, incorporating basic training in graphic design tools for editing and layout will equip students with the ability to produce visually appealing marketing materials. This well-rounded approach will not only enhance students' technical proficiency but also their ability to efficiently manage and present marketing data and campaigns in a professional context.

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MANUAL THERAPY TECHNIQUES FOR THE ACROMIOCLAVICULAR JOINT DYSFUNCTION – A NARRATIVE REVIEW

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ABSTRACT

INTRO/BACK GROUND

Ac joint dysfunction is a prevalent cause of shoulder discomfort. As far as we're aware, there are currently no published studies focused on the manual therapy management of AC joint dysfunction. However, manual physical therapy has proven successful in treating various other shoulder conditions. To address this, recent research has started to investigate whether manual techniques are more effective in treating ac joint dysfunction.

OBJECTIVE

Aim of this study on the literature review pointing on the available evidence for the manual therapy interventions in acromioclavicular joint dysfunction patients.

METHODS

Research involved a computerized data base used for searching articles were Science direct, Pedro, PubMed, goggle scholar search pertaining to studies that include the manual therapy among acromioclavicular joint dysfunction Patients'

***RESULTS**:*

These 10 studies were based on the inclusion exclusion criteria were included in this review the methods used in all these studies were strengthening exercises , transverse friction massage, joint mobilization, myofascial release techniques, active passive motion exercises, scapulothoracic exercises, peri joint muscle exercises, joint stability exercises with different sets of exercises for muscle activation and range of motion and function these manual therapy techniques aims to alleviate inflammation recover the shoulder pain free rom and restore the proper function of soft tissue and joint.

CONCLUSION:

We conclude from this review that a variety of manual treatment procedures have been shown to be useful and effective in treating patients with AC joint dysfunction. There is, however, a dearth of data on the use of manual therapy procedures or interventions to treat ac joint dysfunction. More investigation is required to determine the precise role that manual therapy strategies may play in managing ac joint dysfunction.

KEY WORDS: *ac joint dysfunction, manual therapy, interventions, shoulder dysfunction*

INTRODUCTION

The acromioclavicular (AC) joint connects the lateral end of the clavicle with the anteriorly projecting acromion of the scapula. This joint is essential for providing stability and facilitating movement within the shoulder complex [(1)] The acromioclavicular (AC) joint is a type of synovial joint characterized by the lateral clavicle connecting with the acromion process, which extends forward from the scapula. Functioning as a plane joint, its typical function involves facilitating gliding movements. [(2)] In its normal state, it contributes to mobility of the scapula, aiding in actions like shoulder abduction and flexion. Additionally, it plays a crucial role in transmitting forces from the upper arm to the skeletal structure. [(3)]

The AC joint is encased by a capsule and features a synovial membrane. Positioned between the bony structures is an intra-articular cartilaginous disk, with fibrocartilage covering the articulating surfaces instead of hyaline cartilage. Three primary

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ligaments play crucial roles in stabilizing the joint. The acromioclavicular ligament (AC) consists of superior, inferior, anterior, and posterior components, with the superior and posterior ligaments being particularly robust, providing horizontal stability. [4] The coracoclavicular ligaments (CC) complex, comprising the conoid and trapezoid ligaments, inserts onto the undersurface of the distal clavicle, contributing to vertical stability. Moreover, the coracoacromial ligament, a sturdy triangular band connecting the coracoid process to the acromion, also aids in vertical stability. [5][6]

Acromioclavicular (AC) joint injuries are frequently encountered among athletes and young people, constituting over forty percent of shoulder injuries. While minor injuries typically don't result in significant health issues, severe cases can lead to notable decreases in shoulder strength and function. [7] Most AC joint injuries occur in young males, typically from a direct fall onto the superior aspect of the shoulder when the arm is adducted [8] Symptoms like Swelling and bruising (ecchymoses) can develop around the distal end of the clavicle due to downward displacement of the shoulder girdle. Tenderness is commonly experienced upon touching the AC joint, and discomfort frequently restricts the mobility of the shoulder [9] The approximate incidence rate stood at 1.8 cases per 10,000 individuals per year, with males disproportionately affected compared to females, with a ratio of 8.5 to 1. Around 50.5% of all dislocations were reported in individuals aged 20 to 39 years. Sports-related injuries constituted the most prevalent traumatic mechanism, with Rockwood type III dislocation being the most common type observed. [10]

This injury is frequently seen in contact athletes who sustain a fall directly onto the superolateral shoulder, causing the acromion to move inferomedial relative to the distal clavicle. With increasing impact severity, there is a progressive injury pattern affecting stabilizing structures, starting with the AC ligaments, then the CC ligaments, and potentially involving the deltotrapezial fascia in more severe cases. The most common cause of AC injuries is direct trauma, but there are several indirect mechanisms as well. For example, falling onto an outstretched arm that has been abducted can cause the shoulder blade to be forced into the inferior region of the acromion and the AC joint. [11] Manual therapy, a longstanding practice employed for centuries to alleviate pain and enhance functionality, has seen a rise in the utilization of joint mobilization. This increase stems from compelling evidence demonstrating its efficacy in diminishing pain and addressing limitations in joint range-of-motion. [12] The treatment of pain, restricted motion, and posture issues frequently involves manual therapy, which encompasses a range of techniques such as soft tissue manipulation, massage, manual traction, joint manipulation, and joint mobilization. Joint mobilization consists of gentle, slow movements within or at the edge of the joint's range of motion, while joint manipulation involves a swift, forceful thrust to temporarily surpass the restricted range. Recent trends in physical therapy education and ongoing professional development have highlighted the importance of joint mobilization techniques, leading to increased emphasis on these methods in both academic and practical settings. [13]

METHODOLOGY

STUDY DESIGN

SEARCH METHODS AND ELIGIBILITY CRITERIA

The databases utilized to look up content were science direct, Pedro, PubMed, google scholar search. The articles collected full test and screened properly. The key words used to search the relevant articles are Acromioclavicular joint dysfunction, manual therapy, interventions, shoulder dysfunctions, management of ac joint. Citation and reference of relevant articles were checked to find out availability of more articles. Every possible pertinent article was acquired along with a title, abstract, full text literature availability with proper screening of all the literature inclusion criteria.

SAMPLE SIZE

A sample size of 30 articles was searched with the keywords of Acromioclavicular joint dysfunction, manual therapy, management of ac joint, shoulder dysfunction. Out of these articles, papers obeying the inclusion and exclusion criteria were filtered and finally, 10 articles were obtained for the review.

INCLUSION CRITERIA

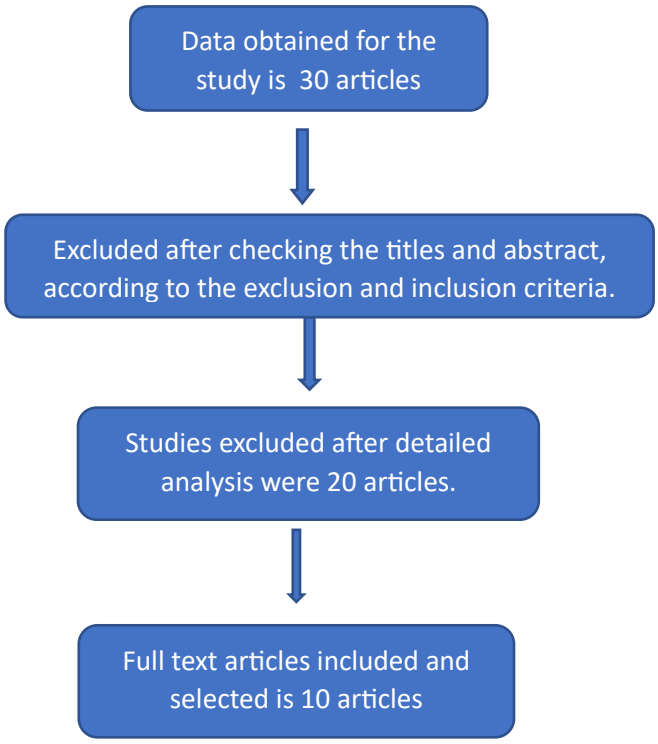
- Articles explaining ac joint dysfunction manual therapy were included
- Recent publications of articles
- Full – text articles.
- Articles written in English
- Articles from year 2010- 2024 were included.

EXCLUSION CRITERIA

- Articles of past 2010
- Articles explaining other than manual therapy were excluded.
- Article discussed other than shoulder dysfunction were excluded.
- Articles not containing relevant discussion were excluded

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FLOW CHART



RESULTS

Out of 30 articles, only 10 articles were retrieved which fulfilled the eligibility criteria using above mentioned selection strategy. Numerous articles were eliminated due to their duplicate content, inability to fulfill the requirements for inclusion or exclusion. Findings of these 10 articles are summarized below.

S.NO	AUTHOR YEAR	TITLE	STUDY METHOD	STUDY DESIGN	CONCLUSION
1.	Thierry Marc PT et al 2024	Effectiveness of a joint mobilizations protocol for shoulder subacromial pain syndrome: A pilot study	45 patients with SPS were divided into two groups randomly. One group received specialized mobilizations Both groups underwent the same second session with all mobilizations. Their functional activities before and after the initial two sessions using the Constant score and Quick Dash. After 11 sessions, ROM through passive and active-assisted mobilizations, stretching, and muscle strengthening	A pilot study	In this study manual therapy technique demonstrated the ability to enhance shoulder mobility in a single session. Specifically, additional joint mobilizations, such as spin correction, notably improved Glenohumeral (GH) abduction and external rotation
2.	Fatemeh Ehtesham et al 2023	Comparing the Effects of Tele-Physical therapy and Supervised Physical	prospective, assessor-blind, randomized controlled clinical trial focusing on 33 patients diagnosed with SAPS three		In this study they address the effects of tele physical therapy and supervised physical therapy

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		Therapy on Pain, Range of Motion, Function, and Satisfaction in Patients with Sub Acromial Pain Syndrome: A Protocol of randomized trail	groups, each consisting of 11 individuals: a Control group receiving supervised (ET)+(MT), three groups will undergo 10 sessions of ET and MT spanning three weeks. Assessments will be conducted at VAS and SPADI	A Randomized Clinical trail	on pain range of motion function and satisfaction of individual
3.	Jordan et al 2022	A quantitative placebo-controlled study of the efficacy of manipulation of acromioclavicular joint dysfunction in weight trainers	20 patients randomly splint into 2 groups each group under went 4 treatments over 2 weeks and was assessed. Objective measures include algometer and inclinometer, Subjective results were assessed with SPADI and NRS.	A quantitative placebo-controlled study	This study stated that manipulation shows promise as an effective treatment for AC joint dysfunction when contrasted with a placebo, particularly in terms of objective outcomes. However, because of several limitations, including small sample sizes, it is imperative to approach the interpretation of these data cautiously.
4.	Anna ELIASON et al 2022	GUIDED EXERCISES WITH OR WITHOUT JOINT MOBILIZATION OR NO TREATMENT IN PATIENTS WITH SUBACROMIAL PAIN SYNDROME: A CLINICAL TRIAL	There was a controlled experiment with three arms.120 patients clinically diagnosed with shoulder dysfunction were randomized into guided exercise groups with and without additional joint mobilization, as well as a control group that received no treatment. assessed, 6 weeks, 12 weeks, and 6 months. outcome measured was the Constant-Murley score, secondary outcomes included pain levels and active range of motion.	A clinical trail	In this study Additionally, in the near future the integration of joint mobilization reduces pain and presents a potential alternative to NSAIDs or other pain-relieving medications at the beginning of the treatment course
5.	KEVIN D. HARRIS et al 2017	Manual Physical Therapy for Injection-Confirmed Nonacute Acromioclavicular Joint Pain	50% pain relief from an ACJ treatment involved manual physical therapy addressing shoulder girdle and cervicothoracic spine impairments. outcome measure was the SPADI, with American Shoulder and Elbow Surgeon scale and global rating of change scales. for 4 weeks, and 6 months, and analyzed using repeated-measures analysis of variance for the SPADI	Prospective single cohort study	In this study statistically significant and clinically There was an improvement in every outcome that was measured. after a short series of manual therapy interventions at both the 4-week and 6-month marks. While these findings suggest the effectiveness of this treatment approach within a small patient sample, further validation is necessary through a randomized controlled trial

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6.	Ming Zhang, et al 2015	Clinical Effectiveness of Scapulothoracic Joint Control Training Exercises on Shoulder Joint Dysfunction	Forty patients with joint dysfunction and shoulder pain were randomized to either the treatment or control group. Patients in the treatment group completed scapulothoracic joint control training activities, which included active and passive motions, peri-joint muscle workouts, and joint stability exercises, for one month. Interventions included glenohumeral joint mobilization techniques and ultrasound therapy. The Constant-Murley scale was used to evaluate the progress of the patients.	Observational study	This study states that participates received one month of treatment with scapulothoracic joint control exercises, active passive motion of the scapulothoracic joint, peri-joint muscle exercises, and joint stability exercises. The improvement in range of motion and function both before and after the treatment is statistically significant.
7.	Aimie L. Peek et al 2015	Thoracic manual therapy in the management of non-specific shoulder pain: a systematic review	Prisma guidelines From 1990 to 2014, Interventions encompassed cervicothoracic junction and thoracic manipulative therapy (TMT) with or without supplementary exercises. Data extraction was performed independently by each reviewer using a standardized form.	Systemic review	This study stated that Thoracic manual therapy demonstrated accelerated recovery, decreased pain, and reduced disability compared to usual care for non-specific shoulder pain, with benefits lasting up to 52 weeks.
8.	Lennard Voogt et al 2015	Analgesic effects of manual therapy in patients with musculoskeletal pain: A systematic review	A thorough analysis was carried out in accordance with PRISMA guidelines. Manual therapy was characterized as any manual manipulation of joints aimed at eliciting analgesic effects. Pain threshold served as the primary outcome measure.	A systemic Review	In this study Based on moderate evidence, it appears that manual therapy results in a reduction of local pressure pain thresholds among individuals experiencing musculoskeletal pain immediately after the treatment. However, there were no notable changes observed in thermal pain threshold values
9.	TRACY J. BRUDVIG, et al 2011	The Effect of Therapeutic Exercise and Mobilization on Patients with Shoulder Dysfunction: A Systematic Review with Meta-analysis	six databases for randomized controlled studies looking into the efficacy of therapeutic exercise and joint mobilization in adults with confirmed shoulder dysfunction, manifested by pain, restricted range of motion (ROM), impaired function. Effect sizes were assessed using standardized mean difference and 95% confidence intervals (CI) for every parameter, those were then	A systematic review with meta-analysis	According to study meta-analysis, we cannot conclude that the combination of therapeutic exercise and joint mobilization is superior to therapeutic exercise alone for pain reduction, increase in ROM and function, and decrease in disability in patients with shoulder dysfunction and vice versa. However, we are unable to entirely rule out that one. treatment is more

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			synthesized to derive weighted standardized mean differences (WSMDs) and 95% CIs.		beneficial than the other. Additional high-quality evidence is needed .
10.	Lee N. Marinko PT, ScD et al 2011	The effectiveness of therapeutic exercise for painful shoulder conditions: a meta-analysis	A thorough search was conducted using Medline via Ovid, CINAHL, and the Cochrane Central Register of Controlled Trials. from 1997 to March 2011. The objective was to identify randomized controlled trials comparing physical therapist-prescribed exercises with primary outcomes related to range of motion (ROM), pain, and function. Individual effect sizes were computed using a standard formula, and the overall effect was assessed using random- and fixed-effects models.	A Meta-analysis	In this study Therapeutic exercise has shown effectiveness in treating painful shoulder conditions, but additional research is needed to ensure its seamless integration into clinical practice.

DISSCUSION

Manual therapy aims to alleviate inflammation recover the shoulders pain free range of motion and restore the proper function of soft tissue and joints Thierry Marc PT 2024 stated in their study Effectiveness of a joint mobilizations protocol for shoulder subacromial pain syndrome: A pilot study 45 patients diagnosed with Shoulder Pain Syndrome (SPS) were randomly assigned to two groups: an experimental group and a control group. Both groups underwent a rehabilitation program called the Shoulder Global Concept. However, a difference in the initial session between the experimental and control groups. The experimental group received all specific mobilizations, including spin correction mobilizations, while the control group received the same program but without the spin correction mobilizations. The second session was identical for both groups, involving all specific mobilizations Before and after the first two sessions, range of motion (ROM) in flexion, abduction, external and internal rotations, pain levels, and functional status were evaluated using the Constant score and Quick Dash. All ROM were improved after the first session for both groups, but significantly more in the experimental group for glenohumeral (GH) abduction and external rotation ($p < 0.05$). Functional scores, pain and strength were significantly improved after 11 rehabilitation sessions. Fatemesh et al 2023 stated in his study Comparing the Effects of Tele-Physical therapy and Supervised Physical Therapy on Pain, Range of Motion, Function, and Satisfaction in Patients with Sub Acromial Pain Syndrome: A Protocol of Randomized Clinical Trial he study will include 33 patients with SAPS, divided into three groups: Control group receiving supervised Exercise Therapy (ET) + Manual Therapy (MT), Videoconferencing group receiving ET + self-release therapy, and Video-based group receiving ET + self-release therapy. Self-release therapies involve self-joint mobilization and self-myofascial release using a tennis ball, while MT includes joint mobilization techniques and transverse friction massages. ET comprises stretching and strengthening exercises. Each group will undergo 10 sessions of therapy over three weeks. Assessments will be conducted at baseline, midterm, and post-treatment, using measures such as the VAS for pain, the SPADI for function, and flexibility evaluation. Patient satisfaction will also be assessed using the Telehealth Satisfaction Scale and Physical Therapy Patient Satisfaction Questionnaire. Data analysis will involve repeated measures ANOVA to compare outcomes among the groups over time. The experiment's goal is to contrast the efficacy of tele-physical therapy utilizing self-release techniques and exercises via videoconferencing against traditional face-to-face therapy with supervise exercises and manual therapy. The focus is on pain reduction, functional improvement, Range of Motion enhancement, and patient satisfaction.

Jardon et al stated that A quantitative, placebo-controlled investigation of the effectiveness of acromioclavicular joint dysfunction in weight trainers twenty weight trainers were randomly assigned to two groups. Each group received four treatments over two weeks Patients were evaluated at initial, one week, two weeks, and one-month follow-ups. Algometer and Inclinometer readings were used. Numerical Pain Rating Scales (NRS), Shoulder Rating Questionnaire (SRQ), and (SPADI) were employed. Manipulation appears effective in treating malfunction of the AC joint, particularly with respect to the goals. Ming zangh et al In 2015, he reported that among 40 patients with traumatic shoulder discomfort, scapulothoracic joint control training activities were beneficial in treating shoulder joint dysfunction. These patients were split into two groups at random: the therapy group and the control group. Standard rehabilitation procedures, including glenohumeral joint mobilization, ultrasound therapy, interfering current therapy, and traditional Chinese medicine, were administered to both groups. The treatment group also received these conventional treatments plus one month of

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scapulothoracic joint control training activities. These workouts included peri-joint muscle activities, joint stability-enhancing exercises, and both passive and dynamic scapulothoracic joint motions. The Constant-Murley scales were used to evaluate the patients' conditions both before and after the therapies. The results showed that after the recommended therapies, there were notable improvements in a number of areas, including pain levels, everyday activities, range of mobility, and overall ratings. Additionally, patients in the treatment group showed statistically significant improvements in pain management, daily activities, breadth of activities, and overall scores ($P < 0.05$) in comparison to the control group. Regarding the results of the strength tests, there was, however, no discernible difference between the two groups.

LIMITATION

- Limited articles on manual treatment for ac joint dysfunction
- Non-availability of articles in other search engines
- Difficult to find full text articles in above mention search engines

STRENGTH

This review has shown more scope of research to analyze manual therapy procedures for ac joint dysfunction.

CONCLUSION

We conclude from this review that a variety of manual treatment modalities have been shown to be useful and effective in treating patients with AC joint dysfunction. Further research and study are required to determine how manual therapy techniques can help manage ac joint dysfunction, as there has been little research on the use of these techniques or interventions for treating ac joint dysfunction.

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RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER SATISFACTION WITH SPECIAL REFERENCE TO ORGANIZED RETAIL STORES IN BHOPAL CITY

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ABSTRACT

The purpose of the present research paper is to explore the relationship between service quality and customer satisfaction of organized retail stores in Bhopal city. In order to explore the relationship between service quality and customer satisfaction few parameters of service such as service product, service delivery and service environment has been discussed. The study is based on primary data and sample has been collected by using convenient sample method among the 167 respondent. The findings of the study clearly indicate that service quality organized retail stores is positively related with customer satisfaction with respect to service product, service delivery and service environment.

INTRODUCTION

In the present situation service quality has become one of the significant issues for each and every organization. However, it is important for both customers as well as organizations. Service quality played a significant role because it is directly related with satisfaction level of the customers. Most of the research study has been suggested that quality of service is only decided the satisfaction level of the customer. Service quality in customer satisfaction both are the most important indicator to make strong association between customers and organizations. Now a day's organized retail stores has become the most important place to fulfil customers requirement under the one roof.Therefore, quality of service for the organised retail stores always taken most important process in order to attract customers for increasing sales.Customer on the other hand want best value of their money and not very much interested to spare efforts in searching of high quality. The present research is based on the relationship between service quality and customer satisfaction towards organized retail stores in Bhopal city. In order to explore the relationship between the service quality and customer satisfaction three important parameters of service has been discussed such as service product, service environment and service delivery.

LITERATURE REVIEW

Kim Leng Khoo (2020), has been conducted a research study to explore the relationship between service quality, corporate image, customer satisfaction and word of mouth. The purpose of the paper is to understand impact of service quality on corporate image and customer satisfaction. The study was based on primary data which has been collected among the 253 respondent by using survey questionnaire method. The findings of the study explore that service quality has a significant impact on corporate image and customer satisfaction. On the other hand study conclude that corporate have no significant impact on revisit intension but has a significant impact on word of mouth. Furthermore study point-out that customer satisfaction a positively and significantly related with word-of-mouth and corporate image.

Ngo Vu Minh at., (2016), has been conducted a research study on The Relationship between Service Quality, Customer Satisfaction and Customer Loyalty in retail industry. The purpose of the study is to develop empirical interrelationship between service quality, customer satisfaction and customer loyalty. The study was based on primary data which has been collected among the 261 respondents by using survey analysis, the data analysis and hypothesis testing done with the help of factor analysis. The findings of the study indicated that service quality and customer satisfaction is significantly and positively related with each others, however customer loyalty have a mediate effect on the relationship between service quality and customer satisfaction. On the other hand study also indicated that there are non-linear relationships between all three construct of the study.

Anthony SumnayaKumasey (2014), has been conducted a research study to explore the relationship between service quality and customer satisfaction among the selected public sector organization. The study was based on primary data which has been collected by using questionnaire methods. Total 304 participants have been taken as sample, data analysis and hypothesis testing taken place by using correlation analysis. Findings of the study indicated that there is a significant and positive relationship between service quality and customer satisfaction.

Areej Fatma et al (2024), has been conducted a research study on Exploring the Correlation between Service Quality and Customer Satisfaction in the Hospitality Industry. The purpose of the study is to explore relationship between service quality and customer satisfaction among the hospital industry. The purpose of the study is to examine various factors whose impact the customer satisfaction and service quality. The study was based on primary data which has been collected among the customers of hospital industry. The study has been reveals that customer satisfaction played a significant role among the service quality and customer loyalty. The findings of the study

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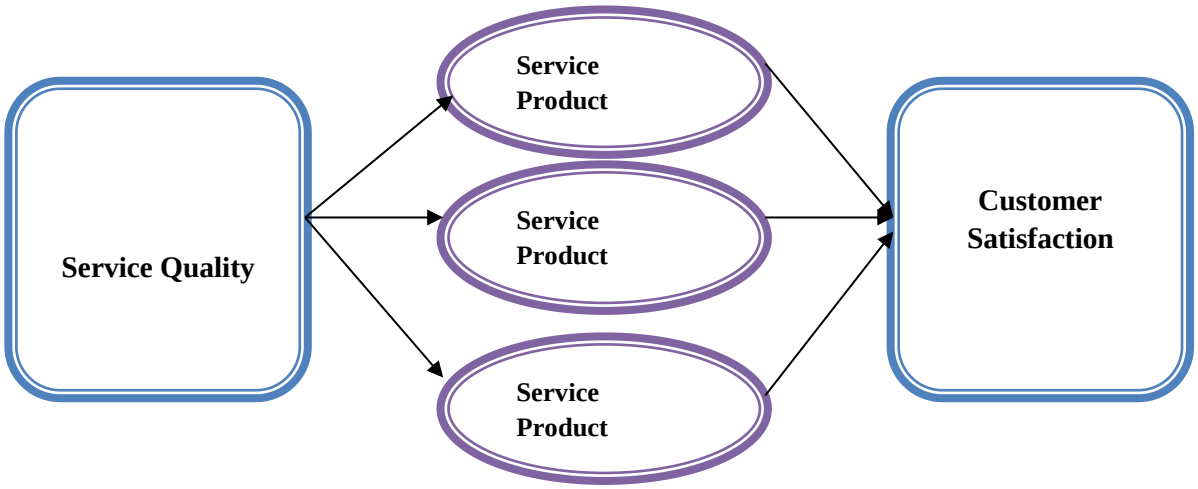
indicated that the five dimensions of service quality have verifying the impact of customer satisfaction.

OBJECTIVES OF THE STUDY

The various objectives of the study are as under

1. The explore the relationship between service quality and customer satisfaction towards service product
2. The explore the relationship between service quality and customer satisfaction towards service delivery
3. The explore the relationship between service quality and customer satisfaction towards service environment

RESEARCH FRAMEWORK



FORMULATIONS OF HYPOTHESIS

The various hypothesis of the study are as under

H_{01} : There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service product

H_{a1} : There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service product

H_{02}: There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service delivery

H_{a2}: There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service delivery

H_{03}: There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service environment

H_{a3}: There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service environment

RESEARCH METHODOLOGY

A descriptive method of research has been used to explore the relationship between service quality and customer satisfaction of organized retail stores. Data for present study has been obtained with the help of questionnaire methods among the customers of organized retails stores. Sample size and design, sample methods also has been discussed in the sections.

SAMPLE SIZE AND DESIGN

Sample for present study has been taken among the customers of selected retails stores in Bhopal city. Sample was taken by suing questionnaire methods with multiple choices. Convenient methods have been used to collect the sample among the entire populations. In order to maintain the accuracy in data the sample collected from different locations of the retail stores in Bhopal city. The final questionnaire has been distributed among the 200 peoples and 167 respondents have been positively replied.

SAMPLE METHOD AND AREA

Convenient method of sampling has been used to collect the sample among the entire populations and sample area for the study was limited up to different locations of organized retail stores in Bhopal city.

MEASUREMENT AND DATA ANALYSIS TOOLS

5 point Likert scale has been used for scaling of data and one way ANOVA analysis has been applied to test the hypothesis in order to explore the relationship between service quality of organized retail stores and customer satisfaction.

DATA ANALYSIS

Testing of first hypothesis

H_{01}: There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service product

H_{a1}: There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service product

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Table 1: ANOVA
(Relationship between service products of organized retail stores and customer satisfaction**)**

Hypothesis	Relationship statement	Sum of square	df	Mean Square	F	Sig.
H_{01}	Relationship between service product of organized retail storesand customer satisfaction	**8.121**	**5**	**4.639**	**9.714**	**0.027**
H_{a1}				**0.512**		
Dependent variable: Customer satisfaction						
(Predictors) Level of customer satisfaction on Service Product						

The above table explore the relationship between service quality of organized retail stores and customer satisfaction with respect to service product. It is clearly observing from the table that calculate value stores of sum square **8.121** and F score is **9.714** which is significant at **5%** level of significant and **95%** level of confidence (**P ≥ 0.027**). The above result is exploring to the rejection of null hypothesis and accepts of alternative hypothesis. However, on the basis of result it can be reveals that there is significant and positive relationship between service products of organized retail stores and customer satisfaction.

Testing of Second Hypothesis
H_{02}: There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service delivery
H_{a2}: There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service delivery

Table 2: ANOVA
(Relationship between service delivery of organized retail stores and customer satisfaction**)**

Hypothesis	Relationship statement	Sum of square	df	Mean Square	F	Sig.
H_{02}	Relationship between service delivery of organized retail storesand customer satisfaction	**10.678**	**5**	**8.215**	**9.067**	**0.000**
H_{a2}				**0.591**		
Dependent variable: Customer satisfaction						
(Predictors) Level of customer satisfaction on Service Delivery						

The above table explore the relationship between service delivery of organized retail stores and customer satisfaction with respect to service product. It is clearly observing from the table that calculate value stores of sum square **10.678** and **F** score is **9.067**. Which is significant at **5%** level of significant and **95%** level of confidence (**P ≥ 0.05)**, The above result is exploring to the rejection of null hypothesis and accepts of alternative hypothesis. However, on the basis of result it can be reveals that there is significant and positive relationship between service delivery of organized retail stores and customer satisfaction.

Testing of Third Hypothesis
H_{03}: There is no significant relationship between service quality of organized retail stores and customer satisfaction with respect to service environment
H_{a3}: There is a significant relationship between service quality of organized retail stores and customer satisfaction with respect to service environment

Table 3: ANOVA
(Relationship between service environment of organized retail stores and customer satisfaction**)**

Hypothesis	Relationship statement	Sum of square	df	Mean Square	F	Sig.
H_{03}	Relationship between service environment of organized retail storesand customer satisfaction	**10.062**	**5**	**7.619**	**9.214**	**0.001**
H_{a3}				**0.588**		
Dependent variable: Customer satisfaction						
(Predictors) Level of customer satisfaction on service environment						

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The above table explore the relationship between service environments of organized retail stores and customer satisfaction with respect to service product. It is clearly observing from the table that calculate value stores of sum square **10.062** and **F** score is **9.214**. Which is significant at **5%** level of significant and **95%** level of confidence (**P ≥ 0.05**), the above result is exploring to the rejection of null hypothesis and accepts of alternative hypothesis. However, on the basis of result it can be reveals that there is significant and positive relationship between service environment of organized retail stores and customer satisfaction.

FINDINGS OF THE STUDY

The various findings of the study are as under

1. Table1clearly reveals that service product of organized retail stores is most important parameters of service quality because it is positively and significantly associated with customer satisfaction. However, study rejected null hypothesis and accepted alternative hypothesis. On the basis of hypothesis result it can be said that there is a significant and positive relationship between service qualities of organized retail stores and customer satisfaction with respect to service product.
2. Table2 clearly reveals that service delivery of organized retail stores is most important parameters of service quality because it is positively and significantly associated with customer satisfaction. However, study rejected null hypothesis and accepted alternative hypothesis. On the basis of hypothesis result it can be said that there is a significant and positive relationship between service deliveries of organized retail stores and customer satisfaction with respect to service delivery.
3. Table3 clearly reveals that service environment of organized retail stores is most important parameters of service quality because it is positively and significantly associated with customer satisfaction. However, study rejected null hypothesis and accepted alternative hypothesis. On the basis of hypothesis result it can be said that there is a significant and positive relationship between service environments of organized retail stores and customer satisfaction with respect to service environment.

CONCLUSION

As it has been observed from the findings that service quality of organized retail stores is highly associated with customer satisfaction with respect to service product, service delivery and service environment.The findings of the study has been clearly mentioned that all the parameters of service of organized retail stores are significantly related with customer satisfaction at 5% level of significant. On the basis of findings reported it can be conclude that organized retail stores of Bhopal cites are providing expected service in the area of product delivery and environment. Which is highly attracted large number of customer in order to increase the level of customer satisfaction?

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UNDERSTANDING POSITIVE PSYCHOLOGY THROUGH THE LENS OF INDIAN KNOWLEDGE SYSTEM: INSIGHTS FROM SHRIMAD BHAGAVAD GITA

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ABSTRACT
In today s educational landscape, where academic success shapes the future of the learners, the intense competition for excellence often pushes them into the dark realm of anxiety and depression. This struggle results in isolation, identity crisis and gives birth to various health issues such as hypertension, obesity, cardiovascular disorders and heightened aggression. Positive Psychology is a branch of psychology that emphasises on the importance of cultivating positive emotions such as joy, gratitude and contentment. It focuses on leveraging personal strengths and mental resilience to help individuals cope with life's challenges more effectively. Bhagavad Gita holds an important place in Indian knowledge system as its timeless wisdom has guided the people over centuries. What positive psychology says today was said long back by Sri Krishna on the battlefield of Kurukshetra to bring Arjuna out of sadness and confusion and prepare him for the war. Through this paper, an humble attempt has been made to explore the ideas of positive psychology from the perspective of Bhagavad Gita.

KEYWORDS: *Shrimad Bhagavad Gita, Positive Psychology, Indian knowledge system, Stress Management, School Education.*

I. INTRODUCTION

The National Education Policy (NEP) 2020 has introduced transformative changes in education, emphasising dynamic, personalised, technology-enhanced individualistic learning coupled with technological advancements such as Artificial Intelligence (AI), Virtual Reality (VR), robotics etc that will explore the curiosity of the child, integrate learning with doing and prepare an environment to facilitate life-long learning. However, amidst the focus on academic excellence and high-tech teaching methods, the physical and mental well-being of learners often goes overlooked.

Similar to the caged parrot in Tagore's story 'Tota-Kahini', students are confined within the pressures of academic achievement, with little attention given to their holistic development. (Bhatia,1994) The Indian education system emphasises theoretical knowledge over practical learning, leading to a lack of creativity and critical thinking skills. Students face immense pressure from family, school and peers to excel academically, with success measured solely by grades (Rani & Rawat, 2019).

This pressure contributes to high levels of academic anxiety and mental health issues among students. The emphasis on exam results exacerbates stress and can lead to severe consequences, including suicide (Poddar, 2020). The pandemic has further intensified these challenges, exacerbating the gap in learning and increasing academic pressure on school students.

The National Crime Record Bureau (NCRB) Report data shows that every hour one student commits suicide in India, with about 28 suicides reported every day. Its report also shed light over the alarming rate of student's suicide over the years. 10,159 students died by suicide in the year 2018, a significant increase from 9,905 in 2017, and 9,478 in 2016. According to a 2012 *Lancet* report, suicide rates in India are highest in the 15-19 years age group, among which 40% youths are male and 60% youths are females (Garai, 2020; Mukhopadhyaya, 2019). The situation has worsened in the recent years due to advent of the pandemic. According to 2019 NCRB Report, a total number of 1, 39,123 suicides were reported in the country during 2019 showing an increase of 3.4% in comparison to 2018. The unexpected and sudden shift from the traditionally practiced classroom-based teaching to digital based education due to the pandemic has created a significant gap in learning resulted in higher levels of academic anxiety among learners (D'Souza, 2021). More than 12,500 students died by suicide in the country when pandemic hit in 2020, which was at the rate of 34 person/ day, with many states reporting more than one death per day (Kumar, 2021). In 2020 alone, India witnessed a historic increase of 21% in suicide cases compared to 2019. Out of 12,526 student suicides in 2020, nearly 53% or 6,598 were from six states- Maharashtra, Odisha, Madhya Pradesh, Tamilnadu, Jharkhand and Karnataka, while all other states and union territories together reported 5,928 deaths (Kumar, 2021). When we look at the world scenario, India is the most depressed country in the world, followed by china and USA. A 2014 study reported in WHO, conducted for NCMH (National Care for

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Mental Health), states that at least 6.5 % of the Indian population suffers from some form of serious mental disorder (India Today, 2018).

Positive psychology is a branch of psychology that focuses on the study of optimal human functioning and the factors that contribute to a fulfilling life. Unlike traditional psychology, which often focuses on treating mental illness and dysfunction, positive psychology aims to understand and promote well being and happiness. Martin Seligman is considered one of the founders of positive psychology. His book, "Authentic Happiness", published in 2002, is a seminal work in the field. In this book, Seligman explores the concept of authentic happiness and presents strategies for cultivating happiness and well being in everyday life.

In this age of cut-throat competition where a decimal point can be a deciding factor in one's career, it is crucial that we should focus on exploring our ancient texts to find out solutions that will be beneficial for our students to manage their mental stress. Bhagavad Gita can be a solution to this as it offers timeless lessons on how to lead our life, how to behave in stressful conditions and what practices we can adopt to lead a more peaceful and fulfilling life. Though Bhagavad Gita does not offer any alternative cure in serious mental health conditions but introducing our students to the teachings can be beneficial to provide them a lifestyle which will lessen the chances of serious mental stress related ailments among the students.

Review of Related Literature

The Bhagavad Gita was given to Arjuna Sri Krishna at the battlefield of Kurukshetra. At the outset in 'Arjuna Visada Yoga' we observe that when Arjuna observed the warriors on both sides, including his own relatives and friends, he was filled with fear and sorrow that he will loose them in the battle. The prospect of killing his own relatives and the resulting sin weighted heavily on his conscience. This emotional turmoil led Arjuna to surrender to Sri Krishna, seeking solution to his inner conflict. Sri Krishna, much like a counsellor gradually imparted wisdom to Arjuna, explaining the nature of the field, knowledge, ignorance and the knowable. Krishna compared this process to a mother feeding her child in small portions, ensuring that Arjuna could comprehend and absorb the teachings step by step. Thus, Bhagavad Gita is a collection of teachings to achieve a state of equilibrium of the mind.

Over the years, research has increasingly highlighted the potential of the Bhagavad Gita as a valuable resource in psychotherapy and stress management. Bhatia et al. (2013) advocated for the practical integration of Gita's teachings into psychotherapeutic practices, noting its ability to enhance intervention effectiveness and augment the methods of Western psychotherapies. Verma (2014) emphasised the relevance of Gita's teachings in promoting effective stress management strategies. Ashtankar (2016) delved into the exploration of Bhagavad Gita's principles, particularly in the realm of mind management and the fostering of human capital development. Furthermore, Tayal (2019) underscored the necessity of incorporating Bhagavad Gita teachings into educational curricula at various levels, citing its potential in nurturing well-rounded and responsible citizens.

II. OBJECTIVES OF THE STUDY

1. To explore the different dimensions of Positive Psychology from Shrimad Bhagavad Gita.

III. METHODOLOGY OF THE STUDY

In the present study, the necessary data was collected using the method of document analysis and it utilises secondary data from various writings on Shrimad Bhagavad Gita, research papers, newspaper articles, medical journals, government reports etc.

IV. FINDINGS OF THE STUDY

Objective 1: To explore the different dimensions of Positive Psychology from Shrimad Bhagavad Gita

1. Concept of Mind: In Sankhya philosophy, the mind is often referred to as 'Manas' which originates from Satvik Ahankara. it is described as one of the components of 'antahkarana' along with intellect (buddha) and Ego (Ahankar). It is considered as part of the subtle body. The mind, in Sankhya, is responsible for thoughts, emotions, desires and perceptions. In Yoga philosophy, the mind is also recognised as a crucial aspect of human experience and seen as a tool that can be trained and disciplined to achieve higher states of consciousness and liberation. "Yogash chitta-vritti-nirodhah" (Yoga Sutra 1:2).Yoga aims to calm the fluctuations of the mind to attain a state of inner peace and self-realisation.

In Shrimad Bhagavad Gita, importance has been given on the mind. In chapter 6, verse 6 Sri Krishna says,

बन्धुरात्मात्मनस्तस्य येनात्मैवात्मना जितः।
अनात्मनस्तु शत्रुत्वे वर्तेतात्मैव शत्रुवत्।। VI.6 ||

Which means for those who have conquered the mind, it is their friend. For those who have failed to do so, the mind works like an enemy. In chapter 6, verse 34, the controlling of the mind has been compared with controlling the wind, Sri Krishna said,

चञ्चलं हि मनः कृष्ण प्रमाथि बलवद्दृढम् |
तस्याहं निग्रहं मन्ये वायोरिव सुदुष्करम् || VI.34||

Which means, the mind is very restless, turbulent, strong and obstinate, O Krishna. It appears to me that it is more difficult to control than the wind. Further in chapter 6 verse 5 Sri Krishna says,

उद्धरेदात्मनात्मानं नात्मानमवसादयेत्।
आत्मैव ह्यात्मनो बन्धुरात्मैव रिपुरात्मनः|| VI.5||

which denotes, elevate yourself through the power of your mind, and not degrade yourself, for the mind can be the friend and also the enemy of the self.

2. Approaches for Cultivating Mental Stability: Shrimad Bhagavad Gita also offers various techniques through which mental stability can be achieved. In chapter 6, verse 36, Sri Krishna says,

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असंयतात्मना योगो दुष्प्राप इति मे मति: |
वश्यात्मना तु यतता शक्योऽवाप्तुमुपायत: || VI.36|
Which means, Yog is difficult to attain for one whose mind is unbridled. However, those who have learnt to control the mind, and who strive earnestly by proper means, can attain perfection in Yog. In Chapter 6 Verse 20, Sri Krishna has talked about controlling the mind through Yoga.
यत्रोपरमते चित्तं निरुद्धं योगसेवया |
यत्र चैवात्मनात्मानं पश्यन्नात्मनि तुष्यति || VI.20 ||

It means that When the mind, restrained from material activities, becomes still by the practice of Yog, then the yogi is able to behold the soul through the purified mind, and he rejoices in the inner joy.

Besides, in chapter 6 verse 17, Sri Krishna emphasises the importance of balance and moderation in various aspects of life. It states that one who is moderate in eating, recreation, work, sleep, and wakefulness can alleviate the distress and suffering in life.
युक्ताहारविहारस्य युक्तचेष्टस्य कर्मसु |
युक्तस्वप्नावबोधस्य योगो भवति दु:खहा || VI.17 ||

Which means, those who are temperate in eating and recreation, balanced in work, and regulated in sleep, can mitigate all sorrows by practicing Yog.

3. Lessons on Positive Psychology

3.1 The Art of Detachment: The first lesson that the Bhagavad Gita teaches us regarding mental well-being is the art of detachment. The Gita emphasises the importance of detachment, guiding us to perform our duties without being overly attached to the fruits of our actions. Sri Krishna wisely states,
कर्मण्येवाधिकारस्ते मा फलेषु कदाचन |
मा कर्मफलहेतुर्भूर्मा ते सङ्गोऽस्त्वकर्मणि || II.47 ||

which denotes you have the right to perform your prescribed duties, but you are not entitled to the fruits of your actions. Never consider yourself to be the cause of the results of your activities. This verse focuses on the effort put into our actions rather than fixating on the outcomes. The Gita teaches us that being detached allows us to stay balanced and free from the anxieties that arise from success or failure. Further he advises,
क्रोधाद्भवति सम्मोहः सम्मोहात्स्मृतिविभ्रमः।
स्मृतिभ्रंशाद्बुद्धिनाशो बुद्धिनाशात्प्रणश्यति।।II.63।।

It denotes, from anger comes delusion; from delusion, confused memory; from confused memory, the ruin of reason; and from ruin of reason, man finally perishes. Sri Krishna explains that our desire is the root cause of all sin and wrong action in the world, desire gives rise to anger and anger leads to delusion and delusion to loss of memory, which leads to the loss of discrimination between right and wrong which ultimately destroys the person.Those who are intelligent and free from material desires, who have renounced the fruits of their actions, are liberated from the cycle of birth and death and attained the state beyond suffering (II.51; III.19), as a result the person leads a more happy and fulfilling life (II. 64,65).

3.2 Adaptation to Present Moment: The Gita teaches us about accepting life's challenges and always try to adapt to the present moment through controlling our mind. Sri Krishna says,
जितात्मनः प्रशान्तस्य परमात्मा समाहितः।
शीतोष्णसुखदुःखेषु तथा मानापमानयोः।।VI.7।।

Which translates as for one who has conquered the mind, the Supersoul is already reached, for he has attained tranquility. To such a person, heat and cold, happiness and distress, honour and dishonour are all the same. Often times we become restless if something does not happen as we hoped, or we are criticised for the things we have not done. Gita teaches us to approach both the situation with equal importance and not get overwhelmed by extreme joy or sadness. By practicing calmness, a person can train themselves to face difficult situations in life bravely and thus nothing will disturb the mental harmony of a person.

3.3 Surrender to Supreme Force: Through Bhagavad Gita, we come to know about the path of dharma and a person can only explore this path if he embark on a journey to the almighty and follow the path of righteousness (dharma). Sri Krishna says,
भोक्तारं यज्ञतपसां सर्वलोकमहेश्वरम्।
सुहृदं सर्वभूतानां ज्ञात्वा मां शान्तिमृच्छति॥V.29||

It can be explained as knowing me as the ultimate purpose of all sacrifices and austerities, the supreme lord of all planets and demigods, and the benefactor and well-wisher of all living entities, one attains peace from the pangs of material miseries. Simply accepting God as our friend and protector can have a significant effect on our thinking and mental well-being. The belief that there is someone who loves us and care for us give us a sense of comfort which helps in maintaining our mental well-being.

3.4 Knowing the Self: Gita teaches us about having Atma-Jnana also known as understanding the self. Only when a person understands the self he/she can attain peace. Sri Krishna says,
रागद्वेषवियुक्तैस्तु विषयानिन्द्रियैश्चरन्।
आत्मवश्यैर्विधेयात्मा प्रसादमधिगच्छति॥ II.64||

Which means, the self-controlled man, moving among objects with the senses restrained and free from attraction and repulsion, attains peace. We often forget that we are not immortal, our body will be destroyed one day and we will loose all our might. Our bodily luster makes us believe that we are all powerful and it develops ego in us. The ego wants to stay in easy situations but when stressful moments comes we become uneasy. In chapter 2, verse 30, Sri Krishna says,
देही नित्यमवध्योऽयं देहे सर्वस्य भारत।
तस्मात्सर्वाणि भूतानि न त्वं शोचितुमर्हसि॥ II.30||

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Which says, the indweller in the body of everyone is ever indestructible, O Arjuna: therefore, you should not grief for any creature. He further said,

न जायते म्रियते वा कदाचि न्यायं भूत्वा भविता वा न भूयः।
अजो नित्यः शाश्वतोऽयं पुराणो न हन्यते हन्यमाने शरीरे॥ II.20 ||

Which denotes, never is this soul born; nor has it any existence after having once been. The soul is unborn, eternal, ever-existing, undying, and primeval. It is not slain when the body is slain. The understanding that we are a part of the supreme being makes us tolerant, sensible, empathetic and enable us to control our harmful and negative emotions.

3.5 Balance in Thought and Action: The Gita gives emphasis on maintaining balance in life and avoid extreme thoughts and action. Sri Krishna says,

नात्यश्नतस्तु योगोऽस्ति न चैकान्तमनश्नतः।
न चातिस्वप्नशीलस्य जाग्रतो नैव चार्जुन॥ VI.16 ||

Which means, there is no possibility of one's becoming a yogi, O Arjuna, if one eats too much or eats too little, sleeps too much or does not sleep enough.This verse emphasises the importance of moderation in lifestyle choices. It encourages individuals to activities such as eating and sleeping, avoiding excesses that may disrupt mental and physical well-being. Besides, Sri Krishna says to Arjuna,

मात्रास्पर्शास्तु कौन्तेय शीतोष्णसुखदुःखदाः।
आगमापायिनोऽनित्यास्तांस्तितिक्षस्व भारत॥ II.14 ||

Which translates as, O son of Kunti, the nonpermanent appearance of happiness and distress, and their disappearance in due course, are like the appearance and disappearance of winter and summer seasons. They arise from sense perception, O Scion of Bharata, and one must learn to tolerate them without being disturbed.This verse teaches us to view life's ups and downs with equanimity, recognising the transient nature of pleasure and pain. By maintaining a balanced perspective, one can navigate challenges without being overwhelmed.

4. Meditation for Mental Peace: The sixth chapter of the Bhagavad Gita, 'Dhayan Yoga' provides profound insights into mind control through meditation. The practice of Meditation is presented as a powerful tool to achieve mental equilibrium and spiritual growth. Sri Krishna says,

उद्धरेदात्मनाऽऽत्मानं नाऽत्मानमवसादयेत्।
आत्मैव ह्यात्मनो बन्धुरात्मैव रिपुरात्मनः॥ VI.5||

Which means, a person should uplift oneself by one's own self, and should not degrade oneself. The self alone is one's friend, as well as one's enemy. This verse underscores the importance of self-discipline in controlling one's thoughts. Through meditation, Individuals can elevate their consciousness and overcome mental disturbances. In 'Dhayan Yoga' one can also find guidance regarding the proper way of doing meditation. Sri Krishna says,

तत्रैकाग्रं मनः कृत्वा यतचित्तेन्द्रियक्रियः।
उपविश्यासने युञ्ज्याद्योगमात्मविशुद्धये || VI.12||
समं कायशिरोग्रीवं धारयन्नचलं स्थिरः।
सम्प्रेक्ष्य नासिकाग्रं स्वं दिशश्चानवलोकयन् || VI.13||

Which translates as , one should hold one's body, neck, and head erect in a straight line and stare steadily at the tip of the nose. Thus, with an unagitated, subdued mind, devoid of fear, one should meditate upon Me within the heart. By maintaining a steady posture and focused gaze during meditation, the mind becomes concentrated, aiding in controlling wandering thoughts and achieving a tranquil state. Sri Krishna also says,

सङ्कल्पप्रभवान्कामांस्त्यक्त्वा सर्वानशेषतः।
मनसैवेन्द्रियग्रामं विनियम्य समन्ततः॥ VI.24||
शनैः शनैरुपरमेद्बुद्ध्या धृतिगृहीतया।
आत्मसंस्थं मनः कृत्वा न किञ्चिदपि चिन्तयेत्॥ VI.25||

Which means, completely renouncing all desires arising from thoughts of the world, one should restrain the senses from all sides with the mind. Slowly and steadily, with conviction in the intellect, the mind will become fixed in God alone, and will think of nothing else. The verse emphasises the gradual process of meditation, through this one can cultivate concentration and redirect the mind towards the Self, freeing it from external distractions.

5. Emotional Resilience and Mental Strength: The profound teachings of Bhagavad Gita also focuses on the development of emotional resilience and mental strength. In the chapter 6, verse 5, we observe an emphasis on the role of self-discipline in the development of mental strength:

उद्धरेदात्मनाऽत्मानं नात्मानमवसादयेत्।
आत्मैव ह्यात्मनो बन्धुरात्मैव रिपुरात्मनः॥VI.5||

Which means, elevate yourself through the power of your mind, and not degrade yourself. The mind is your friend and also your enemy; control it with the power of the self . Sri Krishna underscores the importance of developing mental strength to overcome challenges and adversities. In chapter 18, verse 66, Sri Krishna concludes his teachings with a powerful message on surrender and mental fortitude:

सर्वधर्मान्परित्यज्य मामेकं शरणं व्रज।
अहं त्वा सर्वपापेभ्यो मोक्षयिष्यामि मा शुचः॥XVIII.66||

Which translates as, abandon all varieties of religion and just surrender unto Me. I shall deliver you from all sinful reactions. Do not fear. This verse highlights the transformative strength that comes from surrendering to a higher purpose, cultivating resilience in the face of life's trails.

6. Mindfullness for Happy Life: Throughout Bhagavad Gita, there are several examples of how one can practice mindfulness in life. In the chapter 6 (Dhayan Yoga), verses 10-15 focuses on the practice of meditation and mindfulness. Sri Krishna describes the process of calming the mind through meditation, comparing it to the challenge of controlling the wind. Verse 14 specifically addresses the essence of mindfulness:

प्रशान्तात्मा विगतभीर्ब्रह्मचारिव्रते स्थितः।
मनः संयम्य मच्चित्तो युक्त आसीत मत्परः॥ VI.14||

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It meas, thus, with a serene, fearless, and unwavering mind, and staunch in the vow of celibacy, the vigilant yogi should meditate on Me, having Me alone as the supreme goal. Here Sri Krishna extols the mindful yogi who maintains contentment, self-discipline, and unwavering determination. In chapter 6, verse 20, the essence of mindfulness is further elucidated in the following verse:

यत्रोपरमते चित्तं निरुद्धं योगसेवया।
यत्र चैवात्मनात्मानं पश्यन्नात्मनि तुष्यति॥VI.20||

It means, when the mind, restrained from material activities, becomes still by the practice of Yog, then the yogi is able to behold the soul through the purified mind, and he rejoices in the inner joy. This verse illustrates the pinnacle of mindfulness in samadhi, where the mind achieves profound concentration and joyous awareness. The Bhagavad Gita serves as a timeless guide for practicing mindfulness through disciplined thought, focused meditation, and unwavering devotion.

7. Fostering Compassion for positive Relationships: The teachings of Lord Krishna to Arjuna in the midst of the Kurukshetra War offers timeless wisdom on the development of compassion, empathy and kindness to foster positive relationships. In chapter 12, verse 13, Sri Krishna emphasises the significance of compassion:

अध्वेष्टा सर्वभूतानां मैत्रः करुण एव च।
निर्ममो निरहङ्कारः समदुःखसुखः क्षमी॥ XII.13||

It translates as, he who is not envious of anyone, who is friendly and compassionate, who has no material possessions, who is free from ego, who is balanced in happiness and distress and who is forgiving- such a person is very dear to Me. Here, Sri Krishna encourages the cultivation of a compassionate attitude towards everyone, transcending biases and prejudices. Further, in chapter 16, verses 1-3, Sri Krishna delineates the divine and demoniac natures. Verse 3 highlights the demonic qualities, including lack of compassion: " Pride, arrogance, conceit, anger, harshness, and ignorance- these qualities belong to those of demonic nature" This underscores the importance of cultivating compassion to transcend negative tendencies. Additionally, chapter 16, verse 5, Sri Krishna said:

दैवी सम्पद्विमोक्षाय निबन्धायासुरी मता।
मा शुचः सम्पदं दैवीमभिजातोऽसि पाण्डव॥XVI. 5||

Which means, the divine qualities lead to liberation, while the demoniac qualities are the cause for a continuing destiny of bondage. Grieve not, O Arjun, as you were born with saintly virtues. The Bhagavad Gita teaches us that compassion is the cornerstone of positive relationships. By embracing selflessness and kindness, individuals can build harmonious connections, transcending ego and fostering a sense of unity and empathy with all beings.

CONCLUSION

In an era characterised by relentless competition, where students contend with mounting mental pressures, there arises a pressing imperative to incorporate our ancient wisdom, such as the teachings of the Bhagavad Gita, into the educational paradigm. By integrating these profound texts into the teaching-learning process, we can offer learners a respite from the pervasive anxiety and stress that permeate modern life. Regular engagement with the Bhagavad Gita not only equips individuals with tools to effectively manage their stress but also furnishes them with invaluable guidance for navigating life's complexities with wisdom and purpose.

Recognising the urgent need for such holistic education, the Indian government has undertaken commendable efforts to infuse Indian knowledge systems into the school curriculum, orchestrating a comprehensive redesign aimed at fostering the holistic development of learners. In this transformative educational landscape, the inclusion of the Bhagavad Gita assumes paramount significance, serving as a cornerstone for nurturing the mental well-being of students. By grounding them in timeless principles of resilience, equanimity, and self-awareness, the Bhagavad Gita empowers learners to confront life's challenges with fortitude and grace, thereby fostering not only academic excellence but also holistic personal growth.

Moreover, by weaving the teachings of the Bhagavad Gita into the fabric of education, we embark on a journey of cultural preservation and revival, honouring the rich heritage that defines our identity as a civilisation. As students delve into the profound insights of this ancient scripture, they not only cultivate a deeper appreciation for their cultural roots but also develop a broader perspective that transcends temporal boundaries. Thus, the integration of the Bhagavad Gita into the educational landscape not only nurtures individual well-being but also contributes to the preservation and propagation of our cultural heritage, fostering a more harmonious and enlightened society.

In essence, as we embark on this transformative educational journey, let us embrace the timeless wisdom encapsulated in the Bhagavad Gita, recognising its profound potential to alleviate the mental burdens of our students and illuminate their path towards a life of fulfilment and purpose. By harnessing the transformative power of ancient wisdom, we can sculpt a future where education serves not only to enlighten the mind but also to nourish the soul, fostering a generation of resilient, compassionate, and purpose-driven individuals poised to navigate the complexities of the modern world with grace and resilience.

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TRACER STUDY ON THE EMPLOYABILITY OF ELEMENTARY EDUCATION GRADUATES FROM ACADEMIC YEAR 2019 TO 2023

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ABSTRACT

Tracer study is used to determine the needs for improvement of a program in colleges and university by measuring the employability and the effectivity of the quality education provided by the institution to its graduates. This tracer study aims to determine the employment rate and status of graduates from 2019 to 2023 of the program Bachelor in Elementary Education – Generalist of a local college in Kapalong, Davao del Norte. The study used a descriptive method with a total number of 172 respondents and was conducted online using Google Forms. The result of the tracer study reveals that the employment rate of the graduates is 51.16% in which 30.81% practiced the teaching profession while 20.35% are in non-teaching field. The survey also revealed that 22.67% of the employed graduates earned within Php21,000 to Php30,000 per month, and 20.93% have secured their first job within 4 to 8 months. Attitude to work, quality education provision, and skills and abilities development both obtained a very high level of description which signifies that these are always manifested by the graduates. Thus, it is recommended that the institution should improve its partnerships with local industry partners and community linkages and establish graduates and employability coordinator to trace and help graduates informed for more opportunities for work.

KEYWORDS: *tracer study, elementary education, employability, teacher education*

INTRODUCTION

Tracer study serves an important indicator to measure the effectiveness of providing quality education and relevant services among educational institution. It gives universities and colleges instructors the skill and knowledge which help them provide quality education as it help them identify the strength, weaknesses, and areas of need of the program. In fact, future employees' standing in the labor market is significantly influenced by the quality of the educational services they receive and how employers and students see it (Adillo, 2024).

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Moreover, tracer study looks on the details of employment, profile of the graduates, and the status of employment to determine the career profiles of the graduates to ensure the relevance of the curriculum. Therefore, the results from tracer study serves as basis for enhancing training program and revision of current implemented curriculum in the program (Mendoza, 2023).

Around the world, university and colleges conducted tracer study to monitor reliable data on the employability of their graduates and effectivity of their programs. In Ethiopia, Tefera (2018) conducted a tracer study to gather accurate and valid data that could help in improving the standard of the educational courses at Debre Berhan University. Additionally, a tracer study conducted by Dabrowska-Resiak (2019) to verify how education led to the labor market, the development of the career of Polish university graduates which includes students who are enlisted under Erasmus programs. In Southeast Asia, the Royal University of Phnom Penh conducted biannual tracer studies to expand understanding of their alumni's employability and satisfaction with the program (Chet, Sok, Vong, & Sok, 2021).

Pardo and Pichay (2019), traced the 2016 graduates of College of Teacher Education of University of Northern Philippines in Ilocos Sur to assess their employment status, the most useful job-related and learned competencies, and their suggestion for enhancement of the program's curriculum. Using descriptive survey method, a total of 320 graduates where reached as respondents. The results showed that within six months after their graduation, most of the graduates where employed in private entities related to their course. The study also reveals that communication and practice teaching subjects are the most useful to the graduates and they suggested that teaching-learning process should focus on the development of their skills and the application of concepts, theories, and principles to real world.

In Davao de Oriental, 150 graduates of Bachelor of Elementary Education from 2013-2021 serves as respondents of a tracer study conducted by Davao Oriental State University – Cateel Extension Campus. The results showed that most of the graduates, who are mostly females, acquired their job within six months after they graduated and are employed as regular or permanent basic education teachers within Davao Oriental. Furthermore, most of them are employed in the Department of Education and earned a salary of almost ₱27,500 per month with communication skills and discipline are considered by the graduates as the most useful in their employment. Lastly, the study also recommended that increasing the availability the resources, facilities, and equipment of the school's library and laboratory will enhance instruction and assist the students more on their academic endeavors (Apostol & Susada, 2022).

In the local setting, Escandallo (2024) traced the graduates of Bachelor of Elementary Education – Generalist from 2015 to 2019 of a local college in Kapalong to determine the rate of employment and their employability status. A total of 209 respondents answered the researchers-made tracer survey reveals that the employment rate of the elementary education graduates was 85.16%, in which graduates who works as teachers comprised 61.8%. It also shows that 31.6% of the graduates are regular employees, 29.9% are full-time, 15.5% are self-employed, 11.5% are contractual, and 6.9% are part-time employees. The survey also showed that 10% of the graduates pursued graduate and post-graduate studies. The results also showed a very high-level manifestation of attitude to work, quality education provisions of the institution, and skills and abilities development among elementary education graduates.

Hence, this tracer study was conducted to check the rate and status of employment of the Bachelor of Elementary Education graduates which includes their self-rated evaluation about their attitude to work, the quality education provided by the institution and their development in terms of skills and abilities obtained from it. This will serve as an indicator of the institution on their continuing enhancement of providing quality education through improving and designing the curriculum of elementary education that will ensure future graduates employment and equip them with skills and values needed by the community.

OBJECTIVES OF THE STUDY

The primary purpose of this study was to:

1. Describe the demographic profiles of the graduate-respondents in terms of:
   1.1. sex when grouped per academic year;
   1.2. civil status;
   1.3. age;
   1.4. year graduated;
2. Describe the employment profile and features of the graduate-respondents in terms of:
   2.1. employment rate;
   2.2. employment status;
   2.3. level of income;
   2.4. period of seeking the first job after college;
   2.5. relevance of college degree to the present job; and
   2.6. job mismatching.
3. Describe the level of the graduate-respondents self-rated evaluation with their attitude to work?
4. Determine the level of the graduate-respondents self-rated evaluation with the quality education provision of the institution?
5. Determine the level of the graduate-respondents self-rated evaluation with the skills and abilities obtained in the institution and its usability with their present occupation?

METHODS

Design

This tracer study used descriptive method of research for it involved a collection of quantitative information tabulated in numerical form. Baker (2017) refer to descriptive quantitative design as skipping into potential cause and effect for it gathered variable without changing the environment or adjusting the

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variables. Additionally, Ghanad (2023) stated that descriptive method is more concerned to "what, where, and when" to describe accurately a population, situation and phenomenon than "why" it happened. Moreover, it frequently used observational and survey method to gather descriptive data and uses graphs and charts to aid audience to visually understand the data distribution. In this study, descriptive method was used to describe the rate and status of employment of the graduates of Bachelor of Elementary Education – Generalist of Kapalong College of Agriculture, Sciences and Technology. Along with describing the employment status, it will also measure the employment rate and help provide information about the graduates' age, gender, and marital status.

Population and Sample

The primary population and sample of this tracer study were the Bachelor of Elementary Education graduates of Kapalong College of Agriculture, Sciences and Technology from the academic year 2019 until academic year 2023. Hence, complete enumeration random sampling was used to track and trace the graduates of their employment rate and status. To be more specific, in the year 2019, there were 105 graduates, 17 are males and 88 are females; in year 2020, there are 2 graduates in which all are females. There are no recorded graduates of the program for the year 2021. In 2022, there are a total of 28 graduates in which 4 are males and 24 are females; and for 2023, there are 37 graduates, 5 of which are males while 32 are females. Overall, the total population and sample of the study is 172 graduates of elementary education from 2019 to 2023, in which 26 are males and 146 are females.

Research Instrument

The research instrument used in this study was from the tracer study of Escandallo (2024) entitled "A TRACER STUDY ON THE ELEMENTARY EDUCATION GRADUATES FROM ACADEMIC YEAR 2015 TO 2019: EMPLOYMENT IN FOCUS". The survey questionnaire has a Cronbach alpha of 0.955 which can be interpreted as having an excellent internal consistency.

Data Collection Procedure

Data collection refers to the process of acquiring data with the aim of learning more of the research topic. Further, it is in this stage that allows a researcher to find answers for the research questions (Taherdoost, 2021). Thus, the following are the steps primarily taken responsibly by the researchers in gathering the data needed for this study.

First, the researchers asked the data of the total number of Bachelor of Elementary Education who graduated from academic year 2019 up to academic year 2023 to the college registrar so that the data will be exact and accurate.

Second, after obtaining the total number of graduates, the researchers utilized the survey tracer questionnaire of Escandallo (2024) to determine the employment rate, employment status, educational attainment and development, attitude to work, provision quality of education, and development of skills and abilities of every elementary education graduate.

Third, using Google Forms, the researchers began tracking the graduates based on their employment status and rate, educational attainment and development, work attitude, provision of quality education, and development of skills and abilities.

Fourth, the researchers collected the questionnaire and started tallying after the graduate students finished responding to it to be prepared for data treatment and analysis.

Lastly, for an easier and better understanding of the outcome, the data was analyzed and evaluated by the institution's designated statistician and presented in tabular and graphical form.

Data Analysis

For the data analysis, mean was used to get the average score in measuring the level of graduates' attitude to work, evaluation of quality education provision and the development of different skills and abilities.

RESULTS AND DISCUSSION

The results and discussion are presented based on answering the set of objectives of the study.

Demographic Profiles of the BEED Graduates

The first main objective of this tracer study is to describe the demographic profile of the Elementary Education graduates from the academic year 2019 up to academic year 2023. These profiles include the sex, civil status, age, year graduated, and educational attainment and development.

Sex. Shown in Table 1 is the total number of Bachelor of Elementary Education – Generalist graduates from the school year 2018-2019 to school year 2022-2023. In the batch 2019, with a total number of 105graduates or 61.05% of the total graduate-respondents, 17 or 9.88% are males while the remaining 88 or 83.81% are females. In batch 2020, all the 2 graduates are female which constitute 1.16% of the total graduate-respondents. In batch 2021, there are no graduates from the program. In batch 2022, out of 28 graduates which is 16.28% of the total graduate-respondents, 4 or 2.33% are males while the remaining 24 or 13.95% are females. Lastly, in batch 2023, out of 37 graduates which is 21.51% of the total graduate-respondents, 5 or 2.91% are males and the remaining 32 or 18.60% are females. Overall, the total number of males is 26 of the total graduate-respondents while the remaining 146 are females.

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Year Graduated	Sex	Frequency	Percent (%)
2019	Male	17	9.88
	Female	88	51.16
Subtotal		**105**	**61.05**
2020	Male	0	0.00
	Female	2	1.16
Subtotal		**2**	**1.16**
2022	Male	4	2.33
	Female	24	13.95
Subtotal		**28**	**16.28**
2023	Male	5	2.91
	Female	32	18.60
Subtotal		**37**	**21.51**
Total		**172**	**100.00**

Table 1. Sex Distribution of Bachelor of Elementary Education – Generalist Graduates

Civil Status. Shown in Table 2 is the civil status of Bachelor of Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. The data reveals that out of 172 graduate-respondents, only 1.74% or 3 are already married while the remaining 169 or 98.26% are still single. Further, no graduates currently identify widowed or separated.

Civil Status	Frequency	Percent (%)
Single	169	98.26
Married	3	1.74
Total	**172**	**100.00**

Table 2. Civil Status of Bachelor of Elementary Education – Generalist Graduates

Age. In Table 3, it shows the age of the Bachelor of Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. Out of 172 graduate-respondents, 66.86% are 21-25 years old; 28.49% are 26-30 years old; 4.07% are 31-35 years old; and remaining 0.58% aged around 36-40 years old.

Age	Frequency	Percent (%)
21-25	115	66.86
26-30	49	28.49
31-35	7	4.07
36-40	1	0.58
Total	**172**	**100.00**

Table 3. Age Distribution of Bachelor of Elementary Education – Generalist Graduates

Year Graduated. Shown in Table 4 is the total number of graduates of Bachelor of Elementary Education – Generalist from the academic year 2018-2019 up to academic year 2022-2023. There are 172 graduate-respondents in this study. For the year 2019, there are 105 graduates, comprising 61.05% of the total graduate-respondents. In the batch 2020, there are only 2 graduates, which only constitute 1.16% percent of the total graduate-respondents. Batch 2022 comprised of 28 graduates which is 16.28% of the total graduate-respondents. Lastly, batch 2023 comprised of 37 graduates which is 21.51% of the total graduate-respondents.

Year Graduated	Frequency	Percent (%)
2019	105	61.05
2020	2	1.16
2022	28	16.28
2023	37	21.51
Total	**172**	**100.00**

Table 4. Year Graduated of Bachelor in Elementary Education – Generalist Graduates

Employment Profile and Features of BEED Graduates

The second research objective of this tracer study is to determine the employment profile and features of Bachelor in Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. The following are included in this objective are employment rate, employment status, level of income, period of seeking job after college, relevance of college degree to the present job and job mismatching.

Employment Rate. Table 5 shows the employment rate of Bachelor in Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023.

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Out of 172 graduate-respondents that answered the survey, 88 or 51.16% are employed which includes teaching and non-teaching job while the remaining 84 or 48.84% are unemployed.

Employment Rate	Frequency	Percent (%)
Employed	88	51.16
Unemployed	84	48.84
Total	**172**	**100.00**

Table 5. Employment Rate of Bachelor of Elementary Education – Generalist Graduates

Employment Status. Shown table 6 is the employment status of Bachelor in Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. Based on the results of the survey, out of 88 or 51.16% of employed BEED graduates, 19.19% are regular, 13.95% are working full-time, 9.30% are working on contractual basis, and 3.49% are working part-time. 1.74% of employed graduates are working part-time but not seeking full-time work. Similarly, employed graduates on both job order and self-employed status got 1.74% each.

Employment Status	Frequency	Percent (%)
Working Full Time	24	13.95
Working Part Time	6	3.49
Working part-time but not seeking full-time work	3	1.74
Working on contractual basis	16	9.30
Regular	33	19.19
Job Order	3	1.74
Self-employed	3	1.74
Total	**88**	**51.16**

Table 6. Employment Status of Bachelor of Elementary Education – Generalist Graduates

Level of Income. Table 7 shows the monthly income of Bachelor in Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. Based from the results of the survey, from 51.16% of employed graduates, 12.215 from this earned Php1,000-Php10,000 per month, 13.95% earned Php11,000-Php20,000 per month, 22.67% earned Php21,000-Php30,000 per month. Only 2.33% earned above Php30,000 per month.

Level of Income	Frequency	Percent (%)
Php1,000-Php10,000	21	12.21
Php11,000-Php20,000	24	13.95
Php21,000-Php30,000	39	22.67
Above Php30,000	4	2.33
Total	**88**	**51.16**

Table 7. Level of Income of Bachelor of Elementary Education – Generalist Graduates

Period Seeking of Job After College. Table 8 shows the range of period seeking job after college of Bachelor of Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. Results from the survey shows that from 5.16% of employed BEED graduates, 19.19% took on 0-3 months to have their first job, 20.93% have their first job within 4-8 months, 9.30% have their first job within 9-12 months. Only 3 or 1.74% have landed in their first job above a year.

Period of Seeking the First Job after College	Frequency	Percent (%)
0-3 months	33	19.19
4-8 months	36	20.93
9-12 months	16	9.30
Above 1 year	3	1.74
Total	**88**	**51.16**

Table 8. Period of Seeking the First Job after College of Bachelor of Elementary Education – Generalist Graduates

Relevance of College Degree to the Present Job. Shown in table 9 is the evaluation of the Bachelor of Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023 on the relevance of their college degree

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to their present job. Based from the result of the survey, from the 51.16% employed graduates, 38.37% says that their college degree is very much relevant to their present job.

Relevance of College Degree to the Present Job	Frequency	Percent (%)
Very Much	66	38.37
Much	14	8.14
Neutral	5	2.91
A Little	2	1.16
Not At All	1	0.58
Total	**88**	**51.16**

Table 9. Relevance of College Degree to the Present Job of Bachelor of Elementary Education – Generalist Graduates

Job Mismatching. Shown in table 10 is the mismatch in job or job alignment of the Bachelor of Elementary Education – Generalist graduates from the academic year 2018-2019 up to academic year 2022-2023. From the 172 BEED graduates that respond to the survey, 53 or 30.81% are working as teacher in private or public institution. Meanwhile, 35 or 20.35% of the graduates are working as non-teaching employee which is specified in the next figure.

Job Alignment	Frequency	Percent (%)
Teaching	53	30.81
Non-Teaching	35	20.35
Total	**88**	**51.16**

Table 10. Job Alignment of Bachelor of Elementary Education – Generalist Graduates

Presented in table 11 the job specification of non-teaching roles of Bachelor of Elementary Education – Generalist graduates from batch 2019 to batch 2023. From the 35 or 20.35% who work as non-teaching employee, 5.81% of them are office-based clerks, 4.65% of which are call center agents, 4.07% are government employees, 2.91% are sales agent/specialist/representatives. Meanwhile, 1.16% are account specialist. Both marketing specialist, technician, and domestic helper account for 0.58% each.

Job Specification for Non-Teaching Roles	Frequency	Percent (%)
Government Employee	7	4.07
Sales Agent/Specialist/Representative	5	2.91
Account Specialist	2	1.16
Marketing Specialist	1	0.58
Technician	1	0.58
Office-based Clerk	10	5.81
Domestic Helper	1	0.58
Call Center Agent	8	4.65
Total	**35**	**20.35**

Table 11. Job Specification for Non-Teaching Roles of Bachelor of Elementary Education – Generalist Graduates

Level of the Bachelor of Elementary Education Graduates Attitude to Work

Table 12 shows the level of the Bachelor of Elementary Education – Generalist graduates with their attitude to work which obtain and earned an overall mean score of 4.68 described as very high. This means that the level of attitude to work by BEED- Generalist graduates is always manifested since most of the response of the graduates are identified to be strongly agreed with the sub-questions under attitude to work.

Based on the table, item number 6 stating – *I participated in all activities and events inside my workplace* got the lowest mean which is 4.6 which is described as very high means that it is always manifested in the workplace of BEED – Generalist graduates. Item number 10 which states – *I seek assistance and help from others whenever I have clarifications and queries* obtained the highest mean which is 4.77 and described as very high means that the said item is always manifested by the BEED – Generalist graduates in their workplace.

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Attitude to Work	Mean	Description
1. I am very interested, happy and satisfied with my work and it is very important for me.	4.68	Very High
2. I like the kind of job and work I am doing.	4.63	Very High
3. I accepted assignments and tasks given to me at work without complaints.	4.70	Very High
4. I arrived on time to prepare my work and extend working hours if necessary.	4.70	Very High
5. I can work better and functional under different working environment and situations.	4.65	Very High
6. I participated in all activities and events inside my workplace.	4.62	Very High
7. I have a good relationship with my colleagues and co-employees.	4.66	Very High
8. I submitted necessary documents and papers on time and beat deadlines.	4.67	Very High
9. I performed my task and job with excellence and outstanding quality.	4.67	Very High
10. I seek assistance and help from others whenever I have clarifications and queries.	4.77	Very High
Overall	**4.68**	**Very High**

Table 12. Level of Bachelor of Elementary Education – Generalist Graduates Attitude to Work

Level of the Bachelor of Elementary Education Graduates Quality Education Provisions

Table 13 shows the level of Bachelor of Elementary Education – Generalist graduates with quality education provisions which obtained an overall mean of 4.77 described as very high which means that graduates of BEED – Generalist's quality education provision is always manifested as they have responded to every sub-question under the quality education provision as strongly agreed.

From the ten sub-questions, item number 5 which states – *quality of learning facilities for first-hand and direct experiences like of different laboratories* obtained the lowest mean of 4.67 which can be described as very high means that this item is always manifested when the graduates studied at the Kapalong College of Agriculture, Sciences and Technology. On the other hand, item number 7 stating – *Level of optimum interaction and contact with my fellow students through different in-campus activities* got the highest means of 4.82 that can be described as very high means that the graduates during their studies in Kapalong College of Agriculture, Sciences and Technology has always manifested the said item.

Quality Education Provision	Mean	Description
1. Availability of course materials and different learning resources needed for our studies.	4.77	Very High
2. Quality of course contents from courses offered as well as the teaching and learning process.	4.78	Very High
3. Conduciveness of the learning environment and atmosphere.	4.78	Very High
4. Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.80	Very High
5. Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.67	Very High
6. Quality of different courses offered in the program that develops the total sum of the student skills.	4.76	Very High
7. Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.82	Very High
8. Well-trained and self-renewing Faculty members and staffs.	4.74	Very High
9. Different trainings, seminars and workshops that prepare students for employment.	4.81	Very High
10. Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.78	Very High
Overall	**4.77**	**Very High**

Table 13. Level of Bachelor of Elementary Education – Generalist Graduates Quality Education Provision

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Level of the Bachelor of Elementary Education Graduates Skills and Abilities Development

Shown in this table 14 is the level of Bachelor of Elementary Education – Generalist graduates with the skills and abilities development which obtained an overall mean of 4.70 described as very high, suggesting that skills and abilities development among BEED graduates are always manifested.

Item number 9 which is the *Technical and Entrepreneurial Skills* obtained the lowest mean of 4.60 described as very high which suggest that BEED graduates always manifest such item. On the other hand, item number 3 which is – *ability to work independently as well as team work and team play* got the highest mean which is 4.80 indicates a very high level of manifestation among BEED graduates.

Skills and Abilities Development	Mean	Description
1. Organizational and leadership skill.	4.69	Very High
2. Problem solving and critical thinking skills.	4.63	Very High
3. Ability to work independently as well as team work and team play.	4.80	Very High
4. Creative thinking and creativity, initiative and taking a risk, if necessary.	4.70	Very High
5. Time Management and decision-making skills.	4.69	Very High
6. Writing competence and skills including technical writing.	4.64	Very High
7. Communication and interpersonal skills.	4.74	Very High
8. Computer and ICT Skills.	4.63	Very High
9. Technical and Entrepreneurial Skills	4.60	Very High
10. Ability to work under pressure.	4.70	Very High
11. Ability to write the essentials and basics of effective lesson planning.	4.74	Very High
12. Code of ethics applied to my teaching profession.	4.77	Very High
13. Knowledge with the different teaching methodologies, techniques and approaches through seminars and workshops.	4.75	Very High
14. Expertise about multidisciplinary research that is essential for understanding students' needs and interests.	4.70	Very High
15. Trainings, seminars and workshops about the preparation and evaluation of different instructional materials.	4.74	Very High
Overall	**4.70**	**Very High**

Table 14. Level of Bachelor of Elementary Education – Generalist Graduates Skills and Abilities Development

DISCUSSION

The summary of the findings based on the collected data through online survey using Google Forms are used to draw the following conclusions and recommendations.

Demographic profile of the BEED Graduates

This tracer study first objective was to identify the demographic profile of Elementary Education graduates from batch 2019 to batch 2023. The results showed that most of the graduates are females encompassing 146 of the graduates. This support the study conducted by Shauman (2016) indicates that female graduates have been increasing at a faster rate compared to male graduates, leading to a decline in the male to female graduate ratio.

Moreover, 98.26% of the graduates are still single with the remaining 1.74% are already married. Othman, Shan, Yusoff, and Kee (2018) states that civil status is one of the factors affecting employability of graduates.

Lastly, most of the graduates are aged around 21-25 years old which is 66.86% of the total graduate-respondents from batch 2019 to batch 2023. According to Mncayi (2016) age have significant influence on the employability of graduates in which in his study, majority of unemployed are from ages 21-24 years old.

Employment Profile and Features of BEED Graduates

Based on the result of the survey of this tracer study, 51.16% of the graduates are employed with majority of them are working as teachers in private or public institutions, 19.195 working as regular employee and 13.95% working as full-time employee. Also, 38.37% of which have said that their college degree has very much relevance to their current job. However, 48.84% of the graduates are still unemployed. Pending license for some graduates have contributed to unemployment as it is a basic entry requirement to public institutions and some private sectors (Pentang, et al., 2022). Another reason to this is the lack of items or position and few job vacancies contribute to the difficulties of employment of some graduates (Gines, 2014).

Also, this can also be true to non-teaching employed graduates which consist of 20.35% of the employed graduates. Most of the non-teaching graduates worked as office-based clerk which is

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5.81% of the total non-teaching employed graduates, 4.65% work as call center agent, and 4.07% work as government employee.

On the level of income of employed graduates, 22.67% have an income of not less than Php21,000 but not more than Php30,000 per month. Only 2.33% have an income of above Php30,000 per month while 12.21% have income that ranges from Php1,000 to Php10,000 per month. Further, 20.93% of the employed graduates have landed on their first job within 4 to 8 months after they graduated. While 19.19% have their first job within 3 months after graduation and only 1.74% have their first job after a year or more. Notably, some graduates who have their first job within a month after they graduated have a monthly earning ranging from Php5,000 to Php10,000 (Biscante, Clemencio, & Negado, 2019).

Level of the Bachelor of Elementary Education Graduates Attitude to Work

The graduates Bachelor of Elementary Education – Generalist with their attitude to work indicated a very high level of description. This entails that BEED graduates' level of attitude to work is always manifested as the graduate-respondents strongly agree with the sub-questions under attitude to work.

Similarly, a recent tracer study conducted by Asoy, et al., (2024) on BSED Mathematics graduates revealed that graduates have a very high level of attitude to work which means that they are efficient and effective on their work tasks or in their workplace. Also, a study of Sarsenova, Sadyrova, Montayev, & Imanbekova (2016) found out that the attitude towards work of education graduates is influenced by factors like professional values, motivation, and employment prospects, shaping their career decisions and satisfaction levels. The study also emphasizes the view of students to higher education as a necessity for career development and life.

Level of the Bachelor of Elementary Education Graduates Quality Education Provisions

The level of the Bachelor of Elementary Education – Generalist graduates with their quality education provision was described as very high. This entails that the graduate-respondents strongly agree with the sub-questions of quality education provision and that it is always manifested during their time studying in Kapalong College of Agriculture, Sciences and Technology.

Similarly, a tracer study of Silongan et al., (2024) with graduates of BSED Filipino reveals the institution commitment in providing its clients quality education by allowing students to be expose to different training programs, seminars, learning resources, and competent line of faculty and staff.

In connection to the findings of this study, Mahputriono (2022) The quality of education provision directly impacts the quality of education and graduates, influenced by funding management and curriculum effectiveness. Also, quality education provision ensures well-prepared graduates, enhancing their competitiveness in the labor market. It is also crucial for individual development and societal progress in a knowledge-based society (Branişte, Calugher, & Lungu, 2017).

Level of the Bachelor of Elementary Education Graduates Skills and Abilities Development

The level of the Bachelor of Elementary Education – Generalist graduates with skills and abilities development was described as very high. This means that skills and abilities among BEED graduates are always manifested.

In connection to the result, Ilyas and Ali (2023) emphasizes the importance of employability skills development programs during and after graduation for enhancing employability of the graduates. They said that employability component such as personal qualities, core skills, attitudes and work ethics of the graduates have influence to their employability.

Moreover, the elementary education graduates exhibit very high level of communication and interpersonal skills, problem solving and critical thinking skills, and ability to work independently as well as team work and team play. Education graduates need to develop both professional skills and soft skills like communication, problem-solving, and adaptability to succeed in the evolving job market (Qizi, 2020). A study by Baird and Parayitam (2019) found out that most employers place importance to the interpersonal skills, critical thinking skills, communication skills, problem solving skills, professionalism and personal motivation of job seekers in hiring workers.

Summary of Findings

After the successful conduct of the survey, which received responses from graduates of Bachelor of Elementary Education – Generalist program of the Kapalong College of Agriculture, Sciences and Technology, the following are the summary of findings:

From 2019 to 2023, the institution produced a total of graduates in which 26 males and 146 are females. In terms of civil status, most of the graduates are single with 98.26% of the total number of graduates-respondents and the remaining 1.74% are already married. Also, in terms of age, 66.86% of the graduates are in the range of 21 to 25 years old. Batch 2019 have the highest number of graduates with a total of 105 while batch 2020 have lowest which consist of only 2 graduates.

Moreover, the employment rate of the graduates is 51.16% with the remaining 48.84% are unemployed. From those graduates who are employed, 22.67% have monthly income within the range of Php21,000 to Php30,000, with 20.93% have secured their first job within 4 to 8 months. Also, 38.37% of the employed graduates have said that their degree has very much relevant to their current job. However, 20.35% of employed graduates are working on jobs that are non-teaching.

Lastly, the response of the graduates in the survey indicates a very high level of attitude to work and quality education provision of

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the institution. Also, the level of skills and abilities development of the graduates was evaluated as very high.

CONCLUSION

After the conduct of the survey, the following were the conclusion drawn: the employment rate of BEED graduates from batch 2019 to 2023 is 51.15% indicating that half of the graduates are capable to seek and obtain job with most of them working as regular and full-time employee. Further, it was also revealed that their degree has very much relevant to their current job as most of them practice the teaching profession in their work. These indicates that the institution has successfully prepared the graduates to their fields as the it offers quality education.

Moreover, the graduates' attitude to work have obtained a very high level of description which indicates that they have values of professionalism that is important in their job to work competently and excellently. Also, the level of quality education provision was rated very high which signifies that the institution is committed in providing quality education to their students by conducting seminars and trainings, accessibility of different learning resources and materials, and hiring competent faculty and staff. Lastly, the skills and abilities development of the graduates was evaluated as very high which indicates that the institution have undoubtedly supported the development of skills and interest of the graduates throughout their time studying there.

RECOMMENDATIONS

Based on the summary of findings and drawn conclusions of the study, the following are the recommendation of the study: First, the institution should improve partnerships with local industries and community linkages to provide more opportunities for graduates to wok after completing their degree considering that most of the graduates have secured their first job within four to eight months after they graduated and to improve the rate of employment. Second, establishing graduate and employability coordinator will help the institution trace the employment of the graduates and inform them of vacancies for work and other job opportunities. Third, the institution should organize seminars, workshops, and trainings that would help motivate graduates and BEED graduates who work in non-teaching fields to continue to pursue the teaching profession. Lastly, the institution should invest on facilities such as laboratories to improve its quality education provision. The institution should also improve the technical and entrepreneurial skills of the students by strengthening partnership with local businesses and conducting workshops and seminars.

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APPLICATION OF UNIFIED POWER FLOW CONTROLLER FOR PERFORMANCE IMPROVEMENT OF POWER SYSTEM

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ABSTRACT
The growing demand for electricity due to population growth and industrialization often leads to heavy loading of transmission lines and voltage instability. However, conventional methods of improving voltage stability are normally slow and difficult to control. This paper employs a Unified Power Flow Controller (UPFC) for performance improvement of the Nigeria's 330kV transmission system. The result shows significant improvement in the network voltage and reduction in power losses.

1. INTRODUCTION

The rising demand for electricity in Nigeria has led to severe disturbances, breakdowns and voltage collapses. Voltage stability is the capability of a power system to maintain steady voltages at all buses or nodes in the system, under normal operating condition and after being exposed to disturbances from a given initial operating condition (Ingole and Gohokar, 2016). The major incidents causing voltage instability are insufficient supply of reactive power or excessive absorption of the reactive power from the system, large distance between the sending and receiving end voltages, sudden increase in load demand in a heavily stressed network (Chowdhury et.al, 2015). The aforementioned causes of voltage instability when left unattended to will result in voltage collapse and subsequently, in partial or total blackout of an entire network as a result of the cascading failure it caused.

Flexible A.C transmission system is an evolving technology used to solve power system instability problems. Its first concept was introduced by (Hingoram and Gyugyi, 1999). Since then different kinds of FACTS devices have been proposed. Flexible Alternating Current Transmission Systems (FACTS) was developed and deployed as a sustainable short-term measure to control system operation by ensuring voltage stability and increasing transmission line transfer capacity(Suchak et al., 2017). Amongst the various FACTS devices, Unified Power Flow Controller (UPFC) has a unique capability to control flow of power in multiple line and even sub-network, as against the more conventional FACT devices that control only single line power flow (Padiyar, 2007). Placing FACTS controllers at appropriate location, enhances the stability of the system. Proper installation of UPFC would ensure minimal congestion in critical lines, reduce losses on the system, and also improve stability of the system (Sharma and Gupta, 2012).

2. UNIFIED POWER FLOW CONTROLLER

The unified power flow controller is a second-generation FACTS controller. It is the most promising device in the FACTS concept. It has the ability to adjust the three control parameters, i.e., the bus voltage, transmission line reactance and phase angle between two buses. UPFC is also the most versatile FACTS controller that can be used to improve steady state stability, dynamic stability and transient stability (Onuegbu et al., 2020). Among the various FACTS devices, UPFC is regarded as the most effective version since it serves to control the three parameters at the same time. It suggests that control of transmission power can be affected by changing three parameters namely impedance, voltage magnitude and voltage angle difference between the ends of the line.

Unified power flow controller is a power electronics-based controllers that can acts as a shunt compensator, phase converters and series compensators simultaneously or separately on the transmission line (Sadikovic, 2003). The UPFC operation can be changed from one state to another without having to do generation reschedule or change line topology (Slochanal, Latha, and Chithiravelu, 2005).

The basic structure of the UPFC is shown in Fig 1. It consists of two voltage source converters and a DC circuit represented by the capacitor. Converter 1 is primarily used to provide the real power demand of converter 2 at the common DC link terminal from the AC power system. Converter 1 can also generate or absorb reactive power at its AC terminal, which is independent of the active power transfer to (or from) the DC terminal. Therefore, with proper control, it can also fulfill the function of an independent advanced static VAR compensator providing reactive power compensation for the transmission line and thus executing indirect voltage regulation at the input terminal of the UPFC.

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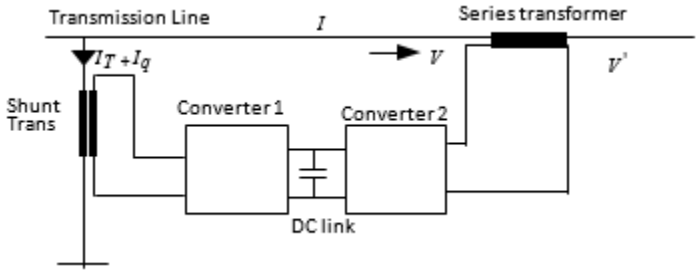


Fig 1. Schematic diagram of UPFC (Sadikovic, 2003).

Converter 2 is used to generate a voltage source at the fundamental frequency with variable amplitude ($0 \leq V_T \leq V_{Tmax}$) and phase angle ($0 \leq \Phi_T \leq 2\pi$), which is added to the AC transmission line by the series connected boosting transformer. The converter 2 output voltage injected in series with line can be used for direct voltage control, series compensation, phase shifter and their combinations. This voltage source can internally generate or absorb all the reactive power required by the different type of controls applied and transfers active power at its DC terminal.

2.1 UPFC Equivalent Circuit

Fig 2 indicates the P_{pq} representing the real power exchange between shunt and series branches. V_{pq} represents the voltage through series compensator and Q_{pq} reactive power injected by the compensator and also shown in the circuit V_S sending and V_R receiving-end voltages. Also, shown that $V_{seff} = V_S + V_{pq}$ Where, V_{seff} = Effective voltage V_S = Sending Voltage V_{pq} = Represents the voltage through series compensator

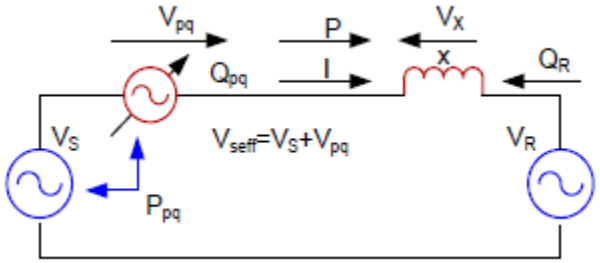


Fig. 2: UPFC operations schematic [10] (Cao and Qian, 2011).

2.2 UPFC Phasor Diagram

Fig 3(a) indicates the voltage regulation operations in UPFC. In the second Fig 3(b) indicates the line impedance compensation and management in the UPFC controller. In the third Fig 3(c) phase shifting expressed in UPFC controller and in the Fig 3-(d) indicates UPFC control parameters.

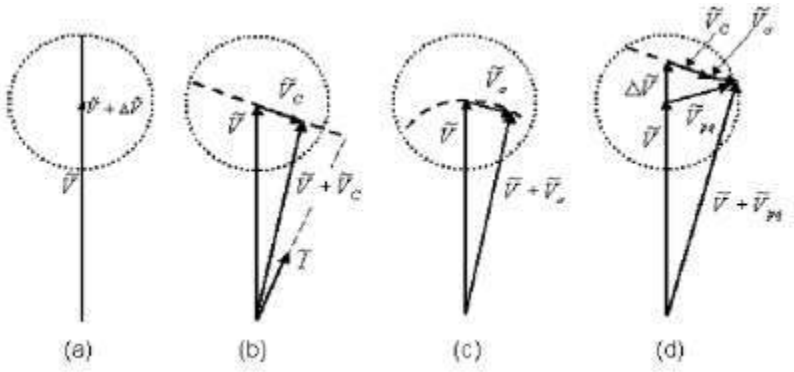


Fig 3: UPFC Phasor diagram (Abdollahi and Tavakoli, 2010).

2.3 Mathematical modelling of UPFC

A UPFC can be represented by two voltage sources representing fundamental components of output voltage waveforms of the two converters and impedances being leakage reactance of the two coupling transformers as shown in Fig 4 (Mete and Mehmet, 2007).

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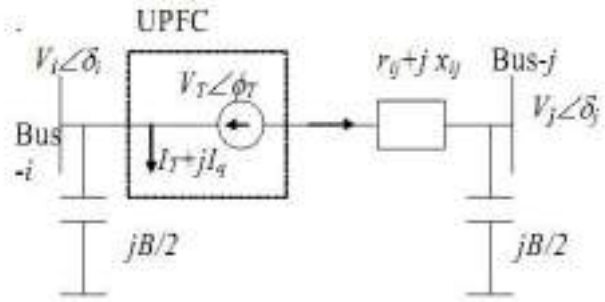


Fig 4. Equivalent circuit of UPFC (Singh and Erlich, 2005).

Based on the basic principle of UPFC and network theory, the active and reactive power flows in the line, from bus-i to bus-j, having UPFC can be written as (Verma, Singh and Gupta, 2001).

$$P_{ij} = (V_1^2 + V_T^2)g_{ij} + 2V_iV_Tg_{ij}\cos(\emptyset_T - \delta_j) - V_JV_T[g_{ij}\cos(\emptyset_T - \delta_j) + b_{ij}\left(\sin(\emptyset_T - \delta_j)\right] - V_iV_j(g_{ij}cos\delta_{ij} + b_{ij}sin\delta_{ij}) \quad (1)$$

$$Q_{ij} = -V_iI - V_i^2(b_{ij} + B/2) - V_iV_T[g_{ij}\sin(\emptyset_T - \delta_i) + b_{ij}\cos(\emptyset_T - \delta_i)] - V_iV_j(g_{ij}sin\delta_{ij} - b_{ij}cos\delta_{ij})] \quad (2)$$

Where $g_{ij} + jb_{ij} = \frac{1}{r_{ij}+jx_{ij}}$ and I_q is the reactive current flowing in the shunt transformer to improve the voltage of the shunt connected bus of UPFC. Similarly, the active and reactive power flows in the line, from bus-j to bus-i, having UPFC can be written as,

$$P_{ij} = V_j^2g_{ij} - V_jV_T[g_{ij}\cos(\emptyset_T - \delta_j) - b_{ij}\sin(\emptyset_T - \delta_j)] - V_iV_j(g_{ij}cos\delta_{ij} - b_{ij}sin\delta_{ij}) \quad (3)$$

$$Q_{ji} = -V_j^2(b_{ij} + {}^{B}/_{2}) - V_iV_j(g_{ij}\sin(\emptyset_T - \delta_j) - b_{ij}\cos(\emptyset_T - \delta_j)) + V_iV_j(g_{ij}sin\delta_{ij} + b_{ij}cos\delta_{ij}) \quad (4)$$

The real power and reactive power injections at bus-i with the system loading (λ) can be written as (Singh and Erlich, 2005).

$$P_i = P_{Gi} - P_{Di}^0(1 + \lambda) = \sum_{J\in N_b} P_{ij} \quad (5)$$

$$Q_i = Q_{Gi} - Q_{Di}^0(1 + \lambda) = \sum_{J\in N_b} Q_{ij} \quad (6)$$

Where,

P_{Di}^0 and Q_{Di}^0 are the initial real and reactive power demands.

P_{Gi} and Q_{Gi} are the real and reactive power generations at bus-i respectively.

N_b is the number of system buses and λ is the sensitivity of system loading (Verma, Singh and Gupta, 2001).

2.4 UPFC Controller Benefits

UPFC has an exceptional capability to control independently the real and reactive power flow at any transmission angle. The sending and receiving end voltages are provided by independent power systems that are able to supply and absorb real power without any internal angular change. In practice, the situation will be different depending on the change in load angle.

3. METHODOLOGY

Newton Raphson iterative technique was adopted in this study because of its fast convergence and accuracy with small number of iterations. MATLAB program was used to perform the load flow computation and simulation. The load flow result identifies weak buses in the network. Those weak bus are considered as the possible locations for placement of unified UPFC, with a view of improving voltages in those buses to acceptable limits.

3.1 The System Description

The test system is the 24-bus Nigerian power system consist of 7 generators, 23 loads, and 39 lines as shown in Fig.2. There is an installed capacity of 6,500 MW of generated power. The system is characterized by high power losses and frequent voltage instability. The transmission grid system is also characterized by radial, fragile and long transmission lines. The existing system comprises over 11,000km of transmission lines (about 5,523km for 330kV lines and about 6,889km for 132kV lines). There are 32 Nos of 330/132 kV substations with total installed transformer

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capacity of 7,688MVA (equivalent to 6,534.8 MW). The distribution sector is comprised of 23,753km of 33KV lines 19,226km of 11kv lines, 679 of 33/11KV sub-stations. There are also 1790 distribution transformers and 680 injection substations. The 24-bus model of Nigerian network is as shown in Fig.5.

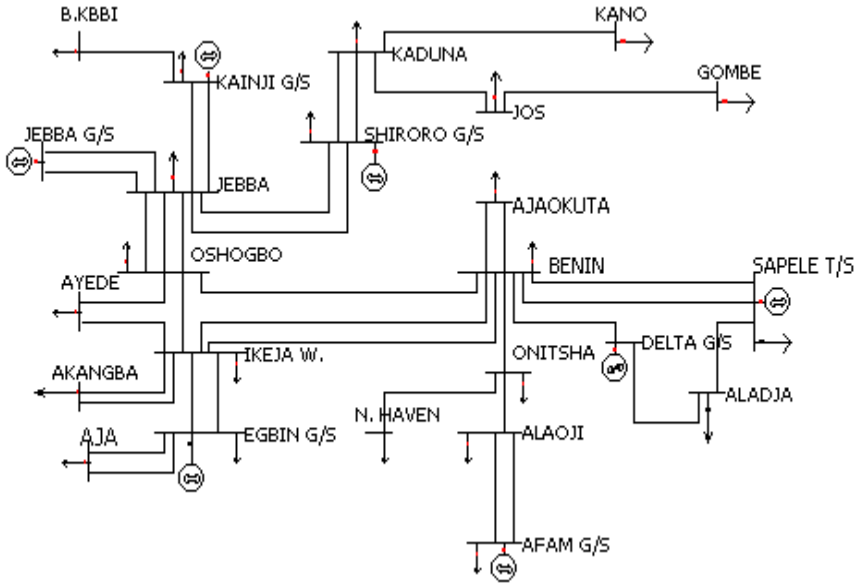


Fig. 5. A single line diagram of the Nigerian 330kV power system (Fasina et al, 2020).

3.2 Data Collection: The data used for this study were obtained from Power Holding Company of Nigeria (PHCN) and are presented in Table 1, Table2 and Table3.

TABLE 1. Line data (Fasina et al, 2020).

From Bus	To Bus	R (p.u)	X (p.u)
Osogbo	Ikeja	0.0099	0.0745
Osogbo	Benin	0.0098	0.0742
Egbin	Aja	0.0006	0.0044
Ikeja	Akangba	0.0007	0.0050
Osogbo	Ayede	0.0045	0.0340
Ikeja	Egbin	0.0023	0.0176
Ikeja	Benin	0.0110	0.0828
Ikeja	Ayede	0.0054	0.0405
Benin	Delta	0.0043	0.0317
Benin	Sapele	0.0020	0.0148
Kainji	Jebba	0.0032	0.0239
Shiroro	Kaduna	0.0038	0.0284
Afam(iv)	Alaoji	0.0010	0.0074
Ajaokuta	Benin	0.0077	0.0576
Jebba	Osogbo	0.0061	0.0461
Kaduna	Kano	0.0090	0.0680
Kaduna	Jos	0.0081	0.0609
Jos	Gombe	0.0118	0.0887
Sapele	Aladja	0.0025	0.0186
Benin	Onitsha	0.0054	0.0405
Onitsha	Newhaven	0.0036	0.0272
Delta(iv)	Aladja	0.0012	0.0089
Onitsha	Alaoji	0.0060	0.0455
Jebba GS	Jebba	0.0002	0.00020
JebbaTS	Shiroro	0.0096	0.0721
Kainji	Birnin	0.0122	0,0916

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TABLE 2. Demand data (Fasina et al, 2021).

Bus No	Bus Name	P_{load} (MW)	Q_{load} (MVAR)
1	Sapele	21	15
2	Delta	0	0
3	Aja	274	206
4	Akangba	345	259
5	Ikeja	633	475
6	Ajaokuta	14	10
7	Aladja	97	72
8	Benin	383	288
9	Ayede	276	207
10	Osogbo	201	151
11	Afam	53	39
12	Alaoji	427	320
13	N-Haven	178	133
14	Onitsha	185	138
15	Birnin	115	86
16	Gombe	131	98
17	JebbaTS	11	8
18	JebbaGS	0	0
19	Jos	70	53
20	Kaduna	193	145
21	Kainji	7	5
22	Kano	200	150
23	Shiroro	320	256
24	Egbin	69	52

Table 3. Generator Data (Fasina et al, 2021).

Bus Name	Pg (MW)	Qg (MW)	Qgmax (MVAR)	Qgmin (MVAR)
Sapele	690	400	952	0
Delta	770	1407	3350	0
Afam	431	2155	9050	0
Jebba GS	495	1040	2475	0
Kainji	625	1312	3124	0
Shiroro	389	817	1945	0
Egbin	0	0	0	0

4. RESULT AND DISCUSSION

This section presents the result of load flow analysis using Newton Raphson iteration method. The analysis was based on 24-bus 330KV power transmission line in Nigeria used as a case study. Taking into consideration IEEE standard acceptable limits of $\pm 10\%$ tolerance.

4.1 POWER FLOW SOLUTION BY NEWTON RAPHSON METHOD

The result of the power flow solution for the system under consideration is as presented in Table 4 and Table 5. Newton Raphson power flow analysis was carried out on the test case with and without the UPFC using MATLAB software because of the number of buses involved.

Table 4: Power flow solution without UPFC

Bus No	Bus Name	Voltage Magnitude	Angle degree
1	Sapele	1.040	0.000
2	Delta	1.040	10.834
3	Aja	1.025	0.284
4	Akangba	1.012	0.640

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5	Ikeja	1.018	1.068
6	Ajaokuta	1.036	6.162
7	Aladja	1.035	9.267
8	Benin	1.024	6.560
9	Ayede	**0.864**	**4.001**
10	Osogbo	1.013	6.650
11	Afam	1.040	10.314
12	Alaoji	1.0330	9.676
13	N-Haven	**0.856**	**4.522**
14	Onitsha	1.016	1.096
15	Birnin	1.033	13.893
16	Gombe	**0.825**	**5.376**
17	JebbaTS	1.034	12.357
18	JebbaGS	1.040	13.800
19	Jos	**0.872**	**9.265**
20	Kaduna	**0.862**	**7.011**
21	Kainji	1.040	15.558
22	Kano	**0.779**	**3.962**
23	Shiroro	1.040	8.075
24	Egbin	1.040	0.000

The result of power flow solution without UPFC incorporated shows that there are some buses like bus 9 (Ayede), 19 (Jos), 16 (Gombe), 22 (Kano), 13 (New heaven) and 20 (Kaduna) are having low voltages (i.e. below 0.94pu the allowable or permissible voltage limit) and was improved by applying UPFC in other to maintain the bus voltage magnitudes at 1.04 pu. The updated voltages are presented in the Table 5.

Table 5: power flow solution with UPFC

Bus No	Bus Name	Voltage Magnitude	Angle degree
1	Sapele	1.040	0.000
2	Delta	1.040	10.834
3	Aja	1.025	0.284
4	Akangba	1.012	0.640
5	Ikeja	1.018	1.068
6	Ajaokuta	1.036	6.162
7	Aladja	1.035	9.267
8	Benin	1.024	6.560
9	Ayede	**1.020**	**5.001**
10	Osogbo	1.013	6.650
11	Afam	1.040	10.314
12	Alaoji	1.0330	9.676
13	N-Haven	**1.021**	**9.615**
14	Onitsha	1.016	1.096
15	Birnin	1.033	13.893
16	Gombe	**1.010**	**11.442**
17	JebbaTS	1.034	12.357
18	JebbaGS	1.040	13.800
19	Jos	**1.031**	**18.262**
20	Kaduna	**1.032**	**12.011**
21	Kainji	1.040	15.558
22	Kano	**1.010**	**11.252**
23	Shiroro	1.040	8.075
24	Egbin	1.040	0.000

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5. CONCLUSIONS

The growing demand for electricity due to population increase and industrialization without a corresponding increase in generation has resulted in system instability. In this paper, the power flow analysis of Nigerian 330kv grid system was carried out with and without incorporation of UPFC. The results show the weak buses which are found in the northern part of the country. The incorporation of UPFC in the power system provided improvement to the voltage instability at the weak buses. Unified power flow controller (UPFC) is a modern control equipment to control the real and reactive power flow on transmission lines either simultaneously or separately. Therefore, it is strongly recommended that the Nigeria power utility has to consider the use of Unified Power Flow Controller (UPFC to improve the network voltage and reduce voltage losses across the line in the system.

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EVOLUTION OF A REBEL HERO: A STUDY OF GURDIAL SINGH'S *NIGHT OF THE HALF MOON/ADH CHANANI RAAT*

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ABSTRACT

Gurdial Singh Rahi is a reputed novelist, who has portrayed realistic Malwa region of Punjab in his fiction and is translated from original Punjabi language into many of the world languages. His fifth novel, Night of the Half Moon/Adh Chanani Raat, is a critically acclaimed piece of art, in which Gurdial Singh has created an immortal rebel hero, Modan, who shares heroic characteristics of the legendry heroes of Punjab like Dulla Bhatti, Jeona Morh, Jagga Daku, Sucha Surma, Mirza and Arjan Valley etc. The paper endeavours to study the nuances of the evolution of a rebel hero, by understanding what is to be a hero, hero's definition, and his inspiration from Northrop Fry's archetypal and Albert Camus' existential lenses. The paper attempts to understand the psychology of the novel's rebel hero, who strives hard for keeping his honour, putting at stake all that he has, for living a manly life, when all other, around him are falling into nihilism.

KEYWORDS: *absurdity, existentialism, honour, meta narratives, mythology, nihilism, rebel hero.*

Punjabi fiction has a rich and diverse history that spans several centuries. The literary tradition of Punjabi fiction has evolved over time, influenced by the cultural, social, and political changes in the Punjab region. The early period of Punjabi literature was dominated by religious and mystical poetry, primarily in the form of Sufi poetry by saints like Baba Farid and Guru Nanak. However, narrative elements were present in these poetic works. The 19th century saw the emergence of prose fiction in Punjabi literature. This period marked the beginning of the modern Punjabi literary tradition. Punjabi novel is said to have emerged with the works of stalwarts like Bhai Vir Singh, Mohan Singh Vaid, Charan Singh Shaheed, Joshua Fazal Din, and others. The works of Bhai Vir Singh, a prominent Sikh scholar, poet, and novelist, played a crucial role in shaping Punjabi fiction. His novels, such as *Satwant Kaur* and *Sundari*, were among the early contributions to Punjabi prose fiction. Based on the vibrant Punjabi culture, the early 20th century witnessed a significant growth in Punjabi literature in fiction, with writers exploring various themes related to social issues, cultural identity, and rural life. Nanak Singh, a renowned Punjabi novelist, made notable contributions during this period. His novel *Chitta Lahu* (*White Blood*) is considered a classic in Punjabi literature. The partition of India in 1947 had a profound impact on Punjabi literature. Writers from both sides of the border explored the themes of displacement, loss, and identity in their works. Prominent Punjabi fiction writers of this period include Khushwant Singh, Amrita Pritam, and Balwant Gargi. Amrita Pritam's *Pinjar (The Skeleton)* is a well-known novel that delves deep into the consequences of partition. Punjabi fiction has continued to evolve in the contemporary period, with writers exploring a wide range of themes such as militancy, class/caste struggles, urbanisation, globalisation, resistance and the challenges faced by the Punjabi diaspora. Recent Punjabi fiction writers include Gurdial Singh, Waryam Singh Sandhu, and Surjit Patar, among others. Punjabi fiction, like literature in any other language, reflects the social and cultural makeup and evolution of the community it represents. The themes and styles have diversified over time, providing a rich tapestry of storytelling that captures the essence of heroic Punjabi life and its ever-changing dynamics.

Gurdial Singh Rahi (10 January 1933 to 16 August 2016), a celebrated writer, born in Punjab's small village Bhaini Fateh, near Jaito in Faridkot district, is an established eminent novelist who wrote in Punjabi. Gurdial Sigh did not have a smooth and easy childhood. His father who was a carpenter and a blacksmith had to drop out his son from school when he was in his eighth grade. Gurdial Singh had no other option than to be an apprentice, because of his economic condition. Master Madan Mohan, the Headmaster in the Primary School, Jaito, held Gurdial Singh's hand, encouraged him to continue his education and mentored him. With his compassionate and crucial help, Gurdial Singh matriculated and was appointed as a primary teacher. He continued his studies and was promoted to High School and earned MA in Punjabi in 1967. Gurdial Singh had to leave his village for his teaching, but the village remained in him wherever he was, and, after he retired, he settled in Jaito, for rest of his life. As he lived a rustic life, he grew to be a rare literary talent portraying an authentic rural Punjab, particularly the Malwa region, in his fiction. As a successful creative writer of fiction he was honoured with various literary recognitions and awards, such as Language department, Government of Punjab's Sarvottam Pustak Puruskar consecutively for three years in 1966, 1967 and 1968. He bagged this award again in the year 1972. In 1975 he was finalised for the prestigious Sahitya Academy Award and reputed Nanak Singh Novelist Award. In 1976, he was conferred with Punjab Sahitya Academy Award followed by Soviet Nehru Award in 1986, Punjab Government's Best Litterateur Award and Guru Nanak Dev University's Bhai Veer Singh Award in 1992. The President of India honoured Gurdial

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Singh with Padma Shree in 1998. He was also honoured with the prestigious Jnanpeeth Award in 1999.

Gurdial Singh is considered a pioneer of realism in modern Punjabi fiction. He has successfully depicted the changes along with the crisis at the time of the shift from feudalism to capitalism in Punjab. He has depicted the changing relations between individuals and their crises due to economic upheavals with special reference to Malwai fraternity. Gurdial Singh has passionately and realistically presented the stress of human minds in his writings. Most of his novels are concerned with the period of Green Revolution when on one side, feudalism was still in existence and on the other, commercialisation of agriculture on the capitalist pattern had already begun. Therefore, the individuals were going through a period of turbulence due to substitution of old moral and social values with relatively amoral commercial attitude. The main reason for this change may have been the shift in whole economic system as all social life/superstructure is ingrained in economic set up/base. His first short story was published in 1957 but his real break in the literary world came with the publication of his first novel *Marhi da Diva* (*The Last Flicker*) in 1964 as it intricately explores the lives of landless peasants, offering a poignant depiction of socio-economic disparities in rural Punjab. In *Anhe Ghode da Dan* (*The Gift of a Blind Horse*), Singh delves into the harsh realities faced by Dalits, masterfully critiquing social injustices and portraying the resilience of marginalised communities. *Parsa* weaves a narrative around a folk artist, examining the preservation of cultural heritage amidst societal shifts. Singh's literary contributions, characterised by realism and depth, portraying the underdog hero weathering all odds, continue to resonate in Punjabi literature, enriching the understanding of Punjab's socio-cultural intricacies.

Gurdial Singh's critically acclaimed, fifth novel, *ਅੱਧ ਚਾਨਣੀ ਰਾਤ Night of the Half Moon* (*Adh Chanani Raat*) was originally published in Punjabi in the year1972 and was later translated in English by Pushpinder Syal and Rana Nayar, published by Macmillan Publishing house in the year 1996. The novel presents an actual microcosm of the Malwa region of Punjab, as Gurdial Singh depicts the heroism of Modan, modelled on Punjabi folk heroes like Dulla Bhatti, Jeona Morh, Jagga Daku, Sucha Surma, and Mirza etc, a representative of the Jat community and their value of honour, above everything else. The novel fetched Sahitya Akademi Award and Nanak Singh Novelist Award in 1975 for its acknowledged literary merits. On one level, the novel offers the story of a dispute between two agrarian families of rural Malwai Punjab, and on another, it delves deep into the real Malwai life of Punjab of 1970s. Singh, belongs to the third generation of Punjabi novelist and is celebrated as a realist artist who writes unconventionally, fiddling with the linear chronology of the narrative and offering his plot using flashbacks and flashforwards in order to reveal the internal lives of his characters, especially in his *Night of the Half Moon/Adh Chanani Raat.*

Heroism has been a significant value and is as old as human civilisation. A hero, universally, is supposed to possess certain qualities, which establish one as superior to the common lot, undisputedly. The word hero, etymologically, came into English language from Greek word ἥρως (hērōs), meaning a protector or a defender. Cambridge dictionary defines hero, to be "a person who is admired for having done something very brave or having achieved something great" ("Hero"). Many cultures demand some common qualities in a hero, like, courage, honour, bravery, honesty, loyalty, sacrifice, loyalty etc. Each culture has its own set of sources like myths, tales, legends, folk literature, and songs for idealising a hero. According to Andrew Bernstein, the concept of heroism is a complex one, derived from a high-level abstractions. Primarily, it is moral concept which, "requires a rational philosophical system, including the principle of mind-body integration, as its proper base. Without such a basis the concept can be neither rigorously defined nor adequately understood" ("Philosophical Foundations"). He believes:

> A hero is… an individual of elevated moral stature and superior ability who pursues his goals indefatigably in the face of powerful antagonist(s). Because of his unbreached devotion to the good, no matter the opposition, a hero attains spiritual grandeur, even if he fails to achieve practical victory. Notice then the four components of heroism: moral greatness, ability or prowess, action in the face of opposition, and triumph in at least a spiritual, if not a physical, form. ("Philosophical Foundations")

Gurdial Singh, has created an immortal character, whom he has named Modan in this novel. Modan has all the characteristics mentioned by Bernstein as he displays his moral greatness, ability to sustain, action in tough times, and triumph in winning readers' hearts. No hero can be created in a vacuum, in isolation, in an absence of a good cause, without a support system, and without a great antagonist. Modan, a thorough Jat, lives in a realist Malvai village in Punjab amidst Malwai characters, and struggles for his honour, displays ample courage repeatedly, makes many sacrifices for his brothers, loves his wife Dani, behaves like a great son, brother, husband and friend, who ultimately dies for his honour.

Aristotle also shared his views on heroism in his *Poetics*. Highlighting passages from Aristotle's *Poetics*, Northrop Frye reveals:

> In the second paragraph of the Poetics Aristotle speaks of the differences in works of fiction which are caused by the different elevations of the characters in them. In some fictions, he says, the characters are better than we are, in others worse, in still others on the same level. This passage has not received much attention from modern critics, as the importance Aristotle assigns to goodness and badness seems to indicate a somewhat narrowly moralistic view of literature. Aristotle's words for good and bad, however, are *spoudaios* and *phaulos*, which have a figurative sense of weighty and light. In literary fictions the plot consists of somebody doing something. The somebody, if an individual, is the hero, and the something he does or fails to do is what he can do, or could have done, on the level of the postulates made about him by the author and the consequent expectations of the audience. Fictions, therefore, may be classified, not morally, but by the

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> hero's power of action, which may be greater than ours, less, or roughly the same. (Frye 33)

Aristotle considers the "weighty" characters to be heroes, who dare to go against the wind for their conviction, do some difficult tasks, which cannot be done by ordinary. His hero is a life like, a common character, but, his conviction, character, courage and determination is uncommon. The real characters in life and literature try to emulate heroic characters in mythologies, scriptures, epics etc, but, to trace the real influence is not possible, as it deals more with the unconscious than the conscious being of a society. Northrop Frye states,

> Where a religion is mythological and polytheistic, where there are promiscuous incarnations, deified heroes and kings of divine descent, where the same adjective 'godlike' can be applied either to Zeus or to Achilles, it is hardly possible to separate the mythical, romantic, and high mimetic strands completely. (34)

Andrew Bernstein describes heroes, as, the people, "who pursue rational values in the teeth of every form of opposition" ("Philosophical Foundations"). Developing his essay on heroes, Bernstein further explores:

> Some are predominantly physicalistic heroes, some primarily intellectual, some are excellent examples of the principle of mind-body integration; some are grand scale characters towering through a work of fiction, whether on the printed page, stage or screen – while some perform their great and notable deeds in actual existence…. And yet, through the teeming multiplicity of individualized differences, there runs a recurrent thread, a distinguishing essence that unites them all into a common classification, as differentiated from their antipode, from the mundane, the trivial, the everyday, the pedestrian, the non-heroic – or worse, from the evil, the villainous, the anti-heroic. ("Philosophical Foundations")

One of the characteristic hallmarks of all heroes is their resistance or rebellion to injustice. After studying about the rebel historically and philosophically in many cultures Albert Camus in his *The Rebel* agrees that the world in which we are living is absurd because we have "no higher value to direct our action" (13). Camus realises this world is absurd and we are living in an illogical situation, where God does not control anything and we are stuck in existential being where, "man is in danger of falling into nihilism" (Todd x). In such an absurd world, man does not have any hope of being protected by God, and he has an option either to fall to nihilism or to rebel and be a rebellion. Fighting and being a rebellion is better than falling to nihilism, passively, "The will to fight injustices can counterbalance the nihilistic temptation" (Todd x). Modan, the hero, in this novel also choses to be a rebellion, than to be an ordinary person suffering and falling to nihilism in a godless world. To rebel is to say 'No' to injustice and to hold on to the manliness. Oliver Todd writes in this context:

> Camus claimed that the rebel is a man who says no, because he wants to defend what has to be defended in Man. True to a literary and metaphysical mood, very much in the continental French rationalist tradition, Camus substituted 'I rebel therefore we are' for Descartes' 'I think therefore I am'. (x)

The narrative opens from the middle of the plot with revealing the psychological state of the hero, Modan, who is returning home after completing fourteen years of imprisonment for his eventual tragic death. He is mentally occupied and thinks about his life that he spent in his village before his conviction. He is unable to reconnect with his surroundings and misses his jail friends who are still living a life of prisoner. Being suffering from a sort of melancholy, he is reticent and a bit rude to answer the friendly advances of his fellow traveller. He reaches his village in the dark and registers the change that the mud houses are replaced by the brick houses. He is not warmly received by his brothers notices that his brothers have also reconstructed a portion of the house. When he sees his mother, Har Kaur in pathetic condition he gets more depressed. He feels out of place and insists that he will shift to their old house situated on a mound, outside the village. By now, the reader does not know the cause of Modan's imprisonment and the changed attitude of his brothers. Gurdial Singh like a modernist, uses the technique of flashback and reveals the events and the characters that have led to Modan's imprisonment. Singh introduces Pala, who was Modan's father, and was an innocent and diligent farmer, living peacefully with his wife Har Kaur and three sons, Modan, Sajjan and Chhottu. Whole of his life, Pala lived a harmless life and never wronged anyone in his village.

The novelist also introduces another farmer Ghana *Lambardar*, who hates Pala, because the latter's uncle, Sauna had stood against Ghana's father trying to capture the land of his cousins fraudulently. Because of his tussle, Ghana frames Pala in a false case and gets him insulted, arrested and imprisonment for one and a half years. Pala is so shocked psychologically that after being released he cannot face society, does not get up from bed, gets weaker and weaker and ultimately dies. He keeps on wondering for the wrong for which he was so punished, "What harm have I ever done to anyone? Where lies my fault? Tell me. Can anyone answer me?" (*Night of the Half Moon* 20). All know Ghana's conspiracy, but none dares speak about it. Not only this, young teenager Modan was also traumatised because of police's public beating of his mother and her public disrespect, without any crime of his parents. Being the elder male in the family, though a teenager, Modan bravely takes up the responsibility of his family, after his father's death. Some years after losing his father, one night, Modan visits his uncle, Taya Lallu, and his friends Sheri and Gyala. They invoke his anger by telling his Jat lineage, his tragedy because of the conspiracy hatched against his father by Ghana. "He felt as if his whole body was burning with fever. A deep, stabbing pain shot through his eyes, almost as if someone had pierced his eyelids with a scythe..." (41). Sheri's words echo in Modan's head, "The man who does not avenge his fathers and his fore-fathers is not a man" (37). Gurdial Singh uses a minor character to highlight that it is paramount for a Jat to take revenge for the injustice, "Jat just can't think straight. My dear fellow, he was after all their father. And if they let his murderers go scot fi'ee, you think they will ever be able to face the people?" (61). Infuriated with anger, young Modan in frenzy, kills Ghana to avenge his father's death, and is consequently convicted and

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sent to jail for fourteen years. His brothers are also accused initially, but later are freed from the murder case, when the case is withdrawn from Sajjan and Chhottu by Ghana's family for the compensation of half of the land of Modan's family. Throughout, Ruldu Modan's only friend, stands by Modan's revenge and supports it as his duty by publicly acknowledging:

> True son of his mother he has proved himself to be... people are only good at making claims about their personal courage ... but not many would do as he has done… Man makes property; but that property can't bring back a dead man. You are born only once. So what's the point in becoming a *lakhpati* if one can't even guard one's sense of honour ... money even prostitutes have. (48-50)

Modan exemplifies the courage and possesses the essential virtues befitting an individual of self-respect. Unwilling to endure a life of humiliation, he is compelled to seek retribution for the unjust murder of his father to safeguard both his self-respect and his family's reputation. Embracing a tragic course of action becomes imperative for Modan as it becomes the means through which he can live with dignity and shield his family from degradation and shame (125).

Then the story comes back to present and Modan goes to Ruldu's house. Ruldu reveals Sajjan's friendship with Ghana's sons. Modan also comes to know that Chhottu, being economically dependent on Sajjan and being of weak character is dominated by Sajjan. Modan decides not to live with his brothers and he takes his mother along and shifts to old house. He also separates his land and being a man of honour prefers his crops to wilt than being irrigated with the water from Ghana's tubewell. For him that water is, "blood-spattered water" (82). Apparently, it becomes the war of self-respect and economic interests in which Modan chooses to align with the former unlike his brothers. In *Punjabi Novel da Sanskritik Aadheyan* Dr. T. R. Vinod observes,

> The crisis of *Night of the Half Moon* derives its sustenance from the crisis arising out of effect of capitalism on the inter-family and intra family of landowners. The ownership of family has an important place in feudal system. However, the cultural importance of self-respect and reputation of family is also given due importance as economic interests are surrendered to protect them. (120)

Modan like a true hero faces all the adverse circumstances so as to uphold the values of self- respect and family reputation. Ruldu like a true friend supports Modan's decision and says:

> This land and property will all be left behind, but a man without honour and self-respect is as good as naught. His life is a deadly curse...It's not a matter of livelihood alone- as far as that goes, even cats and dogs know how to scrounge 164 (??)for a meal. Tell me, how else is a man different from other lowly animals? (*Night of the Half Moon* 83)

After being separated from his brothers, Modan lives a wretched life as he bears a great loss by giving his lion's share in the form of agricultural tools etc to his brothers. Ruldu helps Modan in buying a bull for agriculture and in order to buy Dani, a widower, for Modan to start his family, Ruldu mortgages his two acres of land to one Sukhu *Lambardaar* and gets Dani, along with her son Gelu (from her previous husband) to Modan. Modan disapproves Ruldu mortgaging his land for him. Ruldu is always there for Modan, and he is determined to help Modan in whatever way is possible. He shares his commitment, "When I finally leave, 1 want people to sit up and say: "Well, this was a man who was born with a purpose"... Beside's, what's the point in wasting such a precious life? .... No?" (91). Modan does not like Gelu, but with the passage of time both develop liking for each other. Modan's younger brother Chhottu keeps visiting him on regular intervals and shares with Modan about Sajjan's friendship with Ghana's sons. Chhottu also tells that since Sajjan has indulged in an illegitimate affair with one of Ghana's daughters in law, Sajjan is forcing him for the cooperative farming with Ghana's sons. This selfish attitude of Sajjan infuriates Modan, who is surprised by the proximity of his own brother to their father's enemy. Modan's days are not good, and one day in absence of Ruldu, Dani's brother Waryama comes to take his sister, and Modan separates from Dani, in times of distress. When Ruldu comes to know that Dani has gone with her brother, he complains to Modan, "you shouldn't have done this, you should have at least waited for me to get back...but let me tell you this wasn't not a very wise thing to do ... you shouldn't have driven Laxmi out of the house on such an auspicious day! (134)

Later, from Ruldu, Modan comes to know that Waryama has resold his sister Dani to some one else. Chhottu reports Modan than Ghana's sons has rebuked him and forbidden him to use their unplanted fields to approach his fields. Modan get annoyed with Chhottu':

> O my gentle soul, you mean to say that if tomorrow they tell our wives and children not to step out of our houses, we'll take it lying down? Such defensive behaviour is not going to help beyond a point. Besides, how downright demeaning for a Jat's son to show such cowardice. This won't help, I tell you. (127-128)

Burning in anger, Modan goes to his friend Ruldu, both consume liquor, and Modan shares his anger with Ruldu for Ghana's sons. Infuriated and inebriated both go towards Ghana's house to settle the score. Modan's anger escalates when he sees lush green fields of Mirab, Ghana's son. Gurdial Singh writes, "A tremendous surge of revolt appeared to rise up from the earth like a cloud, and he saw flames around him, generating a heat that nearly scorched him" (138). Burning in his own anger for Ghana's sons Modan moves towards their house, followed by Ruldu. Modan is very loud and warns Ghana's sons outside their house:

> Oye ... today I'm going to chew them up alive - those bloody bastards! ... come on now, if you're the true sons of your mother - come and accept this challenge - you swine! - here I come, your 'son-in-law'! ... Do you have the guts to face me ... Oye. (141)

Modan is unaware that his brother Sajjan is there, Sajjan suddenly comes out and attacks Modan with his pickaxe. By the time Ruldu retaliates and helps his friend, Modan sustains three axe-blows, one on his head, another on his shoulder-blade and

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the third on his leg. Modan refuses to go to hospital or police saying like a Malwai Jat, "We aren't going to the police station ... nor do we want any deed of compromise . . . If some how we survive and have the necessary strength ... we'll settle it on our own ... otherwise ... well, it's all right the way it is" (144). The blow on his leg happens to be mortal, and ultimately Modan dies after he accepts the apologies of his brother Sajjan, sees Dani, and Ruldu promises to avenge the death of his friend. Throughout the narrative, Modan is the only character who does not compromise and lives a life of honour, no matter what is the consequence. He is hero enough to choose the path less travelled by and that of unending strife. Modan is a living example of a Camus' rebel and dies as a Camus' rebel:

> If an individual actually consents to die, and, when the occasion arises, accepts death as a consequence of his rebellion, he demonstrates that he is willing to sacrifice himself for the sake of a common good which he considers more important than his own destiny. If he prefers the risk of death to a denial of the rights that he defends, it is because he considers that the latter are more important than he is. (*The Rebel* 21-22)

For Camus absurdity is individual and is followed by rebellion which is rather collective, "in absurdist experience suffering is individual. But from the moment that a movement of rebellion begins, suffering is seen as a collective experience – as the experience of everyone" (28).

Modan's temperament is modelled on the Punjabi folk heroes like Dulla Bhatti, Jeona Morh, Jagga Daku, Sucha Surma, and Mirza etc, that is why like them instead of falling to nihilism, he also prefers to resist, be a rebel and say no to injustice and dishonour. For him his honour is everything, more significant than his life. Following the model of sacrifice and resistance he prefers death to a compromised life of dishonour. Through Modan, Gurdial Singh captures the spirit of a rebel hero. Who inspires to pull reader out of the darkness of absurdity and nihilism and infuses him/her with the spirit to fight against, rebel, resist the injustice, dishonour and loot. For Modan to accept injustice like his brother Sajjan, is to be a part of it. To accept injustice or to be a part of it can only be avoided by rebelling against it **than mere** blaming others for injustice, exploitation or dishonour, like an unheroic and ordinary human.

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THE NUANCES AND DYNAMICS OF THE FILIPINO EXPRESSION *BAHALA NA* AS AN EXPERIENCE OF CULTURE AND FAITH

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ABSTRACT

In the face of challenging situations, Filipino Catholics manifest, through the expression of bahala na, certain cultural traits that portray Christian values, such as an attitude of undying faith in God. However, at some point, the same expression also reveals attitudes that are inconsistent with the Christian message and practices. Through the review and analysis of different literatures that have studied bahala na, the paper articulates the contrasting nuances that give the expression ambivalent dynamics while, at the same time, presenting its significant influence on the faith of Filipino Catholics. So, in terms of the expression's negative cultural nuances, the paper examines some distortions that could perpetuate Filipino Catholics' interpretation of the Gospel message, particularly on their understanding of Divine will, Divine providence, and Christian discipleship, which, consequently, affects how some of them treat their personal freedom and responsibilities as somewhat insignificant in alleviating themselves from suffering, and in attaining salvation.

KEYWORDS: *culture, experience, suffering, bahala na, Filipino*

Bahala na, an experience of culture and faith

Culture can be described in various ways. According to Donal Dorr (2013), based on his reading of *Evangelii Nuntiandi* (20), culture is described as the people's shared understanding and attitudes which are observable through their ways of life and traditions. For some sociologists, it is described as 'the systematic sets of code, narratives, discourses, and practices which structure the interpretation of social life and social action' (Back et al, 2012, p. xiv). While for other sociologists, 'culture comes to be seen not primarily as a distinct or overarching system of belief, but as something more pervasive and integral to everyday life – indeed, as the very medium of lived experience' (Jacobs & Hanrahan, 2005, p. 1). There might be disparities between these descriptions, but the common thing that can be said about them is the way culture is experienced and accordingly, experience is a process of 'learning through 'direct' contact with people and things' (Schillebeeckx, 1980, p. 31). To put it differently, culture as shared understanding and attitudes are learned through social contact which allows the interpretation and communication of codes and practices making it part of everyday experiences. In Christian countries, like the Philippines, culture can therefore be said to be a medium of the experience of faith as the latter also permeates people's everyday experiences (Cruz, 1999). As noted by José de Mesa (1979) based on his reading of *Gaudium et Spes* (53), it is also a feature of culture that throughout the course of time, people express and manifest in their lives these experiences of faith. With that, such experience of culture and faith is also translated into different expressions. In the Philippine context, the common expression that could translate these lived experiences is the phrase *bahala na* (Mijares, 1977). According to the study conducted by Alfredo Lagmay (1993, p. 34):

> The culture bearer, as the locus of convergent forces in personal history, the habit system of society and the environment, is possessed of a rich mosaic of experiential processes which can be triggered by word and situation into a patterned response. *Bahala na* is one such trigger for an experience very much shared by other members of the culture.

Therefore, studying *bahala na* as an expression that is deeply connected with experience offers another way of looking into the culture of Filipinos and its connection with faith, specifically, the Catholic faith.

Looking at bahala na as an expression of experience, one can see that it is usually evoked in moments of uncertainty, struggles, or suffering (Lagmay, 1993). It can be loosely translated in English

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as 'come/happen what may' pointing to a determined attitude, although in some cases, it could point to an attitude of indifference to what the future may hold. Another English translation is 'let it be', which could either have a defeatist tendency or, in some cases, could be more of an attitude of trust in someone or something (Gripaldo, 2005). So, most of the time, the expression is viewed ambivalently for it reveals traits and attitudes among Filipinos that could either be a positive or a negative response to suffering.

Another example of the various traits it manifests is resiliency or *katatagang-loob*. Filipinos are known to endure almost every form of challenges. Some suggest that this trait is a product of historical conditioning which formed a consciousness habituated in suffering due to the Filipinos' desire to outlive the colonial oppression (Tiangco, 2005). Filipino resiliency might have been beneficial in freeing the nation from foreign bondage, but today, the same trait is challenged by some for it has seemed to become an excuse for mediocrity (Arellano, 2018).[1] From economic and environmental to socio-cultural and political spheres, most Filipinos have been given less of what they deserve, yet they endure the experience of deprivation and suffering. Even if working abroad presents a challenging situation for families, some Filipino parents would still leave their children behind due to economic considerations. Even if public service has been exploited by people with the same brand of service, some Filipinos would still entrust their future to the same people in exchange for a short-term benefit. Even if the environmental threat is first-hand experienced, some Filipinos would still act passively. Even if some Filipinos are living lives that are devoid of their rights as human, they would still celebrate each moment of life. Yes, Filipinos are resilient, but the reality is they are still suffering. In the end, one would just say, *"bahala na!"* Thus, the expression could either be a sigh of relief or disappointment, either an expression of hope or despair, and either a sign of inner strength or submission.

To elaborate on these ambivalent responses which reveal Filipinos' positive and negative attitudes, below is the reexamination of some contrasting nuances of the expression.

***Bahala na*: the nuances and dynamics**

As an expression deeply rooted in experience, *bahala na* can be understood through situational settings (Gripaldo, 2005). Thus, its meaning can be derivatives from different situations. In the interviews conducted by Lagmay (1993), whenever the expression is evoked, what can be observed from the situations of the respondents are the presence of adversaries and difficulties. These situations all point to particular deficiencies that if met would give them security, but if remaining unresolved, would keep them preoccupied with uncertainties (Lagmay, 1993). In other words, within the Filipino culture, *bahala na* is a response to the experience of suffering (Casiño, 2015) 'arising from a perceived sense of personal incapacity for the moment, or deficiency in knowledge, information, or material means for determining the outcome of a situation or course of action' (Lagmay, 1993, 33).

Furthermore, it can be observed that *bahala na*, as a response to the experience of suffering, can be used responsibly or irresponsibly (Gripaldo, 2005). As a result, this opens up a variety of meanings causing ambivalence to the way it is understood as a cultural value affecting one's attitude in the face of suffering. In his article, Gripaldo (2005, p. 208) emphasizes the importance of categorizing this different understanding. He states:

> *'Bahala na'* is a characteristic trait of the Filipino culture. The Filipino child is exposed to this culture and s/he unquestioningly imbibes this trait, thereby forming a predisposition towards it and eventually shaping an attitude about it. The attitude is reinforced in his/her daily contact with others in society where *'Bahala na'* is openly manifested. S/He too manifests it and finds no objections from others. In time, s/he cannot distinguish its negative applications from the positive ones. S/He simply lumps them all into one piece.

To articulate these positive and negative traits, the author presents the contrasting nuances and dynamics of the expression below.

(1) Bahala na as attitudes of courage and fatalism

According to De Mesa (1979), when it comes to the meaning associated with *bahala na*, it is the fatalistic resignation of the Filipinos that is commonly used to characterize the expression. This points to a tendency of withdrawing from crisis or avoiding personal responsibility. As Eugene Mijares writes (1977, p. 113), it is 'an attitude of total abandonment, an acceptance that nothing can be done anymore by an individual faced with a situation.' Moreover, De Mesa (1979, p. 85) states that this attitude can be traced to a belief that 'one's destiny is something that is already fixed. In other words, resignation or mere acceptance of a deplorable situation may find a fertile breeding ground in this belief.' According to Tereso Casiño (2015), this Filipino worldview is phrased as *Gulong ng Palad* (Wheel of Fortune) which rules out any concept of purpose and meaning as every situation depends on fate. 'Anything, then, that happens to a Filipino (whether good or bad) is attributed to a cause . . . known as *suwerte* (luck), *tsamba* (chance), or *kapalaran* (destiny)' (Casiño, 2015, p. 86). In effect, this gives the expression a negative implication leading to a defeatist attitude toward suffering (De Mesa, 1979). One therefore, tries to take the present in stride and awaits the future with very little hope that he can change it' (De Mesa, 1979, 85).

Nevertheless, in his book Elements of Filipino Theology, Leonardo Mercado (1974) points out that *bahala na* can also be perceived as hope which involves risk-taking projecting the virtue

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of courage. In contrast to fatalism, this attitude has a positive implication as it allows one to face the difficult situation. According to Merriam-Webster Dictionary (2023), courage is a 'mental or moral strength to venture, persevere, and withstand danger, fear, or difficulty.' Hence, *bahala na* shows that 'there is trust in (one's) capacity to meet any contingency, a fleetingly emboldened self-confidence in the face of uncertainty' (Lagmay, 1993, p. 33). As De Mesa (1979, p. 121) puts it, 'the positive *bahala na* attitude is a hopeful risk-taking motivated by hope which goes together with the required human effort. It is an active kind of hope, a responsive and responsible hope.'

(2) Bahala na as attitudes of trust and overdependence

With courage as a value found in the expression, it consequently projects a positive attitude of trust. Whenever *bahala na* is evoked as courage, it could inspire trust in something to overcome the situation however difficult it is and uncertain the future might hold (De Mesa, 1979). Furthermore, trust as a value can be understood in two ways, trust in oneself to resolve the situation or trust in the other when such a situation is overwhelming to be resolved on his/her own. The latter most of the time refers to a transcendental reality. Filipinos might be commonly using *bahala na* in a fatalistic sense, but in this situation the intent of the expression is providential, i.e., it carries the wish or hope that providence will personally take care of one's future, hence, trust in someone who could be in control of or has the power over fate (Gripaldo, 2005). However, one has to be mindful of this value because one might confuse trust with overdependence (Matienzo, 2015). With fatalism as its common value, the expression has the tendency to lead one to leave everything to higher powers while he/she becomes oblivious of his/her own capacities and obligations (De Mesa, 1979). In this manner, *bahala na* as an attitude of over-dependence subtly inspires passive resignation (Matienzo, 2015). Contrary to overdependence and passive resignation, trust as inspired by courage points to a better future which also depends on personal effort (Mercado, 1974).

(3) Bahala na as attitudes of commitment and indifference

With the contrasting nuances mentioned above, *bahala na* could also be evoked either as an attitude of being committed or indifferent. On one hand, *bahala na* as a commitment stems from the values of courage and trust. According to Rowen Rebustillo (1997), in taking the risk of confronting the circumstance, one acts with confidence in the providence of the higher powers while still being mindful of his/her responsibilities and own capacities. Hence, the evocation of *bahala na* in this situation does not indicate the avoidance of the problem, but a commitment to overcoming it (Lagmay, 1993). Furthermore, Casiño (2015) adds that this attitude of commitment also inspires stewardship, i.e., being responsible for other people which is usually expressed in the phrase *'ako na bahala sa'yo'* (I will take care of you). So, 'when invoked, *bahala na* becomes a binding covenant through which people commit themselves to help or take care for other people' (Casiño, 2015, p. 84). De Mesa (1979) emphasizes this through the value of *malasakit* (compassion), a Filipino attitude that captures one's commitment by making sacrifices, i.e., enduring pain suffering for the sake of the good of the other.

On the other hand, *bahala na* as indifference stems from resigned and overdependent attitudes. One leaves a difficult situation all to fate or chance that he/she becomes forgetful of his/her obligations (Gripaldo, 2005). The expression then projects an escapist attitude where one becomes unmindful of his/her decisions and their consequences (De Mesa, 1979). With this, the evocation of *bahala na* is used as an excuse for one to do whatever he/she wants while being indifferent to the harm or danger that the situation might bring (Gripaldo, 2005). As stated by Casiño (2015, p. 84):

> *Bahala na* may also encourage Filipinos to embrace an unproductive perspective about life. Resigning totally to the work of *kapalaran* or *suwerte*, the Filipino may appear indifferent in the face of graft and corruption as well as welcome personal misfortunes impassively.

Hence, *bahala na* inspires an 'I-don't-care' attitude pulling Filipinos away from actively participating in the events of life which, in effect, becomes harmful to individual and social progress (Casiño, 2015). Based on the writings of De Mesa (1979), this is *bahala na* that is devoid of *malasakit*.

(4) Bahala na as attitudes of determination and mediocrity

Other contrasting attitudes that can be observed and derived from the discussions above are determination and mediocrity. By definition determination means a 'firm and fixed intention to achieve a desired end' (Merriam-Webster, 2023). Based on the results of the interviews conducted by Lagmay (1993), *bahala na* as a commitment permits one to improvise on difficult situations as they come along the way in order for him/her to achieve the desired result which, in this case, is toward resolving the difficulties. It follows that *bahala na* expressed as a commitment reveals an attitude of one's determination to get through suffering. This hypothesized that 'Filipino culture has indeed a built-in mechanism of flexibility and resiliency in *bahala na* for dealing with the pervasively uncertain contingencies of daily living' (Lagmay, 1993, 34).

Nevertheless, based on the results of the same study, Lagmay (1993) finds that this mechanism of flexibility and resiliency could also lead one to live his/her life without any definite plans for 'one follows the lead of the moment and action shapes itself into the molds of the changing situation' (Lagmay, 1993, p. 34). Such life depends on impulse and chance which makes one's present and future both ambiguous (Lagmay, 1993). As Casiño (2015, p. 85) puts it, 'Filipinos who put their trust in *kapalaran* (fortune) tend to be complacent about their work or future.'

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Hence, this evocation of *bahala na* might appear positive for it seems to project the value of courage in facing uncertainties. However, on a deeper level, according to Berniemack Arellano (2018), it could develop an attitude of mediocrity in addressing the difficult situation, i.e., instead of solving the problem by making plans, one would just rely on one's capacity to adapt even if it means embracing a situation which is caused by injustices. In this case, one evokes the expression irresponsibly as he/she acts passively in the face of suffering with the belief: *'Talagang ganyan ang kapalaran'* (There is nothing we can do about our fate) (Andres, 1981). As a result, 'it harnesses one's behavior to a submissiveness that eats up one's sense of responsibility and personal independence. It provides one with fall sense of self-confidence to proceed with an unsound action in the belief that somehow one will manage to get by' (Andres, 1981, p. 132).

So, with the dynamics of these responses, it can be observed that *bahala na* is surrounded by concepts that are closely related to Christian spirituality. This association can be attributed to the historical conditions that made the interaction between culture and faith possible. This is elaborated below.

***Bahala Na's* influence on the experience of Filipino Catholics**

The interaction between Filipino culture and the Christian faith develops a tradition that forms Filipinos' understanding of *bahala na*. Consequently, this results in a split-level spirituality, i.e., 'the co-existence within the same person of two (or more) thought and behavior systems which are not only inconsistent with one another but are also in the state of non-communication with each other' (De Mesa, 1979, p. 10).

To explore this influence, the paper has looked into some details of Philippine history to present how the interaction between faith and culture has developed a tradition that gives *bahala na* its nuances and dynamics.

Bahala Na and the Filipino Spirituality

In his study, Casiño (2015) presents that *bahala na* is initially influenced by Ancient Filipinos' animistic spirituality, i.e., a belief in the spirits residing within nature, and these spirits are somewhat influencing fate causing fortunes and misfortunes in one's life (De Mesa, 1979). This belief, with its fatalistic nuance, survives the test of time and is considered the bedrock of the Philippine religious experience (Casiño, 2015). 'As the Spanish brand spread across the archipelago, it affected little the traditional fatalistic Filipino concept of *bahala na*. Over the centuries, Filipino Catholics, and later, many Protestants, embraced the concept without critical objection' (Casiño, 2015, p. 84). Its influence continues to manifest even in the present-day Catholicism (Casiño, 2015).

(1) *Bahala na* as Divine Will

First, this can be observed in the way *bahala na* has influenced Filipino Catholics' understanding of the *Divine Will*. According to De Mesa (1979) Some believe that the misfortunes happening in their lives, such as sickness and calamities, are all part of His will. With the belief that God's will is at work within nature, there is the tendency for believers to embrace and just accept every situation, even those that are ill-fated because, in the end, God's providence will always be there to save the day. Arguably, De Mesa (1979) has pointed out that there is even a linguistic misconception about the very phrase *bahala na*. Some presuppose that the expression has its origin in the term *Bathala*—ancient Filipino's highest ranking and powerful deity—which suggests that Filipinos have nothing to worry about adversities because *Bathala* will provide, thus, *'Bathala na!'* (Gripaldo, 2005). Aside from this term, some also suggest that the Filipino expression *bahala na* may have been derived from the Sanskrit word, *bhara*, which literally translated as 'load' which could mean 'responsibility'. The shift from 'r' to 'l', and in this case, from *bhara* to *bhala*, was a common linguistic phenomenon in the early times (Casiño, 2015). However, it may be unclear whether it is or is not the origin of the expression, but in terms of its usage, it can be observed that *bahala na* suggests that Filipino Catholics have this disposition to trust in the providential will of God even to point of leaving their own responsibilities to Him (Gripaldo, 2005). So, with this understanding, it leads to the second point.

(2) *Bahala na* as Divine Providence

According to Catherine Punsalan-Manlimos (2016, p. 340), '*bahala na* reveals a capacity to trust in the providence of God when confronted by life challenges.' Such trust has developed certain views of how Filipinos understand *Divine Providence* which implies passive resignation and overdependence (Catechism for Filipino Catholics, 2005, no. 1158) i.e., their tendency to leave everything to God while becoming forgetful of their own capabilities and responsibilities (De Mesa, 1979). Some claim that these originate from the lack of ambitions among Filipinos or simply from their indolence —a derogatory term used by Spaniards to speak of Filipinos' mediocrity. However, Punsalan (2016) emphasizes that this is not an inherent attitude among Filipinos, but a consequence of colonization, an effect of their daily suffering at the hands of their colonizers. As Punsalan (2016, p. 342) has cited:

> Rizal acknowledged that indolence — the infamous Spanish malediction of the Filipinos — was a problem in his time. But he did not propose a "moral recovery program," as the Manila orthodoxy did nearly a century later... as a cure to the country's ills... Instead, he proposed cultivating a historical awareness... so that "instead of regarding [indolence] as the cause of the backwardness and disorder, we should regard it as the effect of disorder and backwardness." He traced the so called Filipino

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> inferiority to the "daily and constant plucking of the soul so that it [will] not fly to the religion of light, [which] drains the energies [and] paralyzes all tendency towards advancement,... [so that] at the least strife a man gives up without fighting (Rizal, 1972, p. 256, quoted in Rimonte 1997, p. 58).

Punsalan (2016, p. 343) then writes, 'a constant experience of disempowerment and inefficacy of one's actions and initiatives creates a sense of resignation. Such a response can be read as a kind of realism in the face of social and cultural violence of colonialism'. In other words, *bahala na* has become the expression of Filipinos' desperate call for God's providential and saving acts in the face of century-long suffering and oppression (Punsalan, 2016).

(3) *Bahala na* as Christian Discipleship

Third observation, citing another context that forms the meaning of *bahala na*, Punsalan (2016) points out the vulnerability of the Philippines to the forces of nature. As this always puts Filipinos in situations beyond their control, it appears that this does not only influence their understanding of Divine Providence, but also of *Christian Discipleship* (Casiño, 2015). This shows in the fascination of Filipinos with Jesus' suffering and death. According to the study conducted by Peter Bräunlein (2009, p. 892) 'the fascination with the suffering, battered and dead Christ can be regarded as a characteristic feature of Philippine lowland society.' Thus, they tend to believe that self-inflicted suffering is a way for them to follow him (Bräunlein, 2009),—a literal interpretation of the biblical text where Jesus says, 'Whoever wishes to follow me, take up his cross, and follow me' (Mk. 8.34). This is demonstrated through their superstitious practices that adhere to traditional animistic beliefs wherein they have to do acts that serve as a way to please God for which they would be spared from harm and suffering (Casiño, 2015). Such practices have been commonly observed among Filipinos living in rural areas. For them, the physical and spiritual realities are intertwined that the misfortunes and catastrophes they are experiencing are punishments for certain actions that they have done (De Mesa, 1979). Hence, to make amends they would do acts of sacrifice or rituals. In some parts of the countries, during Holy Week, some Catholics will perform rituals of crucifixion, self-flagellations, and other forms of self-mortifications. Asking why they do such practices, the usual answer is, that they are for repentance in order for them to be spared from the threat of foreboding calamities (Bräunlein, 2009).

Furthermore, aside from its influences on Filipino Catholics' practices of repentance and worship, this understanding of discipleship also has an influence on their understanding of salvation. It has the tendency to reduce the salvific act into two extremes, either for purely material improvement or purely spiritual gains (Bräunlein, 2009). As a consequence, this dichotomy significantly affects the way Filipino Catholics live their lives and the way they perceive their individual commitments, as well as their responsibilities, both to the church and the society (Casiño, 2015). This develops negative attitudes and some of them are mediocrity and indifference which are inconsistent with authentic Christian discipleship as it distorts the notion of the loving concern of the Divine Will (De Mesa, 1979). De Mesa (1979, p. 133) argues:

> This, if left unchallenged, would make the image of God one of unconcern for the welfare of man; it would also characterize Him as a God who makes sure that the duties He has imposed on His creatures are followed, otherwise punishment shall be meted out. Another reason for the importance of elucidating this matter is the fact God's will is salvific. It is not against man, it is for man . . . It is a will that wants to bring out the best of someone who wants to be a better person . . . It is a will that ready to allow someone to make his own mistakes, and to forgive and to welcome him anew upon realizing his mistakes.

Moreover, these discussions on the background of *bahala na* and its influence on Filipino Catholics show how the expression can be understood and develop into a kind of folk spirituality. By definition, folk spirituality is an unofficial form of worship by virtue of its being instituted by the people through their traditional and cultural practices. It is unofficial because it is outside of what is officially prescribed by the Catholic Church that entails universality (Matienzo, 2015). This is further discussed below.

Bahala Na as Folk Spirituality

As noted by Rhochie Matienzo (2015), in the Philippines, an important folk spirituality is found in the expression *bahala na*; and according to Casiño (2015), this folk spirituality has greatly influenced Filipino Catholics both positively and negatively. In connection to the discussions above, the negative traits of the expression 'arise from the idea that individual freedom is minutely insignificant before a pantheistic reality of 'Providence'' (Matienzo, 2015, p. 90). With this, it 'depicts a Filipino as a mere automaton whose existence is at the disposal of impersonal forces' (Casiño, 2015, p. 86). Matienzo (2015) observed this through the Filipino's devotion to the Black Nazarene where some devotees expose themselves to danger in their exercise of worship during *Traslación*[2]—a procession commemorating the transfer of the image to Quiapo basilica—with the common belief that their fate, including both material providence and salvation, is in the hands of the mute image of Christ who personifies the omnipotence of God. So, one would exclaim, *'Bahala na ang Maykapal'* (God shall take care of things) (Matienzo, 2015) or *'Ipasadiyos mo na lang'* (leave it up to God) (Punsalan, 2016).

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Furthermore, in terms of material providence, Matienzo (2015, p. 91) points out that 'it may bring false hopes and at the same time degrades the perfection and supremacy of God in a level of commerce, as if faith is a matter of depositing prayers and withdrawing granted wishes.' In terms of salvation, he notes that there is a tendency to misunderstand the Church's teaching since *bahala na* folk spirituality can be abused, e.g., some devotees who lead questionable moral lives believe in their hearts that faith alone could save them (Matienzo, 2015); and also 'the obliterations in lives and properties have become necessary repercussions of the fatalistic worldview of *bahala na* folk spirituality' (Matienzo, 2015, p. 93).

With these observations —wherein joining the lethal procession seems to be enough even if it does not bring change to one's life because, in the end, *'Bahala na ang Maykapal*' (Matienzo, 2015)— *bahala na* folk spirituality has become a convenient theodicy for Filipinos that through which it seems to lessen the suffering caused by an adverse circumstance and justifies it however unjust it might be (Casiño, 2015).

In *Gaudium et Spes* (43), the Church is reminded that she should not be blind to the discrepancy between the message being proclaimed and the human weakness of those to whom the Gospel has been entrusted. They cannot ignore these shortcomings and must combat them earnestly, lest they hinder the spread of the Gospel. As observed by De Mesa (1979, p. 9) 'what seems to exist in place of genuine and mature Christianity is 'an adaptation of Christian practices to the pre-Christian pattern of beliefs rather than a raising of genuine values of the pre-Christian past to the level of Christianity.'' Therefore, despite the interconnectedness of culture and faith, one must still be vigilant against cultural influences that distort the content of the Catholic faith and disconnect it from daily life experiences.

Conclusion and Recommendations

(1) *Bahala na* as a cultural expression is evoked during the experiences of suffering. It is conditioned historically by how Filipinos respond to such experiences. So, with the dynamics of these responses, they create the expression's nuances revealing Filipinos' positive and negative attitudes which, at the same time, find their place in Filipino spirituality.

(2) While the Philippines is a Christian country and the Christian faith is essentially cultural, the influence between *bahala na* and the Catholic faith goes both ways. However, the negative nuances of the expression lead to a split-level spirituality that significantly affects Filipino Catholics' understanding of suffering and salvation. With *bahala na*'s fatalistic nuance, Filipinos subject themselves to meaningless suffering leading to mediocre and indifferent attitudes because they tend to believe that salvation is Divinely willed and has nothing to do with human responsibility.

(3) Taking notice of the negative cultural traits that *bahala na* projects could help significantly in discovering how the promise of salvation can be revealed in the experience of Filipino Catholics. With such awareness, the expression can be filtered from distortions. This gives way to the realization of the promise through the expression's positive nuances that project positive hope which then motivates Christian praxis, i.e., Filipino Catholics' commitment and determination to alleviate themselves from suffering. Hence, *bahala na*, more than just an expression, becomes a salvific experience that is instrumental in revealing the emancipative message of the Gospel.

(4) In the advancement of understanding the Christian faith through Filipino culture, the Catholic notion of *bahala na* can be explored more especially in the field of Christian education. The relevance and popularity of the expression can become instrumental in delivering theological concepts for the consumption of learners. A study on integrating such cultural expression in teaching Christian Living is highly recommended.

(5) A new way of looking at *bahala na*—a phrase that expresses Filipino emancipative traits—can offer a perspective in doing a further study of the concept of Filipino resiliency. Through this, it can help in reconfiguring its meaning positively and therefore can offer a better understanding of Filipino culture.

(6) With the number of Christian concepts discovered in *bahala na*, they are recommended as subjects for independent research. A further study of each concept founded in Filipino culture can offer additional insights into the inculturation of the Christian faith.

1. In his article, Arellano (2018) points to the mediocre response of Filipinos and the government in handling disaster. Accordingly, such response is most of the time being justified by resiliency, meaning, whatever the situation is, Filipinos can deal with it anyway. 'One can certainly praise resilience while also raising awareness for the victims' sufferings and trauma, in this context, glorification and romanticization add nothing to the discourse on how to alleviate the harsh realities that victims face. It is ironic that while narratives of Filipino resilience earn them admiration and attention from the public, it does not offer anything tangible that they deserve given the urgency of their situation' (Tanggol, 2020, para. 8).
2. The feast of the Black Nazarene is popular with the practice of *Traslación*—a procession commemorating the transfer of the image to Quiapo basilica. Although the procession is about the dramatic performance of struggle

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of Filipinos alongside Jesus' suffering, it is, however, infamously known for the dangerous rush of a great number of devotees that unfortunately leads to some injuries, and sometimes death (Matienzo, 90). Nevertheless, the 2024 *Translación* had been more organized and less dangerous as it was better coordinated according to the National Capital Region Police Office (Santos, 2024).

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FEATURES OF QUANTITATIVE INDICATORS OF UBM STUDY OF THE STRUCTURES OF THE ANTERIOR SEGMENT OF THE EYE DURING PRIMARY PAOG WITH PUPILLARY BLOCK

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ANNOTATION
UBM study indicators in age and gender in primary PACG were studied according to the mechanism of blocking the anterior chamber angle, which determines not only the increase in IOP, but also the subsequent course and outcome of the disease. On the basis of which the choice of treatment for primary PACG is necessary.
KEYWORDS. *Ultrasound biomicroscopy, primary angle - closure glaucoma , diagnosis , treatment.*

RELEVANCE

In a UBM study, the study population of patients with angle-closure glaucoma was divided into the following groups according to the pathogenetic mechanism of blocking the anterior chamber angle: With pupillary block; with a flat iris; with a vitreolenticular block (malignant glaucoma) and with a shortened anterior chamber angle ("creeping" glaucoma) [1,5] . It was not possible to completely differentiate the mechanism of blockade of the UPC biomicroscopically and gonioscopically. The study of anatomical and topographic relationships of the structures of the anterior segment of the eye with morphometric analysis of linear and angular parameters made it possible to identify differential signs for the diagnosis of intraocular blocks [6, 8] . In the primary angle-closure form of glaucoma, the contributing factor to the increase in intraocular pressure is the complete or partial blocking of the anterior chamber by the root of the iris or due to pupillary block, according to a mechanism that is progressive, which is reflected in the classification of this pathology, which determines the clinical course of the disease. Based on this, there is a need to distribute the contingent of patients suffering from primary closed-angle glaucoma according to the mechanism of blocking the anterior chamber angle [7,9] .

PURPOSE OF THE STUDY . To study the indicators and UBM studies in age and gender in primary PACG

MATERIALS AND METHODS OF RESEARCH. In our work, to analyze the morbidity and disability of the population of the Andijan region, statistical research methods were used - absolute and intensive indicators were studied (per 10,000 population). We applied the analytical method in studying the structure of the general incidence of glaucoma, studying risk factors, and a comparative study of frequency indicators (intensity) among various groups of patients (age, gender, social, and other indicators). A total of 6,356 individuals,aged from 20 to 86 years, were studied in the districts of the Andijan region. During the examination of each patient, an individual card was created, which included passport data, general and ophthalmological history, as well as the results of an examination using traditional and special methods for diagnosing glaucoma.

Our ophthalmological examination of residents of the Andijan region, organized by the Andijan State Medical Institute, made it possible to identify a number of diseases of the organ of vision among the examined population, while some patients had two or more eye diseases occurring simultaneously.

RESULTS

The gonioscopy data we obtained for PCOG shows that the number of patients with pupillary block is about 75%, and the second developed stage prevails. Functional blockade most often develops in eyes with relative pupillary block, when the angle of the anterior chamber is closed by the iris root protruding anteriorly. In addition, in eyes with a narrow anterior chamber angle, a sharp apex, or a posterior position of Schlemm's canal, the trabecular zone may be closed by the hilar fold of the iris (Fuchs' fold) when the pupil dilates. In this case, the iris is not protruded, it is flat, the anterior chamber is of medium depth.

Usually in clinical practice it is observed that the course of this form of glaucoma is wavy, attacks are replaced by calm, asymptomatic intervals. As a result of each attack, adhesions remain in the drainage system, subsequently leading to chronically high intraocular pressure and changes in the visual fields characteristic of glaucoma.

UBM studies of patients with angle-closure glaucoma were carried out mainly in early stages I and advanced stages II of the disease. The first group included 103 patients (183 eyes) with a shallow anterior chamber, a convex iris profile, thinning

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of the iris in the basal zone, a narrow and closed angle of the anterior chamber, and increased depth of the posterior chamber. The rear camera had a triangular configuration. This structure corresponded to the picture of the pupillary block.

Table 1. UBM study indicators in genital incision for PCOG with pupillary block in the early stage - I

UBM indicators M±M (mm)		Healthy individuals without visual pathology		PACG with pupillary block in the early stage - I	
		men	women	men	women
1	Anterior chamber depth (mm) from the corneal endothelium to the lens capsule at the optical center	2.79±0.07	2.78±0.05	2.13±0.09	2.14±0.08
2	Anterior chamber angle, degrees	16.62±1.43	16.69±1.26	8.15±1.75	8.16±1.57
3	Thickness of the iris root in the corneal zone 250 µm from the scleral spur	0.397±0.009	0.389±0.008	0.38±0.02	0.39±0.03
4	Trabecula-iris distance from the corneal endothelium to the anterior surface of the iris 500 µm from the scleral spur	0.196±0.009	0.192±0.005	0.107±0.08	0.108±0.07
5	Distance "trabecula-ciliary processes" from the corneal endothelium through the iris 500 µm from the scleral spur	0.698±0.008	0.702±0.004	0.494±0.018	0.492±0.021
6	Position of the ciliary body	average	average	average	average
7	Depth of the anterior chamber of the posterior chamber 500 µm from the scleral spur	0.883±0.008	0.889±0.009	0.474±0.018	0.482±0.017
8	Iris-lens distance	0.31±0.01	0.31±0.02	0.22±0.03	0.22±0.03
9	Rear camera shape	triangular	triangular	triangular	triangular
10	The depth of the posterior chamber (mm) is the distance from the posterior surface of the iris to the first visualized fiber of the zonular ligament.	0.567±0.009	0.564±0.008	0.63±0.03	0.62±0.04

UBM study in the early – 1st stage with PACG with pupillary block is characterized by the following characteristic features:

- The anterior chamber of the CPC is shallow, the depth of the anterior chamber from the corneal endothelium to the lens capsule in the optical center is **2.13 ± 0.09** mm (2.03 – 2.28), and in women - **2.14 ± 0.08** mm (2.09 – 2.23); Anterior chamber angle, degrees – **8.15±1.75** (8.05 – 9.01) and **8.16±1.57** (8.07 – 9.23); The thickness of the iris root in the corneal zone 250 µm from the scleral spur is **0.38±0.02** (0.374 – 0.397) and **0.39±0.03** (0.378 – 0.411); The "trabecula-iris" distance from the corneal endothelium to the anterior surface of the iris 500 µm from the scleral spur is sharply reduced and equal to **0.107±0.08** (0.104-0.109) and **0.108±0.07** (0.103-0.121); The distance "trabecula-ciliary processes" from the corneal endothelium through the iris 500 µm from the scleral spur is **0.494±0.018** (0.481 - 0.498) and **0.492±0.021** (0.485 - 0.497); The depth of the anterior chamber of the posterior chamber is 500 µm from the scleral spur - **0.474±0.018** (0.468 – 0.489) and **0.482±0.017** (0.474 – 0.487); The distance "iris – lens" is 0.31±0.02 and 0.32±0.3, respectively. The shape of the rear camera is the usual triangular.

- Convex profile of the iris;
- Slight thinning of the iris in the root zone;
- In most cases, narrow and not
- The depth of the posterior chamber which is closed by the angle of the anterior chamber; cameras are enlarged; c (mm) – distance from the posterior surface of the iris to the first visualized fiber of the zonular ligament – in healthy men 0.563±0.014 (0.537 – 0.578) and 0.562±0.013 (0.527 – 0.577) in women; and in case of PACG with pupillary block in early stage – stage I
0.63±0.03 (0.624 - 0.645) and 0.62±0.04 (0.623 - 0.652) respectively.

-The shape of the rear camera has been changed, it has a triangular configuration.

CONCLUSION

According to this form of PACG in the early stage - 1, the number of patients with pupillary block we studied was 28 people and 43 eyes, most of them were diagnosed with pathology in both eyes.

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THE EMERGENCE OF TECHNOLOGICAL LEADERSHIP AMID THE PANDEMIC: *REALIZING POTENTIALS AND PRACTICES*

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ABSTRACT
This study utilized a sequential explanatory mixed-methods research design to explore the school head's technological leadership amid the pandemic and delve into the school head's technological potentials and practices. The respondents to this research are the 67 school heads in one of the school divisions in Region 4A and 339 teachers. Based on the result, there is no significant relationship between school head technological leadership and teachers' technological competency (p-value = 0.789 and r-value =.015). The noteworthy result of this study is that there is a significant relation to age [χ^2 (2, N=67) = 11.58, p=.003]., length of service (in reverse) [χ^2 (2, N=67) = 6.69, p=.035], and highest educational attainment [χ^2 (1, N=67) =.04, p=.843]. The following themes emerged from the participants interviews with the school head on technological practices: learning delivery with technology, professional development for teachers, strengthening of mentoring and support, collaboration with local, national, and international academic and professional development institutions, and strengthening technology utilization for management and administration. The significant recommendation of the study based on the Escalaw's Technological Leadership Framework is that DepEd may further the technological information structure and infrastructure in all schools; may consider creating a technological training department in every division for the enhancement of technological skills for teachers and especially for school heads.

KEYWORD: *TL Potential, TL Practices, Technological Leadership, Explanatory Sequential Mixed Method, Digital Transformation*

INTRODUCTION

The technological advancement of schools has the potential to revolutionize the educational system and its electronic native pupils. Technological leadership in education is required, as it focuses on a leader's attributes to motivate staff to incorporate technology within the organization. Technology leaders should have strong ICT capabilities, develop ICT potential strategically, and engage and inspire instructors to utilize ICT more effectively. The Philippine Constitution states that it will establish, maintain, and support a complete, adequate education for the sovereign people. In line with this, the Department of Education (DepEd) is committed to the unhindered delivery of basic education services to its learners and the community amidst the public health emergency caused by the COVID-19 pandemic. The DepEd Order (DO) No. 012 s. 2020 mandated continued learning opportunities for students while protecting and safeguarding teaching and non-teaching personnel. The learning delivery through blended learning, distance learning, and homeschooling (DO No. 032 s. 2020) was implemented.

The Governance of Basic Education Act of 2001 mandates school heads to be technologically savvy and updated on technology. The COVID-19 pandemic has emphasized the need for technological leadership in educational institutions, as leaders must anticipate and respond quickly to crises. In the 21st-century digital education, leaders must be technologically proficient to provide teachers with technological assistance and adapt to digital learners. Technology leadership involves decision-making, guidelines, policies, and implementation. The Department of Education (DepEd) has issued a Google Workspace Training Program to upskill personnel in technology. This study examines the technological leadership of school heads during the pandemic and how their practices contribute to the digital transformation of the Department of Education.

METHODOLOGY

This investigation will employ an explanatory sequential mixed technique. This technique comprises performing quantitative research first, assessing the results, and then using the results to complement qualitative research that delves deeper to explain the findings (Creswell & Creswell, 2018).

RESULTS AND DISCUSSIONS

The level of teachers' technological competencies, with twenty-four indicators, is subdivided into seven constructs: learner, leader, citizen, collaborator, designer, facilitator, and analyst. Based on teachers' technological competencies, the teacher as Citizen got the highest rating (M = 6.99), while the teacher as Analyst got the lowest (M = 6.64), but both are verbally interpreted as high. However, all teachers' technological competencies fall under high verbal interpretation. The overall mean score of the Level for Teachers Technological Competencies

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was (mean = 6.77) with high verbal interpretation. The result implied that teachers' technological competencies were high-level.

The study reveals high teacher technological competencies, indicating continuous professional development. During the lockdown, teachers have access to numerous technological webinars and trainings from the Department of Education and non-governmental providers like Eryutech and Vibal. Hero's (2020) research supports this, stating that teachers are proficient technology users in teaching and learning. Teachers should actively embrace technology and pursue advanced technological professional development programs to improve student learning.

The overall descriptive result of school head technical leadership is high (M = 7.21), supporting Hero's (2020) findings. Technology leadership in a school involves enthusiasm for technology use and the implementation of technology professional development for teachers. Technology leaders play a crucial role in guiding and teaching the use of technology in education. They manage and run schools, promoting technological integration and knowledge. School administrators must possess the skills and knowledge to incorporate technology into every educational process. When learning objectives and outcomes are correctly matched, learning professionals can form long-term collaborations with technology specialists to find and select appropriate solutions. Technology leadership significantly impacts the adoption of digitally enhanced teaching and learning.

The test of a significant relationship between school head technological leadership and teacher technological competencies utilizing the Pearson r correlation resulted in a non-significant relationship. Furthermore, the Pearson correlation has a p-value of 0.789 and an r-value of 0.015. The results of the correlation analyses reveal that there is no significant relationship between the technological competencies of the teachers and the technological leadership of their school heads. Since the computed p-values are all greater than the 0.05 significance level, the decision is not to reject the null hypothesis.

The study found no direct correlation between the school head's technological leadership and teachers' technological competencies, but digital leadership positively influenced teachers' technology usage during COVID-19. Factors influencing this relationship include professional development, classroom technology use, ICT training, and equipment availability. However, according to Schwab (2018), technological leadership should be alongside the digital world and digital education (Erkulova et al., 2020; Bocanet and Fleseriu, 2020; Matos et al., 2019; Frick, 2020; Anas, 2019).

The result of the Chi-square test on the significant relationship between school head technological leadership and demographic profile is as follows: significant with age, χ^2 (2, N = 67) = 11.58, p =.003; length of service, χ^2 (2, N = 67) = 6.69, p =.035; and highest educational attainment, χ^2 (3, N = 67) = 8.50, p =.037. However, the school head technological leadership relationship was not significant with sex χ^2 (1, N = 67) =.04, p =.843, and position χ^2 (4, N = 67) = 4.89, p =.299. The study by Minaz, Özel, and Ay (2022) reveals that older school leaders often lack technical leadership but not school performance. Visionary leadership is crucial for transforming schools, and principals must have a plan to implement changes efficiently. Younger teachers have stronger digital competencies, while older individuals have lower technological skills. Gender doesn't affect a school principal's level of technological leadership or digital citizenship. Higher educational attainment is associated with greater overall technological leadership.

The research of Hecker et al. provided support for the conclusions. According to the investigation done in 2021 with older and younger Americans, the more educated a person is, the more likely they are to be digitally literate, and the less likely they are to have little or no digital abilities (Hecker et al., 2021). Other studies with school principals found no statistically significant difference in the technology competence of school administrators according to whether they have bachelor's or master's degrees (Aktaş, 2016; Akr & Aktay, 2018; Gürkan, 2017; Escalaw, 2021), supporting the findings of the current study by Turan and Gökbulut (2022). School leaders with longer tenures will likely demonstrate less overall technological leadership. Newly appointed or younger school administrators exhibited higher levels of ICT proficiency than those with more administrative experience.

In contrast, Kirsch and Lennon's (2005) findings showed no statistically significant difference between workers with more and less expertise in ICT proficiency. However, a principal's prior experience as a school leader has no appreciable impact on how they employ ICT. In Taiwanese primary schools, Chang et al.'s study from 2023 found that there were substantial differences in teachers' assessments of all the principals' technological leadership components depending on age and teaching experience.

The considerable expertise of the moderator in those constructs did not influence the technical leadership and integration constructs. This finding is consistent with Seyal's (2012) findings that principals' educational background and school leadership experience have no discernible impact on their use of ICT, as well as Kusano et al.'s (2013) finding that teaching experience is not a significant predictor of US teachers' attitudes toward technology integration. A recent study by Orlinga and Escalaw (2022) has indicated that teaching experience considerably impacts technology integration (Marshall et al., 2020; Winter et al., 2021).

The study reveals that older school heads tend to have lower levels of overall technological leadership, indicating that school heads with longer service years are more likely to possess such leadership. However, school leaders in authority positions are likely to have comparable levels of overall technological leadership, suggesting that school administrators in leadership positions will likely possess similar degrees of technological leadership. Since the Internet of Things is quickly transforming classrooms in ways no one could have predicted, school administrators must support and encourage teachers as they incorporate technology into learning and teaching (Escalaw, 2021; Escalaw, 2022; Escalaw, 2023). In line with Raman and

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Thannimalai (2019), expertise leadership is being adapted to hasten the use of technology in classrooms and to maintain the development of the skills necessary to generate skilled labor.

The study proposed two frameworks: the School Head Technological Leadership Framework for School Digitalization and the Technological Leadership Framework During the Pandemic. It suggests that a school leader's age, education level, and experience can influence their technical leadership. The study suggests that professional development training for technology executives should be tailored to their unique skills to promote digital transformation.

The potential of a school head is influenced by their intangible values and beliefs, which can be shared among other leaders. This could help reduce the technological leadership divide and achieve digital transformation in education. A technology leader who guides the path towards this goal is essential for schools to achieve digital transformation. Motivating factors include promotion, competitiveness, family support, fear of the unknown, stakeholder pride, professional development studies, responsibility, accountability, and school head performance assessment (OPCRF).

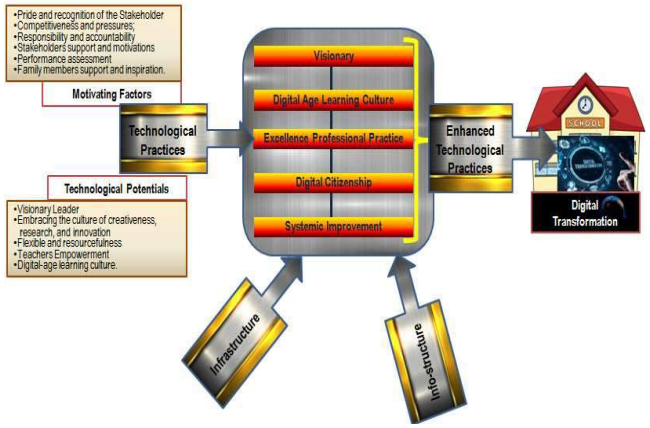
School heads are motivated to extend their technological leadership practice through learning conveyance, professional development for educators, strengthening mentoring and support, collaboration with local, national, and international academic and professional development institutions, and strengthening technology utilization for management and administration. This approach demonstrates that school heads have the technological integration or utilization of technology in all educational institution systems of function.

Digital transformation is a shift in the work system driven by cutting-edge digital technologies and creative business concepts. Implementing a technology solution requires coordination of organizational, human, and digital variables. Technological leadership is crucial for achieving digital transformation in education. The school head's technological potential is crucial for a school's digital transformation, as it can influence future technological practices. This potential includes values, beliefs, and qualities that can drive technology utilization in the school.

Aligning digital technologies with human and organizational factors is essential. Digital technologies refer to the structure and infrastructure needed for a 21st-century school, while technological infrastructure refers to data management in the school. Organizational factors include the school's mission, culture, location, stakeholders, and technological resources. Digital transformation creates new skills and models, necessitating the strategic use of modern technologies. School heads must strategically utilize both soft and hard skills and innovate to improve the technological environment in the school.

This framework suggests that since all school heads encounter difficulties in terms of technological aspects, if school heads optimize technological potentials that are latent, such as being visionary, technologically innovative, and resourceful, some technological provision that is lacking may find a way to make it happen. Technological leadership covers technological skills and capabilities that are parallel or connected to other leadership styles and potentials.

Figure 1 shows the School Head Technological Leadership for School Digitalization Framework.



See the larger version in appendix 1.

Figure 1 School Head Technological Leadership for School Digitalization Framework

CONCLUSION

Based on the qualitative data analysis, this study was summoned to establish a technological leadership framework amid the pandemic. The school head's motivating factors and technological potentials are the aspects or dimensions that the school head has to further the school's technological practices that enable the educational institutions to heighten teaching and learning delivery to the stakeholders during pandemic education.

Most school heads are motivated despite their fear and uncertainty about the unknown causes of COVID-19. Moreover, most school heads are also emotional, as seen in the theme that emerged in motivating factors such as family members' support and inspiration. During COVID-19, everyone cares for the welfare of others.

The pandemic gives the nation a sense of family first. Hence, the familial notion is on the broader spectrum—family not only by blood but as a nation. Other motivating factors are common even before the pandemic, such as aiming for promotion, competitiveness and pressures, fear of the unknown, pride and recognition of the stakeholder, professional development studies, responsibility and accountability, and school head performance assessment (OPCRF).

Motivation is a system that leads, supports, and governs behavior, which is critical in the workplace (Lazarova, 2021). This technological framework concerning motivating factors is paramount, as school leaders must be motivated to enhance the school's digital transformation, which this technological framework is grounded upon and supported by different scholars.

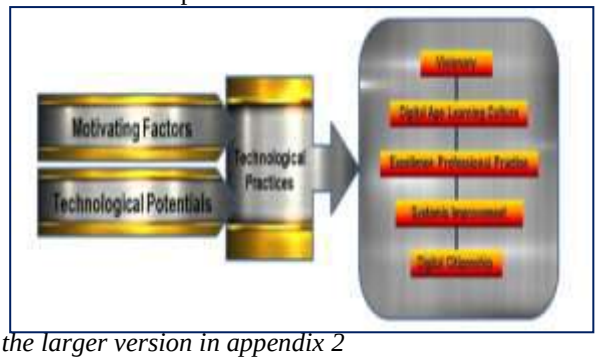
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Motivating factors as theme emerged such as aiming for promotion (Yamin, 2020); competitiveness and pressures (Goegan et al., 2020; Daniels et al., 2020); family members' support and inspiration (Menges et al., 2017; Karakose et al. 2021); fear of the unknown (Yang, 2022); responsibility and accountability (Whang, 2021; Mbangula & Albert, 2022); professional development (Caingcoy & Lepardo 2020); school head performance assessment (OPCRF) (Mapa, 2019; Aquino et al., 2021).

The study explored the potential of school heads as technological leaders during the pandemic. Key themes include visionary leadership, embracing creativity and innovation, flexibility, resourcefulness, empowering teachers, and fostering a digital-age learning culture. These qualities are essential for school leaders to possess. The study also highlights the importance of practice in achieving digital transformation. Key themes include learning delivery through technology, professional development for teachers, collaboration with digital academic institutions, and strengthening technology utilization for management and administration. Future research may explore these aspects and discover additional valuable qualities for school heads in technological leadership.

The study supports ISTE's constructs on technological leadership for school heads, including visionary leadership, digital age learning culture, excellence in professional practice, systemic improvement, and digital citizenship. The quantitative data analysis shows high results, indicating that the Technological Leadership Framework explains participants' high school head technological leadership, which may motivate them to adopt technological practices during the pandemic.

Figure 4 presents the proposed technological leadership framework amid the pandemic education.



See the larger version in appendix 2

Figure 4 Technological Leadership Framework amid the Pandemic

RECOMMENDATION

The following recommendations are made based on the findings of this research

1. Technological training for school heads will be based on strategic training, considering the range of time of life, extent of service, and highest educational fulfillment.

2. Technological training for the school head should be targeted or customized depending on the dimensions of the school head who needs a certain competency.

3. School head training may be done by experts in the technology field and not through a specialized Department for true application skills.

4. The DepEd may further the technological infrastructure and infrastructure of all schools in the Department of Education.

5. The DepEd may consider creating a technological training department in every division for the enhancement of technological skills for teachers, especially for the school head.

6. Future researchers may revisit the results of this study to support or debunk the results of this undertaking.

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Appendix 1

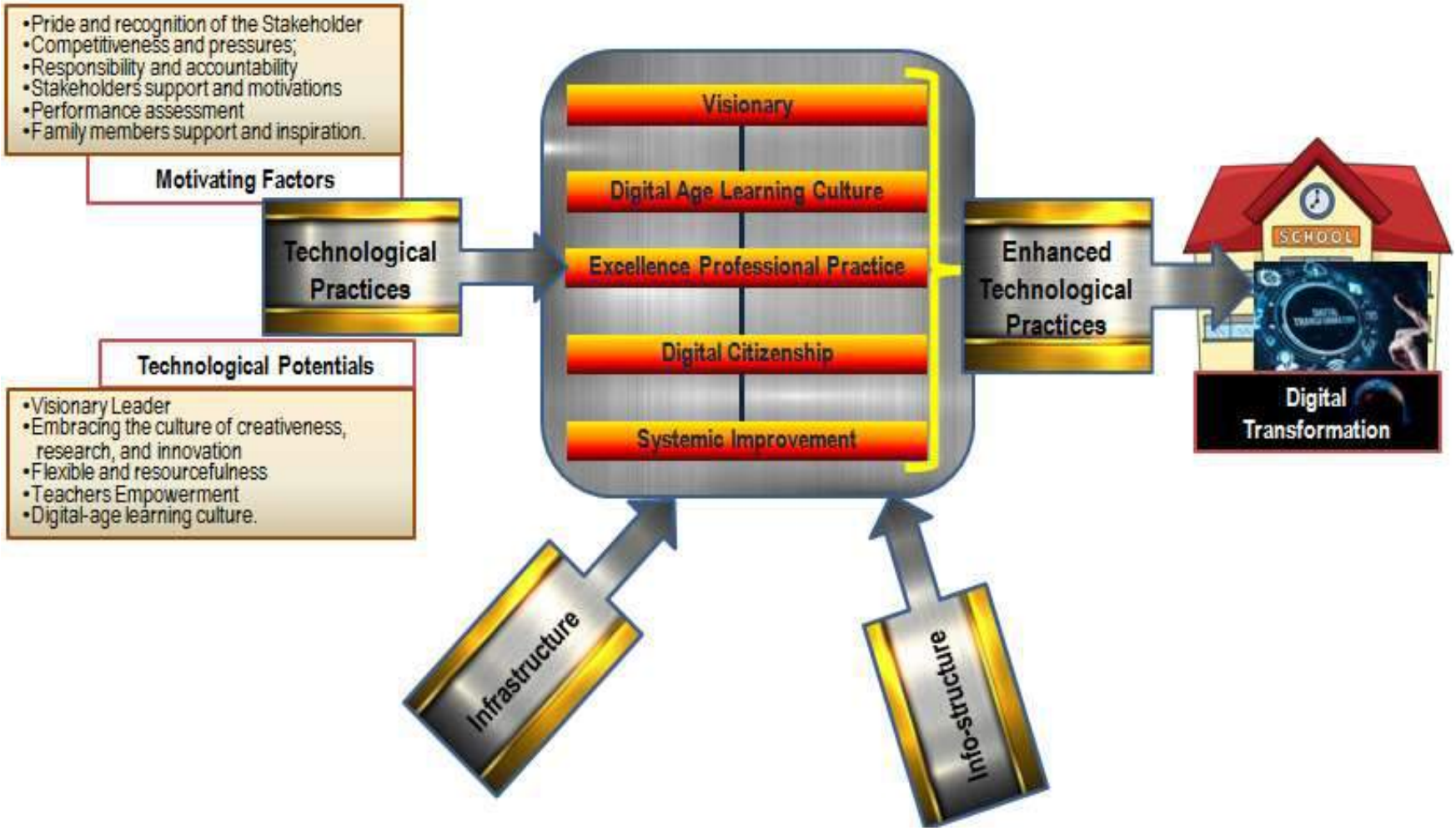


Figure 1. School Head Technological Leadership for School Digitalization Framework. (Escalaw, 2023)

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Appendix-2

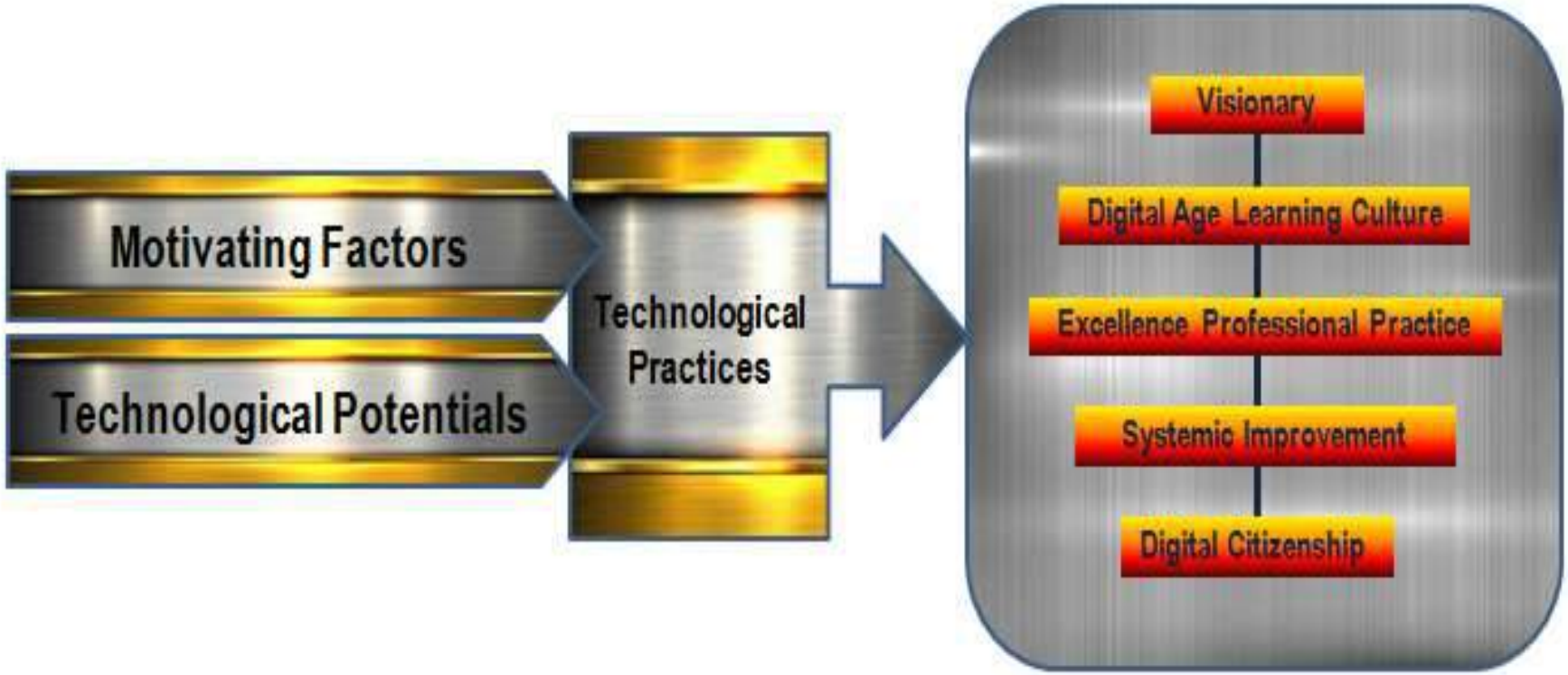


Figure 2. Technological Leadership Framework amid the Pandemic. (Escalaw, 2023)

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THE USE OF DIPLOMATIC TERMS IN FICTION

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ABSTRACT

This article is devoted to the presentation of diplomatic terms in fiction. In the article, the original of the novel "Past Days" by A. Qadiri, a representative of Uzbek literature, and its indirect translation into German are taken as a source. Diplomatic terms, which are the object of research used in the novel, are analyzed in a comparative and comparative aspect.

KEY WORDS: *diplomatic term, pure term, general language, general literary language, fiction, citizen, visit, command, authority.*

DIE VERWENDUNG DIPLOMATISCHER BEGRIFFE IN DER BELLETRISTIK

Lehramtsstudent an der Staatlichen Universität Urgentsch

Annatotsia: Dieser Artikel ist der Darstellung diplomatischer Begriffe in der Belletristik gewidmet. Als Quelle werden im Artikel das Original des Romans „Vergangene Tage" von A.Qadiri, einem Vertreter der usbekischen Literatur, und dessen indirekte Übersetzung ins Deutsche herangezogen. Diplomatische Begriffe, die Gegenstand der im Roman verwendeten Forschung sind, werden vergleichend und vergleichend analysiert.

Schlüsselwörter: diplomatischer Begriff, reiner Begriff, allgemeine Sprache, allgemeine Literatursprache, Fiktion, Bürger, Besuch, Befehl, Autorität.

In einer Zeit, in der die Technologie fortgeschritten ist und sich der Prozess der Globalisierung beschleunigt, steigt die Notwendigkeit, Nationalsprachen zu bewahren. Auf dem Gebiet der Linguistik werden viele Forschungen durchgeführt, um dieses Problem zu untersuchen und positiv zu lösen sowie den Wert der Landessprache weiter zu steigern. Ein klares Beispiel hierfür ist das erstmals in Usbekisch veröffentlichte „Erklärende Wörterbuch diplomatischer Begriffe" zur Außenpolitik. Dieses Wörterbuch trägt zur Entwicklung des usbekischen diplomatischen Diskurses bei und hilft, das Ansehen der usbekischen Sprache auf internationaler Ebene zu steigern. Es ist kein Geheimnis, dass die Bedeutung der Diplomatie für die Stärkung der Position und des Einflusses Usbekistans in der Weltgemeinschaft unbegrenzt ist. Diplomatie spiegelt sich jedoch nicht nur in offiziellen Beziehungen wider, sondern auch in dem einen oder anderen Aspekt des Lebens. In diesem Zusammenhang wollten wir auch den Umfang der Verwendung des diplomatischen Begriffs in der Belletristik untersuchen und analysieren. Schließlich kann die Sprache, eine große Entdeckung der Menschheit, zu einer so mächtigen Waffe in der Fiktion werden und einen großen Einfluss auf die Menschen haben.

Fiktion ist eine unerschöpfliche Quelle von Ideen. Es spiegelt die Gedanken, Meinungen, Träume und Hoffnungen von Menschen verschiedener Zeiten, politischer, ideologischer, moralisch-pädagogischer, philosophischer, religiöser und anderer Ansichten der Gesellschaft wider. Aus diesem Grund haben wir uns entschieden, zunächst am Beispiel der Fiktion zu analysieren, wie aktiv diplomatische Begriffe in unserer Rede sind. Zu diesem Zweck haben wir uns Abdulla Qadiris „Otkan Kunlar"-Romane zugewandt.

Die usbekische Literatur hat eine sehr reiche, alte Geschichte, genau wie usbekisches Volk selbst. Es hat seine eigene Art der Bildung und Entwicklung, Entwicklungsgesetze. Um diese Dinge zu fühlen, zu verstehen und zu verallgemeinern, ist es notwendig, ihre Geschichte sorgfältig zu studieren, um sie richtig zu fördern. Die Literaturgeschichte gibt Aufschluss über die Entwicklungsprozesse der Sprechkunst, klassischer [9]. Deshalb haben wir uns nicht umsonst an Abdulla Qadiris Roman „Vergangene Tage" gewandt. In diesem Werk wird nicht nur der Lebensstil des einfachen Volkes, sondern auch das Leben der Höflinge und Adligen mit politischer Macht erzählt. Unser Ziel ist es zu analysieren, inwieweit diplomatische Begriffe zu dieser Zeit und in der Belletristik aktiv verwendet wurden.

Wenden wir uns zunächst dem Roman „Vergangene Tage" zu, in diesem Roman:
Es gibt rein diplomatische Begriffe wie „Yorlig`"(Etikett), (13), „Bürger", (31,32,33,,100,113,284,) „Besuch" (35), „Autorität" (54). Hier bedeutet das Wort „rein diplomatischer Begriff" nicht das rein usbekische Wort, sondern die im erklärenden Wörterbuch der diplomatischen Begriffe aufgeführten Wörter.
***„Yorlig" (Etikett)** – 1) schriftliche Dokumente, die von türkisch-mongolischen Khans veröffentlicht wurden. Auch*

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diplomatische Notizen und der Text zwischenstaatlicher Abkommen sind im Khan-Label enthalten. Meistens wurde dieses Etikett jedoch als Rechtsdokument zur persönlichen Unverletzlichkeit angesehen, das die Khans der Goldenen Horde, Kasan und Krim ihren untergeordneten Beamten und religiösen Persönlichkeiten verliehen hatten [8].

Im Roman spiegelt sich das Wort „Etikett“ in der folgenden Passage wider:... *Lekin xonning yo`l boshchisi bo`lg`an kishining o`zi zulmda Azizbekdan necha zina baland o`rinni ishg`ol etuvchi kimsa bo`lsa, biz qandog` qilaylik. Ammo shunisi ham borki, shu keying vaqtlarda Azizbek Qo`qonning yorlig` va farmonlarini iltifotsiz qoldira boshladi [7].* Auch hier wird das Wort „Etikett“ im Sinne eines Dokuments mit politischer Macht, also einer schriftlichen Anordnung des Khans, verwendet. Denn das Wort „Etikett“ hat andere Bedeutungen. Zum Beispiel eine Marke in Form eines Papiers, eines Etiketts, das auf einem Produkt oder einem daran befestigten Ticket angebracht wird und Informationen über das Produkt (Gewicht, Menge, Preis, Hersteller, Produktionsdatum usw.) enthält. Allerdings wurden in der deutschen Übersetzung des Werkes die Wörter „label“ und „Dekret“ durch das Wort „Befehl“ übersetzt: “ *Azizbek an Grausamkeit noch übertifft. Überdies pfeift Azizbek in letzter Zeit auf alle Befehle aus Kokand. Wohl ist man in Taschkent der Grausamkeit und Willkür Azizbeks überdrüssig, aber niemand weiß woher Hilfe kommen soll*.“

Aus diesem Grund hat der usbekische Diplomatenbegriff in diesem Satz seine ursprüngliche Bedeutung verloren.
Nächster diplomatischer Begriff ist das Wort „Besuch“. „Die Bedeutung des Wortes ‚Besuch‘ wird im erklärenden Wörterbuch der usbekischen Sprache wie folgt erklärt: [a. - Respekt; Verherrlichen, Ehren; Zeremonie; willkommen]. Für kurze Zeit an einen Ort, ein Haus, ein Haus oder zu jemandem gehen [2].

Unter diesem Wort versteht man als diplomatischen Begriff vor allem diplomatische Besuche, also Besuche von Regierungschefs und deren Vertretern in anderen Ländern.

Im orginalen Roman: ”*Ziyo shohichi bu vaqtsiz tashrifga tushuna olmay, "nima qilib yuribsan" degandek, bir necha qayta Hasanaliga qarab oldi [7].”*

In der Passage des Romans wird das Wort „Besuch“ im Sinne von „gehen“ , „besuchen“ “ verwendet und es handelt sich nicht um den Besuch eines politischen Vertreters, sondern ums Kommen von Hasanali nach Hause von Ziyo Shohichi. Daher wird das Wort „Besuch“ nicht als diplomatischer Begriff verwendet. Ebenso wird in der deutschen Passage das Wort „der Besuch“ exakt verwendet: *Die beiden nahmen am Sandal Platz und versanken in Schweigen. Bemüht, die Ursache des unerwarteten Besuches zu erraten, blickte Ziyo Shohichi den Alten einige Male fragend an. (46)*
So kamm es, daß der Qutidor überraschend Besuch erhielt. (43)

Noch ein Begriff ist „Bürger”.Das Wort „Bürger“ wird zusammen mit dem Begriff „Staatsbürgerschaft“ im erklärenden Wörterbuch diplomatischer Begriffe von Shamsimuxammedov verwendet: “Shaxsning ma’lum bir davlat bilan barqaror huquqiy aloqa o’matishi” tarzida izohlangan: Shaxs fuqarolikka ega bo‘lgach, davlat uning barcha huquq va erkinliklarini e’tirof etadi, ularni amalga oshirishini ta’minlash choralarini ko`radi. Davlat faqarolarining manfaatini ular boshqa mamlakatlar hududida turgan vaqtda ham himoya qiladi. O`z navbatida, fuqarolar davlat, jamiyat oldida o’z rchlarini bajaradilar. O‘zbekistonda yagona fuqarolik o‘matilgan, ya’ni O`zbekiston fuqarolari bir vaqtning o‘zida boshqa mamlakatlaming fuqarolari bo`lishi mumkin emas [1].”

Das Wort „Bürger“ wird im Werk „O‘tkan Kunlar“ mehrmals wiederholt:*“Bu kun Kirvochidan besh ming sipoh ila Normuhammad qushbegi Toshkand ustiga buyurilg`anini eshitdik.* ***Fuqaroning*** *tag`in qandog` ko`rguliklari bor ekan, o`g`lim!”*
“-Men ko`p umrimni shu yurtning tinchlig`i va ***fuqaroning*** *osoyishi uchun sarf qilib, o`zimga azobdan boshqa hech bir qanoat hosil qilaolmadim.” (284)*
*“Rahmat fuqaro! Eshitamanki, qipchoqlar Normuhammad qushbegi qo`l ostida Toshkand ustiga harakat boshlag`an emishlar. Bunga qarshi bizning hozirlanishimiz kerakmi, yo`qmi f****uqaro****?!”*

Obwohl in den Auszügen aus dem oben genannten Werk das Wort „Bürger“ vorkommt, ist es notwendig, diesen Begriff als diplomatischen Begriff zu akzeptieren. Denn in diesen Passagen geht es um Bürger eines bestimmten Staates, zum Beispiel:

“Rahmat ***fuqaro!*** *Eshitamanki, qipchoqlar Normuhammad qushbegi qo`l ostida Toshkand ustiga harakat boshlag`an emishlar….” Hier ermutigte Azizbek seine Bürger zum Kampf gegen die Kiptschaken ein. In der deutschen Übersetzung werden anstelle von Bürgern die Wörter „die Bevölkerung“ und „das Volk“ verwendet*:

„Die Bevölkerung nahm die Nachricht gleichgültig auf; solche Unruhen waren an der Tagesordnung. Man hatte sich an sich an sie gewöhnt.“ (36 Seite)

Eines der nächsten diplomatischen Begriffe im Werk ist das Wort „Autorität“. Autorität ist ein arabisches Wort, das Repräsentation, Autorität bedeutet. Eine Person, Institution, Organisation, Staat usw. das Recht, im Namen zu handeln, das Vertretungsrecht.Dieses Wort wird im erklärenden Wörterbuch der diplomatischen Begriffe von Shamsimuxammedov I. wie folgt erklärt:
„Vakolatlar” xalqaro, ayniqsa, diplomatik amaliyotda qo`laniladigan hujjat bolib, unda nomi keltirilgan shaxs(lar)ning davlat, hukumat yoki boshqa rasmiy idora nomidan gapirish va muzokaralar olib borish, xalqaro anjumanlarda ishtirok etish, shartnoma va bitimlarni imzolash, davlatning xalqaro tashkilotlardagi vakili ekani huquqlarini tasdiqlaydi [1].“

Die folgende Passage ist aus dem 11. Abschnitt des ersten Teils entnommen: "*Kumushbibidan vakolat olish ham juda qiyin bo`ldi. Domlaning: “Sizkim Kumushbibi Mirzakarim qizi,*

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nafsingizni toshkandlik musulmon Otabek Yusufbek hoji o`g`liga bag`ishlamoq vakolatini amakingiz Muhammadrahim Yo`ldosh o`g`liga topshirdingizmi?" degan so`rog`iga olti, yetti qaytarilg`anidan keyin, shunda ham yangalar qistog`i ostida arang uning rizolig`i olindi [7]."

Obwohl das Wort „Autorität" hier das Recht auf Vertretung bedeutet, handelt es sich dabei nicht um ein Dokument, wie im „Explanatory Dictionary of Diplomatic Terms" erläutert, sondern um das Recht, mündlich im Namen einer Person zu sprechen. Dementsprechend kann man sagen, dass das Wort „Autorität" sowohl ein diplomatischer Begriff als auch ein in der Umgangssprache verwendeter Begriff ist.
Wenn wir uns nun der deutschen Übersetzung dieser Passage zuwenden, können wir erkennen, dass der Übersetzer nicht die deutsche Alternative des Wortes „Autorität" verwendet hat? Seine kontextuelle Bedeutung von Zustimmung, also „Das Jawort" als alternative Übersetzung, konnte die Bedeutung des Originals vollständig erhellen.

*„Es machte Mühe, **das Jawort** der Braut zu erhalten. Mehrmals mußte der Mulla sie fragen:" Habt Ihr, Kumushbibi, Tochter des Mirzakarim, Eurem Oheim Muhammad-Rahim, dem Sohne des Yoldosh, aufgetragen, dem Bürger von Taschkent, dem Muslim Otabek, dem Sohne des Yusufbek-Hoji, Eure Liebe zu überbringen [6]?"*

Basierend auf dem oben Gesagten kann man sagen, dass im Roman „O'tkan Kunlar" nur 4 Wörter das diplomatische Lexikon bilden. Die folgenden im Werk vorkommenden Wörter können jedoch in diplomatischen Situationen und im allgemeinen Sprachgebrauch als Begriffe aus einem anderen Fachgebiet verwendet werden.

„Chet el"(14),"Istiqlol" (98),"O`rda" (101),"Siyosat" (33,112), „Davlat „(113), „Janobi oliy" (113), "Xon janobi"(119), „Xaloyiq"(289), „Mustaqil hukumat" (262), „Shoh" (113), „G`alaba(99), „Istiqbol"(77), „Mamlakat" (61), „Sherik"(33), „Ittifoq"(263), „Musofirlik" (42),

Natürlich können diese Wörter je nach Inhalt des Textes als Begriff eines bestimmten Fachgebiets auftauchen. In dieser Hinsicht können wir zum Beispiel das Wortes „Chet el" durchsehen , das sich im Text widerspiegelt *„O`ris sharlariga borib savdo qilg`uvchilar Turkistonda juda oz hisobda bo`lib, **chet ellarni** ko`rgan Otabek majliska tansiqlandi [7]."*

Dabei kann das Wort „Ausländisch" im Sinne des Sehens eines anderen Landes, fremder Länder, als diplomatischer Begriff betrachtet werden. Denn Diplomatie dient in erster Linie dem Aufbau von Beziehungen zum Ausland.

Wenn wir nun die Anzahl der diplomatischen Wörter in der ins Deutsche übersetzten Version dieses historischen Romans zählen, sind es im Roman insgesamt vier, und in einigen Sätzen haben sie keine diplomatische Bedeutung.: *„Ein Fuchs, dieser Azizbek! Dachte Otabek, während er die ihm unklar gebliebenen Stellen der Botschaft noch einmal überlas. Bei dem Satz,er möge nicht nach Taschkent zurückkehren, bevor dort wieder Ruhe herrsche, sagte er lächelnd:"'Wenn es so ist, dann möge es noch lange unruhig bleiben!" (39)*

"Gespannt warte er, daß sich die Starrheit des jungen Mannes löste und er ihm die frohe Botschaft übermitteln konnte. (49)

Zusammenfassend lässt sich sagen, dass diplomatische Begriffe in der Belletristik manchmal im Sinne diplomatischer Begriffe verwendet werden und in vielen Fällen die Konzepte widerspiegeln, die in der allgemeinen Literatursprache verwendet werden. Auch Wörter, die in der allgemeinen Literatursprache aktiv sind, können gleichzeitig als Wörter mit Bezug zu mehreren Fachgebieten dienen, ohne dass es sich dabei um einen fachgebiets- oder wissenschaftsbezogenen Begriff handelt. Beispielsweise können Wörter wie „Politik", „Staat", „Unabhängige Regierung" je nach der Situation, die sie darstellen, als diplomatische oder politische, juristische und andere Fachbegriffe verwendet werden. Aus dem Inhalt des Textes ergibt sich, dass diplomatische Begriffe in der Belletristik als Wort verwendet werden, das die internationale Situation beleuchtet, oder als Lexikon, das die Situation in der Standardsprache beleuchtet. Diplomatische Begriffe, die ursprünglich im Roman „O'tkan kunlar" verwendet wurden, verloren im Zuge der Übersetzung durch die Mittelsprache ihre charakteristischen Merkmale diplomatischer Begriffe und wurden zu einem Teil der Wörter, die in unserem Alltag aktiv verwendet werden.

VERWEISE

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GLANCES AT THE NAMES OF SOME GEMMONYMS IN THE UZBEK LANGUAGE

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ABSTRACT
This article discusses the onomasiological units used in the Uzbek language that represent precious stones and metals. Also, information is given about the naming principles of such units and their sociolinguistic aspects in Uzbek language.
KEY WORDS: *Uzbek language, gemmonym, precious metal, official name, sociolect, artistic naming.*

Have you ever wondered how the names of familiar and unfamiliar metals and stones in the world around us are called by their names or by names that have nothing to do with them? Gold, silver, pearl, ruby, diamond and bead, coral, marble and similar names are named based on what motives and are they related to naming motives in related and non-related languages? We will try to find answers to these and similar questions in this article.

Since ancient times, people have valued certain things in life and used them as a means of calculation. The tools considered as valuables can be divided into two types. The first type includes metals such as gold, silver, and copper, and the second type includes minerals such as sapphires, rubies, diamonds, pearls, and beads.

Linguistic sources note that such units used in our language are one of the areas that have not been studied until now [1]. Names related to precious stones and metals are used in world linguistics with terms such as **gemmonym, chrematonym, mineralonym**. However, these terms are almost never found in linguistic dictionaries. For example, in the dictionary of onomastic terms of the Russian language compiled by Russian linguist N.V.Podolskaya, only the term *chrematonym* is explained [7]. Also, in the dictionary of E.Begmatov and N.Ulukov, aimed at regulating Uzbek onomastic terms, only the above term *chrematonym* is explained [4].

It is also known from the given information that this direction is one of the actual areas that are still waiting for their researchers. We see that the term *gemmonym* is interpreted as "the name of precious and semi-precious stones [5]..."

In general, during the examination of linguistic elements related to precious stones and metals in the Uzbek language, we made sure that this field will provide very relevant and interesting information for our linguistics.

For the Uzbek language, the volume of such linguistic elements constitutes a wide circle in a certain sense. In particular, such linguistic elements can be found in different forms from the oldest sources (ancient Turkic sources), in sources related to the period of the old Uzbek language, and in texts related to our modern language. In addition, the lexicon related to precious stones and metals can be sufficiently researched and checked in terms of linguistic layers between the languages that are in linguistic contact with the Uzbek language. That is, it will be necessary to find an answer to the question of which languages are historically and etymologically related to the units related to precious stones and metals used in our language.

Of course, it will not be possible to search for answers and clarify all the above issues within the scope of this article. For this reason, we preferred to focus on the most known and famous among such units in our language, the precious metal word "oltin" (gold), which has kept its value for almost many times.

Here we face another problem. So, are the names given to precious stones and metals considered a proper unit or a common unit? Why aren't they written with a capital letter if they're going to be a proper unit? This problem is observed in several types of names that are considered to be related to the direction of onomastics. For example, phytonyms (melon, watermelon), ethnonyms (Uzbek, Kyrgyz) and others. In addition, none of the above-mentioned terms gemmonym, mineralonym, and chrematonym refers to the naming of precious metals. Their comments refer to precious stones and minerals, but there are no sufficient grounds to include metals such as gold and silver. In our opinion, it is necessary to find a correct solution to this terminological problem based on scientific approaches. The conducted investigations showed that the intended names can be divided into several categories.

1. Official naming. It is necessary to understand that this type is named from the chemical point of view of a specific metal or mineral, as well as from the point of view of literary language.

2. Dialectal or informal naming. This type refers to the name of a certain precious metal or mineral in certain regions or in the form of jargons in the language of different groups of society.

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3. Artistic naming. This type refers to the naming of objects in fiction.

Within the framework of this article, we tried to analyze the name of the gold metal as the most active unit, refraining from the analysis of some of the names related to precious stones and metals used in the Uzbek language [6].

If we pay attention to the word "oltin" (gold), it should be noted that its composition is divided into two parts, that is, it is formed from the parts "ol" (red) and "tin" (coin) on the basis of lexemes related to Turkic languages. It is known that gold is compared to red in other related Turkic languages. For example, in the Turkmen language, the word gold is called "gyzyl", which means "red". In the explanatory dictionary of the Turkmen language, it is explained as "yellow colored precious metal, gold, gilt, chemical element..." (*Gyzyl sagat. Gyzyl ýüzük. Gyzyl diş*) [9].

Gold is called "zar" in Persian language explanations [8]. It is known that the word zar means yellow as well as gold. The zar component is used in the meaning of gold in the Uzbek language such as zargar, zardozi, zarkokil.

It is noted in the sources that the word referring to the Latin word gold comes from the old Latin word "aurum" and it is noted that this word means dawn, the interpretation of the word "dawn" refers to the golden-yellow shine of this metal. The English word "gold" derives from the Indo-European word "geolu," which also means yellow. For this peculiar property of gold, (besides copper, it's the only metal with a distinct color), it was associated with the sun in many ancient cultures.

From the given information, it is understood that the naming of gold, which is considered a precious metal, for many languages of the world, is based primarily on its color. Since time immemorial, gold has symbolically embodied dignity, wealth, honor, prestige, etc. In the sources of the old Uzbek language, it is used in such forms as ***oltun, tillo, zar***. In particular, it is one of the most active words in the language of A. Navoi's works.

*Dema, **sarg'ordi** Navoiyning yuzikim ishq aro,*
*Buyla **oltunni** qilurg'a poymoling qazg'anur...[2]; or:*
*Ey Navoiy **oltun**-u shingarf-u zangor aylama,*
*Bo'ldi nazming rangidin devon qizil, **sorig'**, yashil[2].*

In the Uzbek literary language, there are many colloquial expressions related to gold, where the word **oltin** (gold) is used. For example, **oltin jom** (golden cup, often in fiction), **oltin fasl, oltin kuz** (golden season, golden autumn, in the sense of autumn when the leaves turn yellow); **oq oltin** (white gold, figurative expression of cotton), **qora oltin** (black gold, figurative expression of oil) and others.

In addition, it can be observed that the **gold** element is actively used in various onomastic units. For example, the place names include: in the historical toponym of **Oltin Urda** (Golden Horde), **Oltinsoy** (Golden canal, name of a village in Bukhara region), **Oltinkul** (Golden Lake, name of a district in Andijan region), **Oltinkala** [10] (Golden fortress, name of a village in Shavot district of Khorezm region) and others. Including personal names: **Oltinoy** (Golden Moon), **Oltinsoch** (Golden hair), **Oltinbuvish** (Golden Grandma), **Tillokhan [3]** (Goldenkhan) and others.

In general, it can be noted that by collecting and analyzing the names related to precious stones and metals used in the Uzbek language, it is clear that we will have important linguistic information for our modern linguistics. This sphere is one of the fields of Uzbek linguistics that is waiting for its young researchers today.

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LOOKING INTO THE INSTRUCTIONAL LEADERSHIP OF MASTER TEACHERS DURING THE IN-PERSON CLASSES: A PHENOMENOLOGY

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ABSTRACT

This qualitative phenomenological study aimed to explore and understand the views and perceptions of Master Teachers as educational leaders during in-person classes in the elementary and secondary schools of the Division of Davao de Oro. The study was gleaned from the Contingency Theory and Path-Goal Theory. The research design employed in this study is a qualitative phenomenological design. Purposive sampling was used in selecting the participants, who are Master teachers in the elementary and secondary schools of Davao De Oro. There were fourteen (14) Master teachers, seven (7) for in-depth interview and seven (7) for focus group discussion. Results of the participants' experiences mainly include managing curriculum implementation, facilitating pedagogical development, encountering difficulties as master teacher, and engaging support for professional growth. Participants also shared that they handled the situation by carrying out effective instructional leadership, being provided with support, and implementing strategies in new setup. Apart from other findings, possessing skills as instructional leader is one of the solutions to continue one's educational leader role during in-person classes. It is also recommended to research further about the experiences of teachers as school-in-charge as another angle to be seen along with how they coped with the struggles in handling both instruction and administration tasks during in-person classes.

KEYWORDS: *In-person classes, educational leader, Master teachers, qualitative phenomenological inquiry*

INTRODUCTION

The COVID-19 pandemic has emerged as a complex crisis that necessitates great leadership. Due to the disruption caused by this pandemic to the world's educational system, leadership in schools under normal conditions is different from that in times of emergency. Due to this, the implementation of in-person sessions after more than two years of blended learning presents significant problems for the instructional leadership of Master Teachers. They act as a role model for the rest of the teaching team as a result, which directly affects how well each student learns. However, when Master Teachers' instructional leadership will not be effective, teachers and students are having a hard time adjusting to the return of face-to-face instruction since these they form a great part in implementing the curricular landscape of the school.

In Malaysia, schools are scrambling to stay up with the global learning recovery as a result of the increased in-person instruction since it was found in a study that Master Teachers were only completing their leadership duties at a leadership function below 90% (Rumeli et al., 2022). In a similar vein, it was discovered that most local schools in Thailand lacked suitable methods for instructional leadership (Luo, 2022). As evidenced by the gaps between goals and actual implementation, there have been incidents of inadequate instructional leadership reported in Indonesia (Rahayu & Usman, 2022). The results of studies conducted in Malaysia, Thailand, and Indonesia suggest that there are significant challenges in providing effective instructional leadership in schools, with Master Teachers in Malaysia not fully meeting their leadership duties and a lack of suitable methods for instructional leadership in Thailand.

In the Philippines, Laude, et al. (2019) revealed that based on the consolidated National Competency Based Teaching Standard (NCBTS) –Teachers Strength Needs Assessment (TSNA) results for three consecutive years starting SY 2014-2016, in the Department of Education-Division of Biliran, there is a need for the secondary Master Teachers to acquire relevant skills pertaining to ICT instruction, pedagogy, and making a training design to further enhance their instructional leadership capacity as Master Teachers who have been assigned with various curriculum tasks. Similarly, Mendoza and Bautista (2022) supported the notion that Master Teachers will be more competent in terms of their instructional competence skills if they performed their instructional leadership practices well. On the other hand, Ojale (2019) stressed that even though they are allocated with funds for training and seminars, due to their heavy teaching loads, lack of preparation, and the challenges associated with using instructional technologies, master teachers are also unable to provide instructional supervision.

Based on my firsthand observation in one of the schools in Davao de Oro, Master Teachers face challenges, and they are still struggling in adapting to the resumption of in-person classes after more than two years of having blended learning. As instructional leaders, they are tasked to provide mentorship to teachers who are stunned with the return of face-to-face

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classes. When teachers are not well supervised, effectiveness in instruction will be adversely affected and the instructional purposes may not be well realized. Thus, this only means that Master Teachers' instructional leadership must be properly employed to address the current situation. With this, I would like to understand the viewpoints of the Master Teachers in carrying out their task as curriculum and instruction experts, and the challenges they encountered to carry out a proposal for a development plan on the areas master teachers need coaching and mentoring as a response to the changes and challenges of the modern world.

In the numerous research articles, instructional leaders support teachers in their practice by coordinating professional development opportunities and offering coaching and mentoring to guarantee that best practices are applied in their schools. In order to give students, the greatest instruction possible, teachers should have access to everything they need (Brolund, 2016 as cited in Amakyi, (2021). Additionally, school leaders' instructional leadership approaches influence their level of leadership self-efficacy. The effectiveness of school leaders' responsibilities, choices, and actions will increase as they work on tasks that have an impact on school improvement (McBrayer et al., 2020). The effectiveness of providing high-quality education will be increased as a direct result of the master teachers' instructional leadership; they serve as the compass in this process. To overcome the learning gap that the pandemic has caused in the students, the master teachers must carry out their duties.

This study needs to be carried out as soon as possible because full implementation of in-person classes happens this year and master teachers had significant difficulties when the Philippine schools were reopened after more than two years of blended learning. The master teachers' experiences, coping skills, and insights will be a tremendous aid for the smooth adjustment in the reopening of the schools and it could help to improve the school's situation. Additionally, there is a paucity of literature and study about master teachers' leadership in the classroom, and some of the studies are so old that they cannot be utilized as a guide for contemporary academics.

The results of this study also aimed to offer a fresh perspective on how education would proceed following the pandemic and perhaps help all master teachers who were having trouble managing their workloads and other responsibilities at the time of in-person classes. Additionally, it will highlight the master instructors' function and how it affects both teachers' and students' performance. The findings of this study will be shared with the academic community and other interested parties by publishing the research in a reputable journal. This will allow the results to be accessible to a wide audience, including educators, researchers, policymakers, and other stakeholders in the field of education.

PURPOSE OF THE STUDY

The purpose of this phenomenological study is to explore and understand the experiences, coping mechanisms, and insights met by Master Teachers in their instructional leadership during in-person sessions. The Master Teachers are from different schools in the Division of Davao de Oro as they gained experience after the comeback of in-person classes.

At this point in the research, the Master Teachers' instructional leadership was broadly defined as their concerns about how they adjusted their leadership and adapted the implementation of in-person classes after more than two years of using blended learning due to the pandemic. Upon delving into the experiences of these Master Teachers, it will help them to adjust their work routine in the new normal education.

RESEARCH QUESTION

The study aims to answer the following research questions:

1. What are the lived experiences of Master Teachers as instructional leaders during the in-person classes?
2. How do Master Teachers cope with the challenges encountered as instructional leaders during in-person classes?
3. What insights can they share with other Master Teachers as instructional leaders?

METHODS

This study employed a qualitative research design utilizing phenomenological approach. The purpose of qualitative research, according to Fossey, E. et al. (2002), is to provide answers to queries concerning how to understand the significance and experiential elements of people's lives and social surroundings more fully. A qualitative research strategy also provides a thorough understanding of a particular issue, challenge, or meaning based on first-hand experience (Maxwell, 2012).

This study primarily used a phenomenological technique to investigate the Master Teachers' experiences during the in-person classes. The phenomenological approach was used to investigate human lived experiences or an investigation of lived experiences. This method's main objective was to describe the nature of the specific phenomenon (Creswell, 2013).

A thorough interview was conducted as part of this study's phenomenological approach because it allowed the researcher to delve into the perspectives, understandings, and emotions of those who were actually experiencing the phenomenon—in this case, the master teacher's instructional leadership during the in-person classes. The researcher was able to completely comprehend and analyze the participant's experiences because of this.

The use of a qualitative-phenomenological methodology in this study allowed for the identification, exploration, and understanding of participant statements and descriptions regarding their experiences and insights. The fact that this research design recounts the information acquired from the interviews makes it the most suitable for this investigation.

In this study, fourteen (14) participants took part in this study: seven (7) participants for the focus group discussion (FGD), and seven (7) participants for the in-depth interview (IDI). These 14 participants were master teachers from public elementary and secondary schools in the Schools Division of Davao de Oro- Laak North District. According to Creswell

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(2013), there should be three (3) or no more than fifteen (15) participants in a phenomenological study conducted with a heterogeneous group.

It used the purposive sampling method since it only includes master teachers from various elementary and secondary public schools in the Laak North District, Division of Davao de Oro. For the collection of data that is rich in detail and of premium, purposeful sampling is a common and well-liked method in qualitative analysis. According to Patton (2015), purposeful sampling involves choosing examples that have a lot of information so that the limited sources are used as efficiently as possible.

I identified and selected the participants using the following selection criteria: a.) must have a permanent item as a master teacher of either elementary or secondary public school in Laak North District, Division of Davao de Oro, b.) have at least three years of experience of teaching face-to-face classes, and c) must be assigned in the school under Laak North District, Division of Davao de Oro.

On the other hand, these are the exclusion criteria of my study: a.) the principal or the school heads of the school, b.) the Teacher I to Teacher III and c.) non-teaching staff like Administrative Assistant II and Administrative Assistant III.

REVIEW OF RELATED LITERATURE

Duties and Responsibilities of Master Teachers

The Department of Education (DepEd) emphasizes a merit-based approach in the selection and advancement of employees, as outlined in DepEd Order No. 29, s. 2002, focusing on qualities and competence. This commitment to merit, competence, fitness, and equality is fundamental to DepEd's policies. Additionally, DECS Order No. 70, s. 1998, governs the allocation of Master Teacher (MT) positions, linking them to the number of teachers in a district, with one MT post designated for 5-7 instructors at the secondary level. Master Teachers, as detailed in DO no. 42, s. 2017, play a pivotal role in providing technical support across various educational domains, including subject matter, pedagogy, curriculum, assessment, and professional growth, ensuring a comprehensive approach to instructional leadership within the education system

The monitoring of modular distance learning (MDL) instructors' lived experiences was uncovered through an interview and a focus group discussion as part of the research into these lived experiences. Master Teachers have accomplished educators who are passionate about expanding their influence as teachers to raise the standard of instruction in their schools (Arce, 2019). Additionally, Master Teachers are highly skilled at planning projects for the entire school and supporting colleagues' professional development. Master Teachers work together with school and/or district administration to plan professional development programs, oversee teacher teams, and facilitate coaching sessions to help their peers develop (Danahy & Tsai, 2021).

Moreover, with the "New Normal" teaching trend, it is their responsibility as master teachers to monitor how the pupils and teachers are faring. Some participants noted that face-to-face training is very different from seeing modular distance learning instructors teach and going through the learning experience. In the school year 2020–2021, it is predicted that education would start under the New Normal. Parents, students, and the Department of Education were all put at risk by the abrupt shift from in-person instruction to online instruction since the latter sought to preserve educational quality despite changes in how instruction was given (Ancheta & Ancheta, 2020).

Thus, the Department of Education is tackling the difficulties in basic education through its Basic Education Learning Continuity Plan (BE-LCP), in accordance with Department of Education Order No. 012, s. 2020. This strategy seeks to find a way to continue instruction despite these difficulties while also ensuring the health, safety, and well-being of students, instructors, and staff throughout the COVID-19 epidemic. The BE-LCP was specifically developed with a legal framework that responds to the "new normal," keeping in mind the constitutional duty to continuously protect every citizen's access to a high standard of education (Creus, 2019).

The school principal, head teachers, and master teachers must oversee and watch learning delivery to verify that it truly takes place and that the necessary feedback and technical assistance will be provided (Wong, 2019). This is necessary to ensure learning continuity. A study found that the MTs performed exceptionally well in terms of their instructional competence and that they were highly skilled in terms of educational leadership, notably in the areas of planning, assessing, reporting, and professional growth and development. Due to their competence in education, they are qualified to advise and mentor other teachers with these (Donato, 2021).

In addition, Abasolo et al. (2021) in their study reiterated that master teachers are very good in terms of modeling exemplary practice in the application of content knowledge and pedagogy showing its integration within and across learning areas. This means that teachers look up to them on how teaching instruction must be carried out, and this would serve as a guide to them to do the same. On the contrary, even though a secondary master teacher entails a subject he specializes in he must relate his area of expertise to other disciplines which some teachers find hard. Therefore, master teachers are expected to demonstrate such concern.

Resiliency of Master Teachers on New Curricular Routines

In 2020, distance learning via online learning gained popularity because of the COVID-19 pandemic (Kim, 2020). By the end of October 2020, around 25 countries in the East Asia and Pacific region that had been entirely shuttered during COVID-19 have either started or restarted lessons (UNICEF, 2020). Only "green districts," or those with less COVID-19 danger, have seen school reopening in Indonesia since July 2020. During COVID-19, internet learning was employed in several Indonesian schools. With this, master teachers should cooperate fully with the teachers below them and offer technical support. The goal is to minimize academic losses through efficient event, emotion, and consequence management (Hanafi et al., 2021).

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Although face-to-face classes go back to normal, there are still emergency situations like calamities where distance learning is implemented for the safety of students. Nicholls (2020, as cited in Abasolo et al., 2021) stated that having distance learning could mean more work on the part of teachers who print learning materials and create essential content that students can cope with despite the circumstances. So, it is a challenge for the Master Teachers to supervise them effectively in adjusting to such setup. So, they must be aware of their capabilities and responsibilities in the context of New Normal K12 Education.

Furthermore, changes should be implemented based on the lessons learned to maintain the safest environment possible for children, staff, and larger communities. Difficulties in implementing the distance learning plan developed on a regular basis. Due to a dearth of distance education competence as well as computer literacy, teachers were caught off guard for emergency remote instruction. Indeed, the pandemic puts teachers' adaptability and flexibility to the test (Cardullo et al., 2021). As a result of the present constraints, MTs must modify their practices when watching classes. Mentoring and coaching are more important than ever in assisting instructors with instructional implementation (Caratiquit & Pablo, 2021).

Teachers are driven to come up with novel ways to communicate with their students with the help of MTs (Lagua, 2020). Furthermore, technical assistance to instructors should be provided on a consistent basis. The situation has necessitated greater dedication to the task at hand, empathy for others, and extra measures to ensure that training continues in the event of a pandemic. As a result of these issues, the master teachers were forced to take on new responsibilities (Caraan et al., 2022).

Adapting in the face of hardship is one of the master teachers' strengths. Various problems exist, particularly during this trying time, and teachers are still adjusting to the new normal (Tosun et al., 2021). To effectively offer their teachings, they must use available and suitable pedagogy (Lapada et al., 2020). Because MTs are more familiar with, conversant with, and educated about educational philosophies, one of their duties is to impart their instructional competence to Teachers I-III (Teruel et al., 2022).

Finally, to ensure quality education, the MTs oversee the implementation of in-person classes to Teachers I-III through classroom observation (CO). COs are completed using pre-determined metrics and the Philippine Professional Standards for Teachers-Results-Based Performance Management System (PPST-RPMS). During the pre-observation process, the MT and the instructor must discuss and agree. These indications must be monitored throughout the delivery of actual instruction, and a post-observation conference must take place (Patadilla-Naquines & Salazar, 2022).

Master Teachers as Instructional Leaders

Continuous, collaborative, and professional efforts to improve teaching effectiveness constitute instructional leadership. It may be important to give management, support, impart ideas, aid, or creativity to improve a teacher's capacity for managing varied learning contexts (Donato, 2021). A well-rounded master teacher who is second only to the principal will have a broad leadership style that integrates several different leadership models. The goal of classroom instruction is to follow the practice of instructional leadership. It could be determined by how successfully its administrators and members work together. These leaders must have a thorough understanding of and familiarity with the educational environment. They must encourage collaboration to strengthen the school and its professional learning community (Hanafi et al., 2021).

Additionally, instructional leadership is a strategy for formulating and disseminating a distinct vision and goals for students as well as for assisting instructors through coaching, mentoring, and professional development (Rahayu & Usman, 2022). As a result, instructional leaders are held accountable to the community, parents, teachers, and students on a wide range of levels. Teachers require a knowledgeable, energizing, and supportive leader in the classroom (Potane et al., 2021).

People have long been curious about the relationship between instructional leadership and school effectiveness, which is often gauged by student academic accomplishment. According to prior studies, instructional leadership has the most empirical impact on the results of student learning of any kind of leadership (Qian et al. 2017). In support of this, a meta-analysis showed that instructional leadership typically had a three to four times better influence on student learning outcomes than transformational leadership. The size of the effects of instructional leadership may also vary depending on cultural background (Zhao, 2018).

Additionally, the decisions and actions of instructional leaders play a crucial role in building and sustaining trust in a school. A leader sets the atmosphere for their organizations. Their attitudes, behaviors, and beliefs have a significant impact on how trustworthy the workplace is (Ma & Marion, 2021).

Positive instructional leadership characteristics have been shown to significantly predict teachers' trust in the literature. Determining a vision, managing through norms and procedures, coaching instructional programs, and modeling professional actions are important leadership techniques that promote trust. The data point to a positive association between instructional leadership and faculty trust in the instructional leaders (Atik & Celik, 2020).

It was found in a study of master teachers in Cavite, Philippines, that master teachers needed to oversee and evaluate learning delivery to make sure that it truly happened and that the necessary feedback and technical support were provided (Espineli, 2021). The master instructors are further qualified to advise and coach other educators due to their depth of knowledge in teaching. By providing teachers with the chance to learn effective methods that could improve schools' ability for critical thinking and education, instructional supervision can help re-professionalize teachers' work (Mendoza & Bautista, 2022).

An investigation carried out in Tanzania by Manaseh (2016) found that the hard workload, lack of financial support, inadequate training, and carelessness of instructors all have an impact on the instructional leadership of heads of schools. The report suggests that heads of schools schedule frequent in-

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service training sessions and that more research be done to determine the extent to which heads of schools use instructional leadership approaches.

Another study conducted in Malaysia found that instructors need significant support from their principals in order to strengthen their influence over classroom management, subject matter material, different aspects of their pedagogy, and student assessments. This study also shows that, in contrast to conventional methods of formal teacher training, a school leader can take on the role of an instructional leader when he or she actively engages in coaching, mentoring, and assisting their subordinates to enhance their teaching and learning methods (Abdullah et al. 2020). Additionally, research in the State of Kedah has demonstrated how instructional leadership's involvement in the current flow of educational, teaching, and learning processes has increased teachers' functional competency. Sustainable leaders should inspire teachers to collaboratively increase school quality in order to tackle the challenges of the 21st century in education (Ismail et al., 2020).

On the other hand, a study from Quisquino (2022) revealed that master teachers' high competence in terms of mentoring, observation, instruction, and supervision significantly related to the professional growth of the teachers under his supervision. If Master Teachers demonstrate all the time their responsibility in giving technical assistance to teachers, then it could improve the supervisory practice and performance of teachers. This implies further that the more effective a master teacher is, the more efficient a teacher becomes under his care.

Additionally, one of the responsibilities of instructional leaders is to provide a resource for teachers who desire to advance their pedagogical practices. Master teachers admitted that they find it difficult to become good instructional leaders because they lack the time and expertise or because it makes them uncomfortable to criticize the teaching methods of other teachers. Principals and master teachers can employ these ideas to improve teaching and learning in the classroom (Zahed-Babelan et al., 2019).

An instructional leader's other major responsibility is to develop and articulate a clear vision for the future of the school. To increase student achievement, principals must develop a vision, which they hope teachers will adopt and implement in their classrooms on a continuous basis. By establishing goals and creating a vision, the school can work toward improved student performance (Alsaleh, 2019). Teachers will work together toward a shared objective when principals set goals for the school and communicate these goals to the workforce. While in high-performing institutions, leaders regard themselves as visionaries and act accordingly, school leaders in Greece, for example, rarely discuss the institution's goals and objectives with their staff members (Qadach et al., 2020).

Master Teachers are competent leaders who have mastered management skills in making students independent learners who have developed critical thinking skills to grow and thrive. It is also reiterated that Master Teachers visit classrooms and coach teachers to improve instruction. They also ensure that curriculum development happens as well as support such as meeting the teachers for the planning of professional development training. This is in the form of Learning Action Cells (LAC) sessions implemented by the Department of Education in all schools. It provides opportunities for teachers to discuss the learning gaps, new strategies in teaching, and interventions to be made among students who performed lower than expected from them. All these endeavors are properly administered by a Master Teacher as the most competent in terms of delivering high-quality instruction (Jentsch & Konig, 2022).

It is believed that master instructors, who are supposed to have more expertise in curriculum development, professional development, and mentorship than typical teachers, are the ones who attain the highest standard in teaching. Their teaching strategies will be different from those of regular, non-master teachers because they are the "creme de la creme" of educators (Basilio & Bueno, 2019). Therefore, effective MTs possess exemplary pre-teaching skills, outstanding teaching strategies, motivational and communication abilities, a thorough knowledge of the subject, interpersonal abilities, and classroom management competence. Additionally, MTs are seen as excellent sources of curricular leadership, qualified instructors, staff development, and stimulus (Chew & Cerbin, 2021).

Master Teachers is a model of teacher learning that incorporates three elements that have been recommended as helpful for teacher development programs. Priority one for programs should be their scope and sustainability. The average length of MTs is greater than three years. Second, a program needs to be especially made for teachers' needs and habits (Mayo, K.E., 2002). According to Pambudi and Gunawan (2019), an MT is an experienced educator who puts operational issues with classroom education first.

The MTS has a high level of professional autonomy because the MT establishes the goals, rules, materials, and schedule. Teachers in a learning environment pick up knowledge from their peers and subject-matter specialists. An MTS, as opposed to a one-time training, gives participants the chance to develop long-lasting relationships with the MT and other teachers from different schools (Zhang & Wong, 2018).

In summary, these pieces of literature highlight the important roles of Master Teachers in providing instructional support not only to teachers but the school as a whole. The resumption of in-person classes signifies that certain curricular adjustments must be done such as carefully planning the teaching loads of teachers in congruence to the number of students, establishing appropriate teaching strategies to scaffold some "learning loss" of students due to the pandemic, and providing adequate mentorship to teachers in performing their duties and responsibilities in making the teaching-learning process effective. According to the mentioned authors, Master Teachers as instructional leaders of a learning institution, play a critical role in shaping the core of the curriculum. The literature discussed in this chapter is structured to have a thorough understanding of the study. Evidence shows that there is a need to conduct further study in this field.

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RESULTS AND DISCUSSIONS

Table 1
Major Themes and Core Ideas on the Experiences of Master Teachers as Instructional Leaders

Major Themes	Core Ideas
Managing Curriculum Implementation	• collaborating with school personnel for curriculum implementation • providing curriculum direction and guidance • assessing and giving feedback and points for improvement to develop higher order thinking skills of students • monitoring appropriate use of teaching strategies and pedagogies • monitoring teaching strategies and mentoring colleagues • facilitating professional development in the delivery of quality education • making education process more effective • being responsible to find strategies to create a program to fill-in the learning gaps of the students • giving the 100% service to students needing attention • providing support to students needing assistance
Facilitating Pedagogical Development	• ensuring a positive and conducive classroom environment • giving varied instructional strategies to improve thinking skills • facilitating different kinds of strategies in teaching • giving attention to students needing knowledge and skills • employing techniques and strategies in Science and Technology subjects • engaging the students with different fun activities • assessing the progress of learners • conducting remedial classes • ensuring congruency of teaching strategies into learning preference
Encountering Difficulties as a Master Teacher	• having difficulty managing time • encountering limited time for instruction • engaging so much with paper works • doing overloaded tasks • having students with learning gaps brought on by the pandemic • having adjustment to the work environment • adjusting to the role of instructional leader
Engaging Support for Professional Growth	• implementing Teacher Induction Program (TIP) • conducting Learning Action Cell (LAC) sessions • providing technical assistance to beginning teachers • coaching and mentoring the proficient teachers • providing pre-conference and post-conference in the teaching learning process • giving positive feedback after the observation • observing classes to ensure effective teaching practices • discussing with teachers on how to improve their teaching skills and appreciating their efforts.

Managing Curriculum Implementation

"My role during the implementation of in-person classes is to collaborate with the principal and fellow teachers in providing curriculum direction and guidance for the successful implementation of the curriculum." FGD-06

"As a master teacher, there are many roles in the implementation of in-person classes. The roles I play are about the teaching-learning process, monitoring teaching strategies and pedagogies, and mentoring colleagues. I feel contented and satisfied complying with that role." IDI-02

"These are the roles that I play as a master teacher: serve as a mentor to facilitate professional development and deliver important information to my co-teachers." FGD-04

Traditionally, teachers have focused on delivering curriculum within the classroom, but nowadays master teachers become curriculum managers. These experienced teachers are stepping into leadership roles to leverage their understanding of the pedagogy and the needs of the students in shaping the curriculum they deliver.

Moore (2015) highlighted that master teachers play a crucial role in education, not only as instructional leaders but also as curriculum managers. They are independent learners dedicated to enhancing their own learning to effectively impart knowledge to their peers. Master teachers are distinct from traditional teachers, focusing on providing high-quality professional development to their colleagues and analyzing

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student data to create academic achievement plans for their schools. Their responsibilities include conducting observations, scoring assessments, and researching effective teaching strategies to support their peers in improving their instructional practices.

Facilitating Pedagogical Development

"We have to ensure a positive classroom environment and facilitate varied instructional methods because we are not sure if students answer their modules or not when they are at home." IDI-01

"I facilitate them through the use of different kinds of activities so that they would also be motivated to learn in the classroom. It is effective because they have high scores in assessment." IDI-06

"As a master teacher, I employ strategies and techniques where they can learn and interact more. I also give attention to those students who need special attention." FGD-04

The role of teachers has evolved beyond simply imparting knowledge. It has been found in this study that master teachers play a key role in facilitating pedagogical development. Furthermore, the participants expressed that they have to play various roles as master teacher which include not only facilitating the learners but also act as mentors for new teachers, guiding them in effective lesson delivery. Their leadership roles ensure best practices, and are passed on, and benefits the students as well as the educators.

In connection to the above ideas, master teachers facilitating students' learning are supported by Cheng (2020) who emphasized that the instructional coaching and collaborative lesson planning of master teachers can significantly improve the quality of classroom instruction leading to a better student achievement. This collaborative approach not only benefit the students but also shows the educational leadership of master teachers in shaping dynamic and successful learning environment for all students.

Encountering Difficulties as Master Teacher"

"In the implementation of in-person classes, master teachers faced various struggles one of which is time management. There was so much paperwork that some of my classes were affected." IDI-07

"There are role-overloaded works I do. I become the OIC, checking the cleanliness of the environment, becoming a teacher, a master teacher, and then coaching others." IDI-01

"The struggles I experienced in the implementation of in-person classes are the learning gaps of the students. They are not ready to have face-to-face learning since there are adjustments in their behavior and understanding the lessons " FGD-01

Master teachers, having honed their skills over years of experience and dedication, are frequently regarded as paragons of educational excellence. Upon delving unto the experiences of the master teachers, it can be inferred that their journey is not without difficulties. The study shows the unforeseen difficulties they encounter in their pursuit of fostering effective student learning. Having to teach their own students at the same time mentoring co-teachers challenge their time management skills.

The study of Abasolo et al. (2021) reveals that work overload and stress were some of the most viewed difficulties of master teachers in implementing instruction. Master teachers mentioned that they become stressed whenever there was unannounced submission of reports that needed to be passed on the day or tomorrow. These gave master teachers stress as they have work overloads and their time with teaching the students will be compromised. Thus, work overloads leading to stress among master teachers have been one of the known challenges.

Engaging Support for Professional Growth

"In assisting our proficient and beginning teachers, I split the newly hired teachers into two to have a Teacher Induction program." IDI-01

"I assisted the beginning teachers in the implementation of their instruction by providing technical assistance in their respective subjects." FGD-03

"I assisted the proficient and beginning teachers through class observation, I saw to it that they achieved the indicators in the observation tool." IDI-05

Master teachers plays an important role in establishing mentorship relationships with other teachers, fostering professional growth and development within educational settings. These mentorship programs are designed to enhance teaching practices, improve classroom management, and support the overall well-being of educators.

According to Smith and Johnson (2018), mentorship by master teachers can lead to increased job satisfaction, reduced burnout, and higher retention rates among novice teachers. Additionally, research by Brown et al. (2020) highlights how mentorship from master teachers positively impacts student outcomes by improving instructional quality and teacher effectiveness.

Table 2
Major Themes and Core Ideas on the Coping Mechanisms of Master Teachers as Instructional Leaders during In-person Classes

Major Themes	Core Ideas
Carrying Out Effective Instructional Leadership	• having the right attitude in managing and leading the school • understanding and patience for the students • having good planning in managing and leading the instructional aspect of the school • leading the teachers properly so that plans and objectives will be achieved to improve quality education • having proper and clear communication with fellow teachers • creating a well-balanced time performing one's duties and responsibilities well

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	• enhancing one's skills as master teacher by providing appropriate instructions to students • finding ways to help the students and their families in promoting social and emotional learning
Being Provided with Support	• having support system by getting technical assistance for the improvement of school program • having emotional, moral, spiritual and monetary support from family and friends • getting constructive criticism and sharing of thoughts from the school principal and colleagues • having a school head to monitor implementation of activities • overcoming challenges easily through moral and technical support • having supportive school principal and co-teachers in helping implement activities and programs well continuing professional development to stay competitive and reliable to one's job
Implementing Strategies in the New Set-up	• establishing think-pair-and-share activity with the students • foster collaborative environment where students and teachers can work together to address challenges • soliciting ideas from colleagues on effective ways that would make learning effective in the classroom • seeking support form co-teachers, administrators and stakeholders • employing peer teaching strategy to learn from each other

Carrying Out Effective Instructional Leadership

"In leading and managing the school, it is important to have the right attitude to be a mentor to teachers. You should be professional and committed to your duties and responsibilities "IDI-01

"Managing and leading the instructional aspect of a school during the come back of face to face classes requires good planning, execution and time management. Through this the objectives of the school will be achieved." IDI-06

"As an instructional leader, I just create a well-balanced time in facilitating colleagues and learners in delivering quality education." FGD-06

Carrying out one's role as master teachers as a coping mechanism in facing challenges is a crucial aspect of the teaching profession. Though challenges are inevitable in teaching, some teachers find focusing on their roles as master teachers help them cope up with these difficulties. Master teachers immerse themselves in honing their crafts, developing interactive lessons, and ensuring student growth instead of being stressed out of the various challenges hindering their tasks.

Lacy & Guirguis (2017), states that master teachers cope with challenges in their role through various strategies and mechanisms. Their research indicates that experienced educators often rely on their expertise, resilience, and mentorship skills to navigate difficulties effectively. They exhibit adaptability and use their knowledge to guide others through tough times, providing stability and support within educational settings. They also engage in emotional labor, managing their emotions, and maintaining professionalism as coping mechanisms when facing adversities in the classroom.

Being Provided with Support

"My colleagues supported me by giving constructive criticisms and sharing thoughts on how the learners have been improved especially in reading. And for my administrator, the school principal, he helps me a lot since he has these words of wisdom to share, especially in achieving the best classroom interaction." IDI-05

"Our principal is very supportive. My co-teachers help a lot to implement the school activities as we address the transition to in-person classes the implementation of the activities." IDI-01

"The support that I have is the moral support, most especially to my family and my friends. And the spiritual support by prayers and the technical support or technical assistance by my colleagues most especially in my professional growth." FGD-04

Having a strong support system can significantly motivate teachers in performing their jobs effectively. When teachers feel valued, acknowledged, and supported by their colleagues, leaders, and students, it creates a positive work environment that boosts motivation. This recognition can take various forms, such as expressing gratitude, celebrating achievements, and acknowledging strengths through thank-you note, shout-outs, incentives, and encouraging peer recognition.

According to Grossman (2022) creating a culture of recognition in schools where gratitude is expressed, achievements are celebrated, and strengths are acknowledged can foster a sense of value and support among teachers. Encouraging peer recognition and feedback can further enhance the feeling of being trusted and supported by colleagues among teachers. Thus, being provided with support is one of coping mechanism among teachers when facing difficulties in their role as master teachers.

Implementing Strategies in the New Set-up

"My strategy is to share my thoughts with my colleagues because it is them who know the problems of the learners. Just like having a think-pair-share activity. Whatever challenges we observe, we think and share to solve the problem." IDI-02

"Peer teaching is a strategy we do so that they can share during SLAC sessions and we are learning from each other. For the

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next year, we exchange topics so there will be new points of view. "IDI-01

"As to the strategies that I employed in facing those challenges that I encountered, one strategy is by sharing it to my colleagues. Another strategy is by accepting the reality that as time goes by, learning environment change." FGD-02

Master teachers play a crucial role in the education system, often facing various challenges that require effective coping mechanisms. As the educational landscape shifted, master teachers are increasingly adapting to innovative techniques and strategies in this changing educational environment. Implementing strategies in a new setup is a key approach for master teachers to navigate these challenges successfully.

For instance, research by Smith (2018) highlighted the significance of proactive strategies in adapting to new environments. He emphasized the importance of master teachers being flexible and open to change when implementing strategies in unfamiliar settings. This adaptability allows them to address challenges more effectively and enhance their teaching practices. These strategies include integrating technologies inside the classroom and maintaining open communication to students, colleagues, and parents.

Table 3
Major Themes and Core Ideas on the Insights of Master Teachers as Instructional Leaders during In-person classes

Major Themes	Core Ideas
Possession of Required Skills and Competencies	• be wise and prepared all the time to implement successful and relevant output • give one's best and be responsible to all the tasks to become productive citizen • always be prepared to handle tasks • ensure learner's needs will not be short change • use differentiated instruction to meet the learning needs of the students • monitor the progress of the students • encourage teachers to have diagnostic assessment to identify the level and learning needs of the students • monitor classes to assess the problems of the teachers
Possessing Skills as an Instructional Leader	• improve instructional leadership skills become more effective • make oneself responsive and confident in learning new knowledge • experience is the best teacher • develop strategic plans to help the students and teachers for the good of the school • be an efficient teacher with an open heart • share one's knowledge and expertise • learn to be open-minded and listen to others • helpful experiences to improve one's skills as instructional leader • share thoughts and practices in the classroom • set clear direction to achieve goals
Imposing an Engaging and Supportive Teaching-Learning Environment	• implement varied strategies in the classroom to enhance student learning • implement strategies that learners learn while having fun in the classroom • good learning environment for students • necessity in having quality teachers and physical facilities • give importance to teaching and learning process • implement more time on reading for non-readers • set standards to encourage students to improve academic performance
Having Positive Attitude Despite Challenge	• do what is right for the benefit of the learners and love one's work • give the best for the learners • work happily, be open-minded and positive at all times • look into the brighter side and focus on solutions not problems • take a break if feeling tired

Possession of Required Skills and Competencies

"First, use differentiated instruction, recognize their unique ability, and then adapt your teaching strategies.IDI-03

We master teachers must use differentiated activities to monitor the progress of students." IDI-06

"To ensure that learners' needs will not be short-changed during in-person classes, I recommend to the master teachers that they should properly and wisely be prepared on the activities they implemented to have a successful and relevant output." FGD-01

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Master teachers' preparedness on their tasks is of great importance for ensuring effective teaching practices and positive student outcomes. As a seasoned educator, the level of readiness and competence of master teachers bring to the classroom directly influences the quality of education students receive. A well-prepared master teacher is important in shaping students' academic growth and overall development.

In fact, Baecher (2012) emphasizes that the quality of teacher preparation programs directly impacts the effectiveness of teachers in enhancing student learning outcomes. Being adequately prepared as a master teacher involves a combination of formal training, ongoing professional development, and practical experience to excel in the dynamic educational landscape. Teachers' feelings of preparedness play a significant role in their ability to navigate various classroom requirements, such as maintaining order and discipline, addressing student needs, and engaging in professional development activities.

Possessing Skills as an Instructional Leader

"The experiences I acquired made me open-minded in developing strategies in planning what suits best to the needs of teachers, students, and school. IDI-01
It gives me new knowledge to make my instructional leadership effective." IDI-06
"Be open to change and accept the reality that we make mistakes anytime. Be open to share what you know to your colleagues." FGD-04

Master teachers play a crucial role as instructional leaders within educational settings. Instructional leadership is not solely the responsibility of principals but should also be integrated into the expertise of master teachers. These educators are known for their ability to deliver high-quality professional development to both students and fellow teachers, focusing on improving instructional practices and student achievement.

Moreover, Wien and Beck (2022) underscore that master teachers possess various skills such as managing classrooms effectively, accelerating student learning, and fostering critical thinking skills among learners. Furthermore, they are described as exceptional communicators who tailor their teaching to meet the diverse needs of their students, emphasizing the importance of creating independent learners capable of thriving academically.

Imposing an Engaging and Supportive Teaching-Learning Environment

"I will implement varied activities inside my classroom which it can catch students' attention". IDI-03
"I hope to implement a good learning environment for my students." IDI-07
"We need to set standards for our students to help them improve their academic performance." FGD-05

Master teachers play a crucial role in instructional leadership, focusing on professional development, supporting classroom teachers, and enhancing teaching effectiveness. They engage in various activities such as providing demonstration lessons, coaching, team-teaching, and conducting walk-throughs to ensure the effective implementation of strategies and best practices.

In line with this, according to Gouedard et al. (2020) the effectiveness of master teachers in driving curricular improvements lies in their pedagogical expertise and ability to embed authentic application of skills through research-based professional development. They are described as change agents who conduct extensive behind-the-scenes work to guide teachers in improving their effectiveness and student achievement. Master teachers are independent learners dedicated to enhancing their own learning to deliver high-quality professional development to their peers.

Having a Positive Attitude Despite Challenges

"Just do what benefits best for the learners. You also have to love your work." IDI-03
"We should work happily because we are lucky to have this job. Just be yourself, and be open-minded we should think positively at all times." IDI-05
"The advice that I can give to other master teachers is just to do what is best for the improvement of instruction to learners." FGD-01

Master Teachers are recognized for their profound impact on students and the classroom environment. They possess a unique set of behaviors, attributes, and techniques that set them apart, contributing significantly to student learning and development. The role of master teachers is not only to impart knowledge but also to inspire creativity, share innovative teaching techniques, and continuously strive for excellence in education.

In connection to the above idea, Letzel et al. (2022) highlighted that teachers, especially master teachers, are faced with various challenges but are adept at instilling a positive attitude despite difficulties. These resilience and positive outlook are crucial in maintaining motivation, engagement and fostering a conducive learning environment for students. Master teachers navigate challenges effectively while they remain focused on the ultimate goal of providing quality education.

IMPLICATION FOR TEACHING PRACTICE

The implications of this study to the teaching practice are profound. First, the study emphasizes the importance of master teachers as instructional leaders in creating a conducive learning environment. Educators may develop their instructional leadership skills by analyzing and leveraging their experiences, which will result in better student outcomes and engagement.

Second, the findings of the study highlight the value of mentorship and professional development programs for teachers. Master teachers can be valuable mentors, sharing their knowledge and insights with colleagues to foster a culture of continuous learning and growth. Implementing structured mentorship programs based on the experiences of these instructional leaders can have a major impact on teachers' professional development and contribute to a more collaborative learning community.

Furthermore, the study emphasizes the importance of reflective practice in teaching. Master teachers frequently use reflective practices to examine their instructional strategies, assess student learning outcomes, and adjust their approaches accordingly. Encouraging all educators to include reflective methods into their teaching can result in more effective

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instruction, higher student engagement, and better understanding of the teaching-learning process.

Lastly, the study implies that educational institutions should recognize and encourage master teachers as instructional leaders. Providing opportunities for these experienced teachers to share their knowledge, lead professional development activities, and contribute to curriculum development can improve teaching practice within the school and raise the overall quality of education delivered to students. By recognizing and rewarding master teachers, educational institutions may foster as more dynamic and effective learning environment for both educators and students.

CONCLUSION

In conclusion, the study on the lived experiences of master teachers as instructional leaders during in-person classes in the Division of Davao de Oro has provided valuable insights into the dynamic role these educators play in shaping the educational landscape. Through an exploration of their instructional leadership practices, mentorship approaches, and classroom management techniques, this research has highlighted the significant impact master teachers have on student achievement and overall school improvement initiatives. By delving into the professional development needs of master teachers, the study has underscored the importance of tailored training programs and support systems to enhance their instructional leadership skills and effectiveness.

Furthermore, the assessment of the role of master teachers in school improvement has emphasized the collaborative nature of their work, their contributions to curriculum development, and their role in fostering professional growth among educators. Understanding the challenges faced by master teachers in fulfilling their instructional leadership roles has shed light on critical issues such as time constraints, resource limitations, and the need for additional support. Addressing these challenges is essential to empower master teachers to lead instructional initiatives effectively and promote continuous improvement in teaching and learning practices.

Moving forward, future research endeavors could focus on exploring the impact of instructional leadership on student achievement in greater depth, examining the specific strategies and practices that yield the most significant outcomes. Additionally, investigating the broader implications of master teachers' roles in school improvement initiatives and identifying innovative solutions to overcome the challenges they face will be crucial for advancing educational practices in the Division of Davao de Oro. By building on the findings of this study and continuing to explore the lived experiences of master teachers, educators, policymakers, and stakeholders can work collaboratively to enhance instructional leadership practices and ultimately improve the quality of education for all students in the region.nurturing learning environments. The coping mechanisms employed by the students can serve as valuable lessons for concerned entities in fostering resilience and perseverance in their educational journey. Moving forward, it is crucial for all stakeholders in the education sector to collaborate and implement measures that address the challenges highlighted in this study, ensuring a more inclusive, adaptable, and supportive educational landscape for all students.

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INKLUSIBONG EDUKASYON: KASANAYAN SA PAGSASALITA NG MGA MAG-AARAL NA MAY ESPESYAL NA PANGANGAILANGAN

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ABSTRAK

Ang kuwalitatibong pananaliksik na ito ay isinagawa upang magalugad ang karanasan, pagtatagumpay, at mga kuro-kurong nabuo ng 8 guro sa kanilang pagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan sa mga pampublikong paaralang sekondarya na saklaw ng Lupon West at Banaybanay District, Sangay ng Davao Oriental para sa Taong-Panuruan 2022-2023. Sa pamamagitan ng pagsasagawa ng pinalalim na panayam, natuklasan ang mga tema: nahahamon sa pagdadala ng tungkulin sa pagtuturo; nagsasagawa ng panibagong pag-aaral; nahaharap sa mga pagsubok; nalilinang ang katatasan sa wika; mabungang pagsasaling-wika; pagsasagawa ng sariling pag-aaral; nagtatanong sa mga dalubhasa; nagsasagawa ng mga pananaliksik; pagpapalakas ng INSET sa pagtuturo ng inklusibong edukasyon; pagsasagawa ng pananaliksik sa inklusibong edukasyon; at paglalaan ng budget para sa kagamitang pampagtuturo. Hindi naging madali ang pagpapatupad ng inklusibong edukasyon dahil natukoy na mismo ng UNESCO ang mga hadlang sa inklusibong edukasyon. Ito ang mga sumusunod: negatibong saloobin sa pagkakaiba; pisikal na mga hadlang upang makapasok sa paaralan; mga kakayahan at saloobin ng guro; iba't ibang wika at komunikasyon ng mga guro at mag-aaral; at mga kakulangan sa kagamitan.

MGA SUSING SALITA: *Inklusibong Edukasyon, Kasanayan sa Pagsasalita, Sangay ng Davao Oriental, Rehiyon XI*

INTRODUKSYON

Sa kasalukuyan, ang sistema ng edukasyon ay sumasailalim sa maraming pagbabago, kabilang na ang pagtataguyod ng inklusibong edukasyon na isinusulong ng United Nations Educational Scientific and Cultural Organization (UNESCO). Ang inklusibong edukasyon, ayon kay UNESCO (2009), ay naglalayong tanggapin ang lahat ng uri ng indibidwal upang malinang ang kanilang kakayahan at maging aktibong kasapi ng lipunan. Nakatuon ang pag-aaral na ito sa kasanayan sa pagsasalita ng mga mag-aaral na may espesyal na pangangailangan, na binigyang-diin bilang isang mahalagang aspeto ng kanilang karapatan sa edukasyon (Mag, Sinfield, at Burns, 2017).

Sa paglipas ng mga dekada, ang espesyal na edukasyon ay unti-unting umuunlad patungo sa inklusibong modelo na kinikilala bilang pamantayan sa global na edukasyon (Hettiarachchi at Das, 2014). Gayunpaman, ang mga mauunlad na bansa, tulad ng Pilipinas at Indonesia, ay kinakailangan pa ring magdoble ng pagsisikap upang maisakatuparan ang ganitong sistema sa kabila ng mga hadlang tulad ng negatibong saloobin, pisikal na mga barrier, at kakulangan sa kagamitan (UNESCO, 2009).

Ang Individuals with Disabilities Education Improvement Act (IDEA) ng 2004 at ang mga pagbabago sa mga umiiral na batas ay nagpapatibay sa karapatan ng mga batang may espesyal na pangangailangan na magkaroon ng access sa regular na mga silid-aralan at makasama ang ibang mga mag-aaral (Yell at Drasgow, 2007). Ayon kay Foreman (2007), ang mga magulang ay naging mas mapangahas sa paghahanap ng pantay na pagtrato sa edukasyon para sa kanilang mga anak na may espesyal na pangangailangan sa kasanayan sa pagsasalita.

Gayundin, ayon sa pag-aaral nina Forlin, Sharma, Loreman, at Sprunt (2015), ang mga guro na sumailalim sa pagsasanay sa inklusibong edukasyon ay nagpapakita ng mas positibong saloobin sa pagtanggap at pagtuturo sa mga mag-aaral na may espesyal na pangangailangan. Sa kabilang banda, ang kakulangan ng pagsasanay at propesyonal na pag-unlad ay patuloy na naging isang malaking hamon para sa mga guro (Odongo at Davidson, 2016).

Sa pangkalahatan, ang pag-aaral na ito ay naglalayong itaguyod ang inklusibong edukasyon at magsagawa ng mga pananaliksik upang mapabuti ang kasanayan sa pagsasalita ng mga mag-aaral na may espesyal na pangangailangan. Ang ganitong mga inisyatibo ay mahalaga upang matiyak na ang lahat ng mga mag-aaral ay makakatanggap ng pantay na oportunidad sa edukasyon

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at maipahayag ang kanilang mga kasanayan at potensyal sa isang sumusuportang kapaligiran.

Layunin ng Pag-aaral

Ang layunin ng pananaliksik na ito ay galugarin ang mga karanasan at pagtatagumpay ng mga gurong nagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan sa asignaturang Filipino, sa mga paaralang nasasakop ng Lupon West at Banaybanay District, Sangay ng Davao Oriental. Mula sa mga karanasang ito, inalam din ng mananaliksik ang mga kabatiran at natutuhan ng mga guro na nais nilang ibahagi sa kapuwa mga guro sa pagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan upang gawing lundayan ng mga palatuntunang lilinang sa kahusayan sa pagsasalita.

Mga Katanungan sa Pananaliksik

Ang pananaliksik na ito ay naglalayong magalugad ang karanasan, pagtatagumpay, at mga kabatiran at natutuhan ng mga guro sa sekondarya na nagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan sa inklusibong edukasyon. Ninanais kong mabigyang kasagutan ang sumusunod na tanong:

1. Ano-ano ang karanasan ng mga guro sa pagtuturo ng pagsasalita sa mga mag-aaral na may espesyal na pangangailangan?
2. Paano hinarap ng mga guro ang mga problema sa pagtuturo sa mga mag-aaral na may espesyal na pangangailangan?
3. Ano-ano ang mga pananaw sa pamamahala ng inklusibong edukasyon ang nakuha mula sa salaysay ng mga guro?

METODOLOHIYA

Disenyo ng Pananaliksik

Ang disenyo ng pag-aaral na ito ay kuwalitatibo, gamit ang metodolohiyang penomenolohikal upang masuri ang mga karanasan ng mga guro sa pagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan. Nilalayon ng disenyo na ito na maunawaan at bigyang kahulugan ang mga karanasan ng mga kalahok sa isang malalim at holistikong pamamaraan, kung saan ang mananaliksik ay malapitang nakikipag-ugnayan sa mga kalahok at nakakalap ng detalyadong naratibo.

Mga Kalahok ng Pananaliksik

Ang mga kalahok sa pag-aaral ay walong guro ng asignaturang Filipino mula sa mga sekondaryang paaralan sa Lupon West at Banaybanay District, Sangay ng Davao Oriental. Pinili ang mga kalahok sa pamamagitan ng purposive sampling, kung saan ang mga guro ay may higit sa limang taon ng karanasan sa pagtuturo at kasalukuyang nagtuturo sa mga mag-aaral na may espesyal na pangangailangan sa kasanayan sa pagsasalita.

Etikal na Konsiderasyon ng Pag-aaral

Sa pag-aaral na ito, ang etikal na mga konsiderasyon ay kinabibilangan ng pagsunod sa mga prinsipyo ng awtonomiya, beneficence, at katarungan. Nagsagawa ang mananaliksik ng mga hakbang upang matiyak ang proteksyon sa mga kalahok mula sa anumang panganib o pagsasamantala, kabilang ang paghingi ng malinaw na pahintulot sa mga kalahok at pagtitiyak na may kalayaan silang umatras sa pag-aaral anumang oras.

Tungkulin ng Mananaliksik

Ang mananaliksik ay nagsilbing pangunahing instrumento sa paglikom ng datos, na responsable sa pagplano at pagsasagawa ng mga panayam, transkripsyon ng mga tugon, at analisis ng mga nakuhang impormasyon. Tungkulin din ng mananaliksik na siguraduhin na ang proseso ng pananaliksik ay isinasagawa nang may integridad at paggalang sa mga kalahok.

Paglikom ng mga Datos

Ginamit ang pinalalim na panayam bilang pangunahing pamamaraan sa paglikom ng datos. Isinagawa ang mga panayam sa paraang verbatim upang tiyakin na tumpak ang mga datos na nakalap, at ginabayan ng mga partikular na katanungan na dinisenyo upang tuklasin ang mga pananaw at karanasan ng mga guro.

Pagsusuri ng mga Datos

Sa pagsusuri ng datos, gumamit ang mananaliksik ng tematikong analisis upang makilala at mag-organisa ng mga tema mula sa mga transkripsyon ng panayam. Layunin ng prosesong ito na ilantad ang mga pangunahing pattern at kahulugan sa loob ng mga naratibo na makakatulong sa pag-unawa sa mga karanasan ng mga guro.

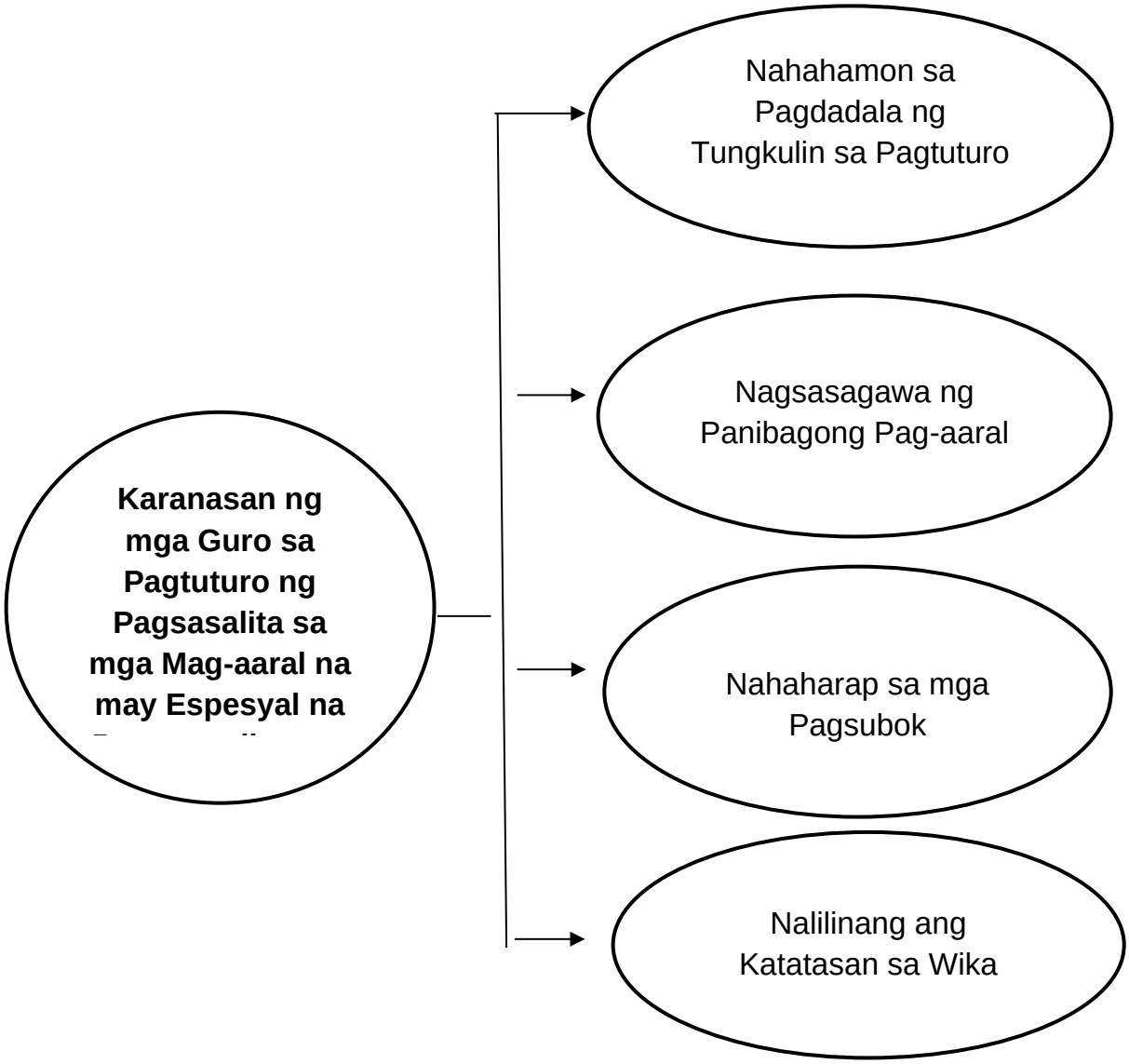
Pagtitiwala sa Kawastuhan ng Pag-aaral

Upang matiyak ang kawastuhan at kredibilidad ng pag-aaral, siniguro ng mananaliksik na ang mga proseso at resulta ng pananaliksik ay maaaring mapatunayan at maipapasa sa ibang konteksto. Ang mga hakbang na ito ay naglalayong mapanatili ang transparency at reproducibility ng mga natuklasan, at upang maitaguyod ang pagtitiwala ng mga mambabasa sa integridad ng pananaliksik.

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MGA RESULTA AT PAG TALAKAY

Karanasan ng mga Guro sa Pagtuturo ng Pagsasalita sa mga Mag-aaral na may Espesyal na Pangangailangan



Talangguhitan 1. Karanasan ng mga Guro sa Pagtuturo ng Pagsasalita sa mga Mag-aaral na may Espesyal na Pangangailangan

Sa pagsusuri ng mga karanasan ng mga guro sa pagtuturo ng pagsasalita sa mga mag-aaral na may espesyal na pangangailangan, lumitaw ang ilang mga hamon at mga kinakailangang estratehiya para sa mas epektibong pagtuturo. Nahaharap ang mga guro sa mga pagsubok tulad ng negatibong saloobin sa pagkakaiba-iba, pisikal at komunikasyon na mga hadlang, at kawalan ng sapat na pagsasanay. Ayon sa mga literatura tulad ng UNESCO, ang inklusibong edukasyon, bagama't itinuturing na ideal, ay patuloy na nakakaranas ng mga balakid lalo na sa kakulangan ng paghahanda at kaalaman ng mga guro sa paghawak ng mga mag-aaral na may espesyal na pangangailangan.

Ang mga guro, bilang pangunahing tagapagpatupad ng mga layunin ng inklusibong edukasyon, ay kinakailangang magkaroon ng malalim na pag-unawa sa mga pangangailangan ng kanilang mga mag-aaral. Binigyang-diin sa mga pag-aaral na ang epektibong pagtuturo ay nangangailangan ng pagiging sensitibo sa indibidwal na pangangailangan ng bawat mag-aaral at ang paggamit ng angkop na mga pamamaraan at materyales sa pagtuturo. Mga pagsasanay at suporta mula sa Kagawaran ng Edukasyon at iba pang mga institusyon ay mahalaga upang matiyak na ang mga guro ay sapat na nasasanay at napapalakas ang kanilang kakayahan sa pagtugon sa mga hamong ito.

Sa huli, mahalaga rin ang pagkakaroon ng malinaw na mga polisiya at suportang istraktura upang tulungan ang mga guro at

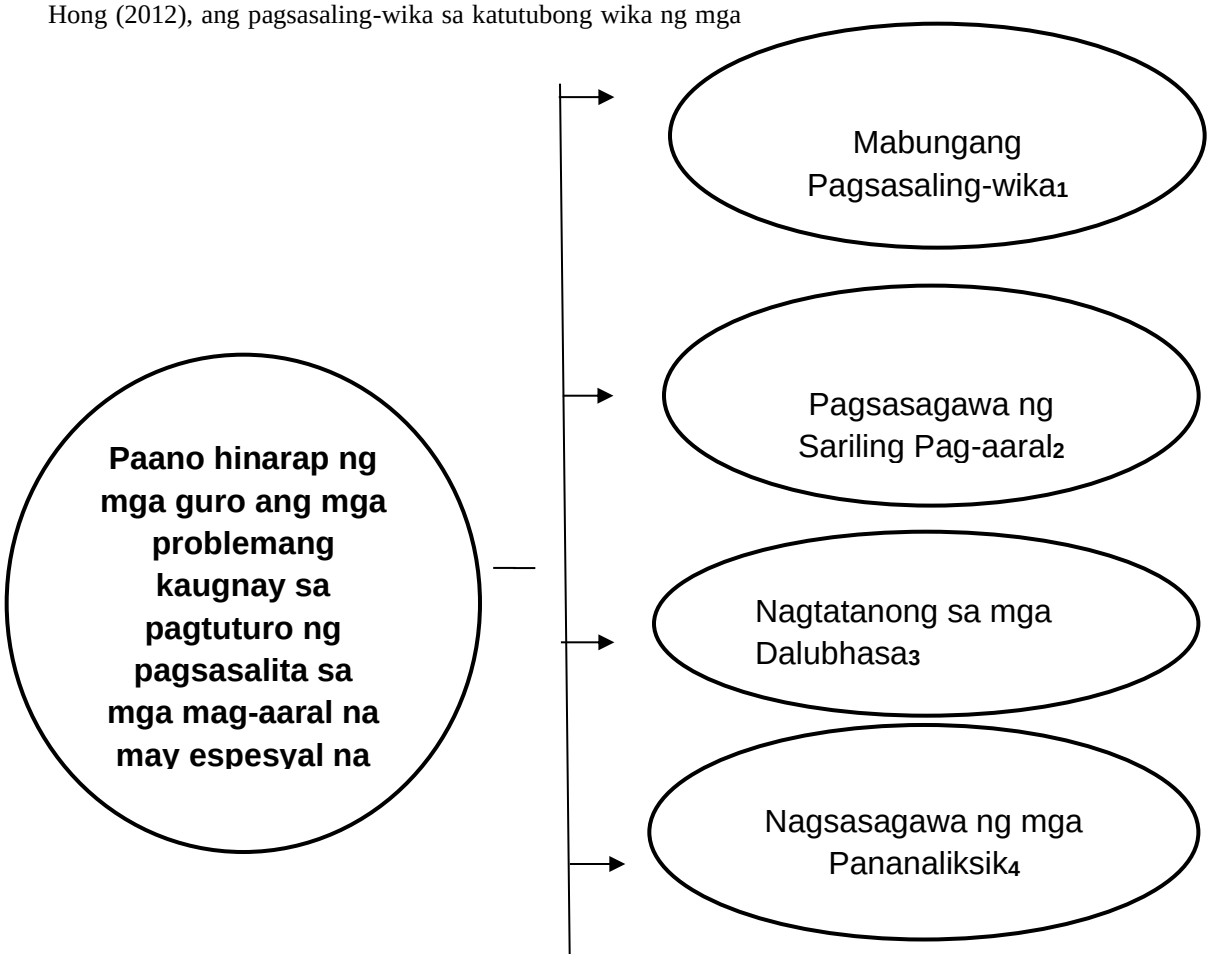
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mag-aaral na magtagumpay sa inklusibong kapaligiran. Kasama dito ang patuloy na pagsasanay, pagbibigay ng mga nararapat na materyales at teknolohiya, at pagtiyak na ang mga paaralan ay pisikal at kultura na nakaka-akomoda sa mga mag-aaral na may espesyal na pangangailangan. Sa pamamagitan ng mga hakbang na ito, masisiguro na ang inklusibong edukasyon ay hindi lamang isang ideyal kundi isang aktwal na karanasan na nakatutulong sa lahat ng mag-aaral na maabot ang kanilang buong potensyal.

Paano hinarap ng mga guro ang mga problemang kaugnay sa pagtuturo ng pagsasalita sa mga mag-aaral na may espesyal na pangangailangan*?*

Sa pagsusuri sa mga tugon ng mga guro hinggil sa kanilang mga estratehiya sa pagtuturo ng kasanayan sa pagsasalita sa mga mag-aaral na may espesyal na pangangailangan, lumitaw ang temang mabungang pagsasaling-wika. Ang estratehiyang ito ay isinasaalang-alang ang paggamit ng malinaw at simpleng mga salita para sa mas madaling pag-unawa at pag-iwas sa mga pagkakamali sa komunikasyon. Mahalaga ang papel na ginagampanan ng wika sa pagbuo ng mga pamantayang nagbibigay-daan sa mas epektibong pakikipag-ugnayan at pag-unawa sa loob ng inklusibong setting ng edukasyon. Ayon kay Hong (2012), ang pagsasaling-wika sa katutubong wika ng mga mag-aaral ay nakakatulong upang mas mapadali ang kanilang pag-unawa at pagtanggap sa mga aralin, lalo na sa paglinang ng kasanayan sa pagsasalita. Dagdag pa rito, pinapaalalahanan ng mga eksperto tulad ni Smith (2018) na ang proseso ng pagsasalin ay dapat nagtataglay ng malikhaing katangian upang ito'y maging epektibo.

Sa pagharap sa mga hamon sa pagtuturo, ang mga guro ay nagtataguyod din ng sariling pag-aaral at pagtatanong sa mga dalubhasa upang matugunan ang mga pangangailangan ng kanilang mga mag-aaral. Ang mga guro ay gumagamit ng anecdotal records at iba pang mga pamamaraan ng pananaliksik upang mas maunawaan at matugunan ang iba't ibang pangangailangan sa kasanayan sa pagsasalita ng kanilang mga mag-aaral. Sa pamamagitan ng mga ganitong gawain, naipapalaganap nila ang inklusibong edukasyon sa pamamagitan ng pagbibigay ng pantay na pagkakataon sa bawat mag-aaral na umunlad at matuto sa isang kapaligirang nakakaengganyo at walang diskriminasyon. Ang mga inisyatibo tulad ng pagkonsulta sa mga eksperto at pagpapatupad ng mga pananaliksik ay nagbibigay-daan sa pagpapabuti ng mga estratehiya sa pagtuturo at sa huli, nagtataguyod ng mas inklusibong kapaligiran sa edukasyon.



Talangguhitan 2. Paraan ng Pagharap ng mga Guro sa Pagtuturo ng Pagsasalita sa mga Mag-aaral na may Espesyal na Pangangailangan

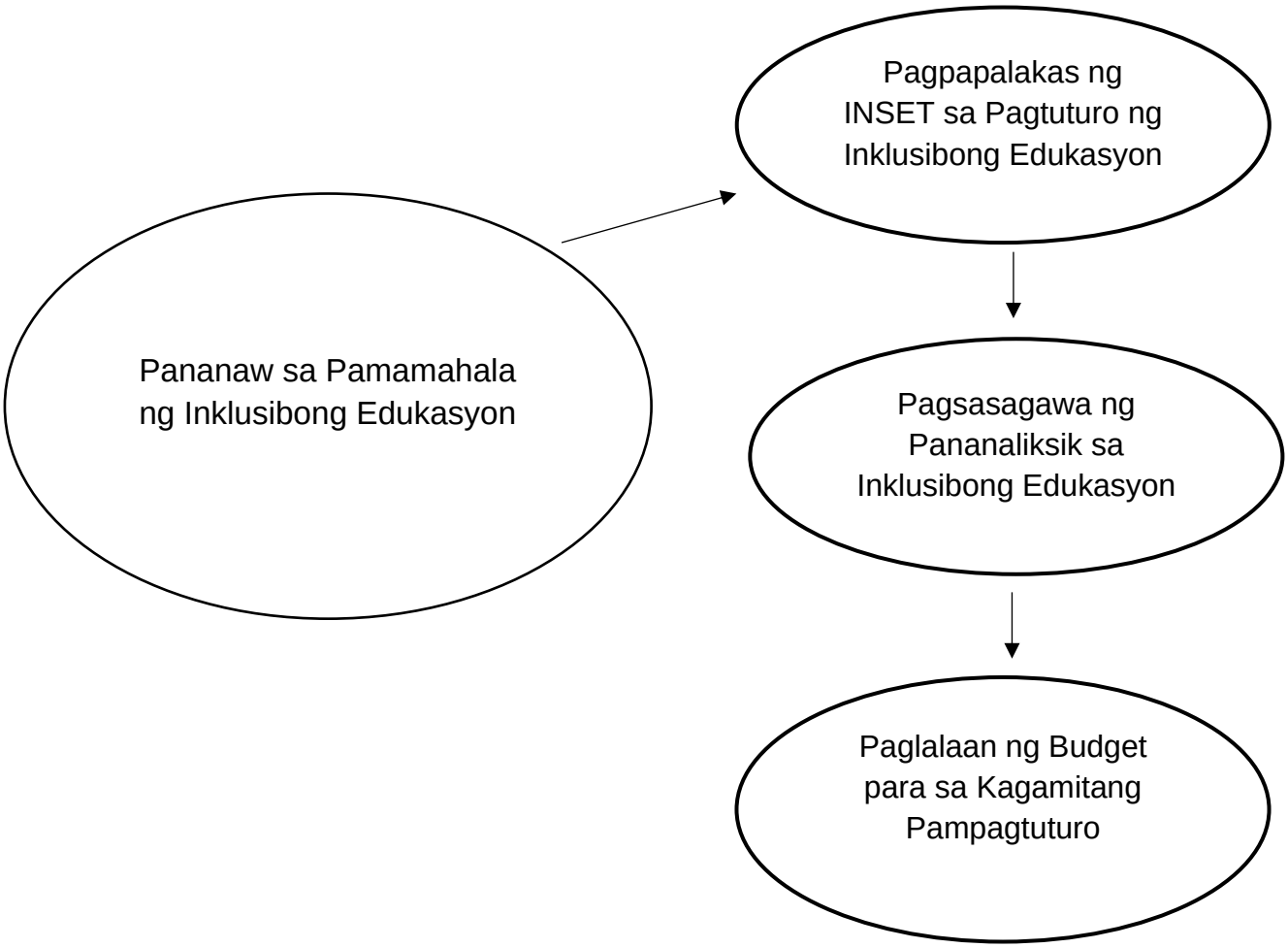
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Pananaw Sa Pamamahala Ng Inklusibong Edukasyon

Sa pagtugon sa pangatlong tanong ng pananaliksik hinggil sa pananaw ng mga guro sa pamamahala ng inklusibong edukasyon, lumitaw ang ilang mahahalagang tema na sumasalamin sa kasalukuyang estado at mga pangangailangan ng edukasyong inklusibo. Isa sa mga pangunahing tema ay ang pagpapalakas ng INSET, o ang in-service training, para sa mga guro na nagtuturo sa inklusibong setting. Kinikilala ng Kagawaran ng Edukasyon ang pangangailangan para sa mas pinalawak at mas madalas na pagsasanay na tutugon sa mga espesipikong pangangailangan ng mga mag-aaral na may kapansanan. Maraming guro ang nagpahayag ng pangangailangan para sa karagdagang pagsasanay upang mahusay nilang maisakatuparan ang inklusibong edukasyon sa kanilang mga silid-aralan.

Dagdag dito, isang malinaw na tema ang lumitaw tungkol sa pagpapalawig ng pananaliksik sa inklusibong edukasyon. Ipinapahiwatig ng mga guro ang kahalagahan ng pag-aaral at pag-unlad ng mga bagong estratehiya at pamamaraan na maaaring magpatibay sa pagtuturo at pagkatuto sa inklusibong kapaligiran. Binigyang-diin ng pananaliksik ang pangangailangan para sa mga polisiya at batas na sumusuporta sa inklusibong edukasyon sa iba't ibang bansa, na nagpapakita na ang mga pagbabago at inobasyon sa edukasyon ay kinakailangan at dapat na sinusuportahan ng matalinong pagpaplano at sapat na mga mapagkukunan.

Bukod sa mga pagsasanay at pananaliksik, napakahalaga rin ng suporta mula sa mga magulang at ang pakikipagtulungan nila sa mga guro para sa tagumpay ng inklusibong edukasyon. Ang positibong pananaw ng mga magulang at ang kanilang aktibong pakikilahok ay makakatulong nang malaki upang magtagumpay ang inklusibong edukasyon sa pampublikong sistema. Nagsisilbi itong paalala na ang inklusibong edukasyon ay hindi lamang trabaho ng mga guro kundi isang komprehensibong pagsisikap na nangangailangan ng pagtutulungan ng bawat sektor ng komunidad, kabilang ang mga pamilya at iba pang mga stakeholder.



Talangguhitan 3. Pananaw sa Pamamahala ng Inklusibong Edukasyon

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KONKLUSYON AT REKOMENDASYON

Sa pananaliksik tungkol sa kasanayan sa pagsasalita ng mga mag-aaral na may espesyal na pangangailangan sa konteksto ng inklusibong edukasyon, binigyang-diin ng mga guro ang mga hamon at oportunidad sa pagtuturo sa ganitong setting. Naharap ang mga guro sa mga pagsubok ngunit patuloy silang nagsisikap na makahanap ng epektibong estratehiya upang matiyak na natututo ang lahat ng mag-aaral. Kinakailangan ang mas malalim na pag-unawa at pagtanggap sa mga mag-aaral na may espesyal na pangangailangan upang maipatupad nang maayos ang inklusibong edukasyon. Bukod dito, iminungkahi ng mga guro ang pagkakaroon ng dagdag na pagsasanay at mga seminar para sa mga guro at magulang upang mas mapabuti ang pagtugon sa mga pangangailangan ng mga mag-aaral na ito.

Ang kahalagahan ng pagsasanay at suporta mula sa Kagawaran ng Edukasyon at iba pang sektor ay muling pinatunayan sa pag-aaral na ito. Iminumungkahi na magbigay ng karagdagang scholarship at pagsasanay para sa mga guro sa sekondarya na humahawak sa mga mag-aaral na may espesyal na pangangailangan, lalo na sa kasanayan sa pagsasalita, upang sila'y maging mas kompetente at handa sa mga hamon ng inklusibong edukasyon. Mahalaga rin ang papel ng mga magulang sa pagtutulungan upang maisulong ang inklusibong kapaligiran sa edukasyon, at ang patuloy na pananaliksik sa mga estratehiya sa pagtuturo ay kinakailangan upang mabisang matugunan ang mga pangangailangan ng mga mag-aaral.

Sa hinaharap, ang patuloy na pananaliksik at pagsusuri sa mga karanasan ng mga guro at mga mag-aaral sa inklusibong edukasyon ay makapagbibigay ng mahahalagang kaalaman at inspirasyon para sa pagpapabuti ng mga praktika sa pagtuturo. Dapat bigyang-diin ang paglalapat ng natutunan mula sa pagsasanay at mga seminar upang matiyak na ang inklusibong edukasyon ay hindi lamang isang ideyal kundi isang praktikal at epektibong realidad sa mga paaralan sa Pilipinas. Ang mga natuklasang ito ay makakatulong sa pagbuo ng mas inklusibo at mapagkalingang kapaligiran sa edukasyon para sa lahat ng mag-aaral, anuman ang kanilang mga pangangailangan.

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NEED FOR EFFECTIVE TALENT MANAGEMENT PRACTICES IN BANKING -A BIBLIOMETRIC ANALYSIS

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ABSTRACT
Over a decade the banking practices in the country has been experiencing sea change with the implementation of number policy related changes, rise in privatisation and also due to technology upgradations. Modern-day banking activities have become more complex and complied with high-end technology intervention. It makes bank employees more sensitive towards their job. Thus, retain the existing work force with required skill sets is a dauting task for the administrations of banks. Talent management activities of banks generally revolve around employee engagement monitoring their performance, establishing connectivity between employee and the banking institution and they're by achieving bank's goal. It is concluded that talent management is an emerging issue and most focused topic in Indian banking sector. This task compliance with stringent procedures and time consuming too. Hiring talent in this pursuit and retaining them involve myriad steps to make the employees i.e., stimulate them to learn new concept and practice it in their day-to-day work adopt continuous training and monitor the performance of the employees

KEY WORDS: *Talent Management, Public Sector Banks, Private Sector Banks, Competition*

INTRODUCTION
Performance, growth and sustainability of banking operations in India is purely depended on the performance and level of commitment exhibited by its employees. As for as India is considered effective and active performance of banking activities is linked with the performance of the economy. Over a decade the banking practices in the country has been experiencing sea change with the implementation of number policy related changes, rise in privatisation and also due to technology upgradations. The human resource (HR) vested with the banking have to keep themselves prepared both technically and mentally to face and adopt to the fast-changing banking environment within the country and across the globe to meet the raising demand from their superiors and from the end-customers (Dang, 2010).

RATIONALITY TO THE STUDY CONCEPT
Modern-day banking activities have become more complex and complied with high-end technology intervention. It makes bank employees more sensitive towards their job. Thus, retain the existing work force with required skill sets is a dauting task for the administrations of banks. Bank employee is expected to have a strong understanding about their role, responsibility and accountability along with sound decision making ability (Fathima, 2015). Success of banking operations are purely depended on their workforce. Management of the talent is a more crucial important for banking sector and it need to strategically management. Talent management practices of banks differ from one corporate body to another i.e., based on the internal policies of bank, Government policy towards banking activities and nature of talent (human force) recruited by the bank. Thus, talent management activities of banks generally revolve around employee engagement monitoring their performance, establishing connectivity between employee and the banking institution and they're by achieving bank's goal (Gupta and Zala, 2021).

CHANGING ROLE OF BANK EMPLOYEES
Role banking employees has drastically changed from operation management and management of money to management of new business and creating base of valuable customers right from opening of new account to management of wealth of the customers. Banks operating in India have recruited more than one lakh employees and these large work force mainly render services at operational level and it buck-office services. Thes day workforce are expected to be highly customer-centric and operate with sales mind set. Thus, the need of the hour. In reality banks faces issues and challenges in filling the gap between existing skill gaps and effective talent management to develop banking service marketing techniques among their employees. This task compliance with stringent procedures and time consuming too. Hiring talent in this pursuit and retaining them involve myriad steps to make the employees i.e., stimulate them to learn new concept and practice it in their day-to-day work adopt continuous training and monitor the performance of the employees (Bhowonik, 2023).

AIM OF THE ARTICLE
The author aims to assess the talent management practices adopted in the Indian banking sector and the nature of talent management practices adopted by the public and private sector banks through assessment of past literatures.

METHODOLOGY ADOPTED IN CONSTRUCTION OF THE ARTICLE
The article is constructed with the support of literature knowledge gathered from various past research studies, experts' opinion and discussion materials. In-depth literature analysis

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act as a support tool in understanding the study concepts and nature of talent management practice carried by the public and private sector banks over a period of time i.e., from 2013 to 2024.

EVIDENCES FROM LITERATURE

Author have collected needed literature evidences that support the study concept.

Singh and Srivastava (2013) claim that public sector banks do not adopt active talent management activities, thus, there prevails hug gap between talent need as there is short supply of requited human capital, that act as a challenging force in being competitive and profitability. Shukla (2014) found that to meet the changing business environment and to retain their position in banking business, public sector banks are forced to adopt talent management practices. Hitu (2015) observed that public sector banks attempts to retain their workforce by offering job security, high pay and ensuring safe work environment. Dixit (2016) commented that the private sector banks have gracefully embraced the human capital shortage issues through strengthening their employees' skills and capabilities. The private sector banks offer great job experiences to their employees through rewards, recognition and offering career promotion opportunities.

Prasad and Manjrekar (2017) commented that talent management have become center-point of HRM (Human Resource Management) of modern-day banking activities. Private sector banks focus on the enhancing various managerial skills of their managerial manforce. Adding strength to the previous review Akar and Sharma (2018) commented that in highly competitive banking business environment, bank officials have started paying attention towards attraction fresh talents, training them with needed skills in both banking and non-banking operations and retaining them satisfied. Pooranee and Kavitha (2020) inferred that the private sector banks motivate the talent through recruitment, recognition of their services to the bank and its customers, active engagement through offering right training and retaining till their retirement. Pahuja et al., (2024) concluded that banks in India aims to achieve competitive advantage through effectively managing their human resources and retaining their talents strategically i.e., through employe engagement, enhancing their leadership and management practices.

Through the review of the literature author gain knowledge on the importance of talent management and its adoption in the public and private sector banks.

CONCLUSION

Banking sector in India is experiencing a phase of transition, the public sector banks are actively involving in curtailing their NPAs (Non-Performing Assets), at the same time it is in the process of trimming down its large workforce and looking forward in retaining cum enhancing skills of highly productive and skilled managerial grade staff. On the other hand, private sector banks have started expansion of its operation and branches across India after 2021 Government policy announcement of limiting the operation of public sector banks through mergers and offering more scope for the private banks to expand. Nature of changes happening in both categories of banks demand highly skilled and more talented workforce, that influences the bank authorities to adopt effective talent pool and retention strategies. It is concluded that talent management is an emerging issue and most focused topic in Indian banking sector.

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FINTECH SERVICE BUSINESS IN INDIA TREND AND PRACTICE -A THEORETICAL OUTLOOK

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ABSTRACT
Fintech (Financial Technology) an advance payment-based technology is a growing service in India. With the introduction of number of innovative payment platforms that are alternative to cash transactions, people are motivated to choose best of best payment options. Fintech technology adoption rate in India is noticed as 87 per cent compared to 64 per cent of the world average. Growth of fintech services is influenced by number of factors like: nation having huge underserved financially excluded population, rising youth population, educated and rapid urbanisation, easily available of workforce, supportive Government policies and scope for raising capital for investments. Digital payments and fintech service market is expected to grow multi-fold in the near future, with active support from the user, Government and financial institution. The financial market is found be less matured and large number of people are still uncovered by various financial service, through enhancing their knowledge on easy and safe mode of payment either for physical or online shopping or for money transfer with support the fintech services to growth in India.
KEY WORDS: *Fintech Services, Digital Payment, Financial Literacy of Fintech Service*

INTRODUCTION
Modern day economists keep debating on the context whether cash circulation is healthy for an economy's growth or not. In an economy the usage of cash starts reducing, when the country become richer. As the education and income among the citizens in an economy rises, they start using credit cards or debit cards or migrate to the usage of alternative mode of payments widely. With the introduction of number of innovative payment platforms that are alternative to cash transactions, people are motivated to choose best of best payment options. Government rules and regulation in recent years modified and needed additions or corrections are made suitable to the modern-day payment system. Seamless security norms are framed to attract more people to use the electronic /digital payment platforms at merchant point-of-sales.

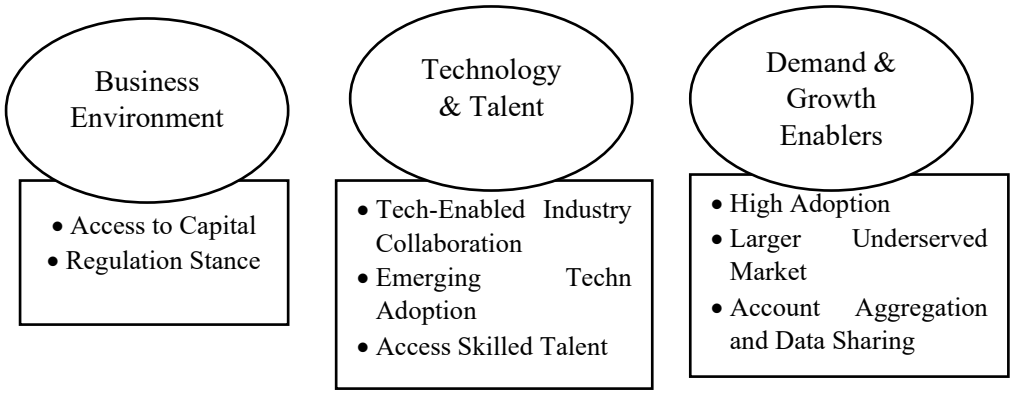
Fintech (Financial Technology) an advance payment-based technology is a growing service in India. Fintech service provider offers not fast and easy payments, it offers basket of services including lending, insurance, wealth management, broking services, offering of crypto currencies, under writing services and many more[1]. Adoption to Fintech service ensure offering of innovative payment and transfer of fund from cashless, branchless, human absence service by popular financial service companies through wireless medium to any knock or corner of the country. Digital payments in India are offered in a collaborated format i.e., the payment regulators, Government of India, banks and the fintech companies.

Digital payment companies have succussed in building trust and reliability among the millions of Indian (RBI, March, 2024). Fintech technology adoption rate in India is noticed as 87 per cent compared to 64 per cent of the world average. Market size of the fintech service (including new startups) was valued at US $ 50 billion in 2021 in India and the same is expected to raise to US $ 150 billion by the year 2025. The total fintech service market including all kind of service is expected to raise to US $ 1.3 trillion by 2025. Nearly 550 startups have received over US $ 22 billion through this fintech service in India between the year 2014-2024. Fintech service have greatly touched the life of common man, small- and large-scale business operations. India is the world's third largest fintech service providing country in the world, next to USA and China.

[1] *The Changing Face of Financial Services Growth of Fintech in India, ASSOCHAM Report, 2022, https://www.pwc.in/assets/pdfs/consulting/financial-services/fintech/publications/the-changing-face-of-financial-services-growth-of-fintech-in-india-v2.pdf*

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EXHIBIT: 1
FACTORS INFLUENCING GROWTH OF FINTECH SERVICES IN INDIA



Source: The Wind of Change -Trend Shaping India's Fintech Sector: Edition II, September,2022, https://www.fintechcouncil.in/pdf/The%20Winds%20of%20Change-%20Edition%20II.pdf.

Growth of fintech services is influenced by number of factors like: nation having huge underserved financially excluded population, rising youth population, educated and rapid urbanisation, easily available of workforce, supportive Government policies and scope for raising capital for investments.

GROWTH OF FINTECH BUSINESS IN INDIA

Adoption of the fintech service is not only beneficial to traditional financial services operating in India, but it also provides scope for designing innovative service model and build-in close relationship with the customers (users) (ASSOCHAM Report, 2022). Fintech services have experienced a robotic growth in India with the active participation of the users, friendly policies framed by the Government and needed policy amendments made by the RBI (Reserve Bank of India).

TABLE: 1
FINTECH BASED TRANSACTION VALUE
(Values in Billions USD (US$)

Year	Digital Capital Raising	Digital Payments	Neo banking
2017	0.85	80.76	2.04
2018	0.86	92.30	4.57
2019	0.86	111.40	9.85
2020	0.77	107.70	19.87
2021	0.81	153.70	37.18
2022	0.80	184.10	58.97
2023	0.82	216.20	85.46
2024	0.84	254.60	113.60
2025	0.86	296.90	138.70
2026	0.88	328.10	160.30
2027	0.89	361.80	179.10
2028	0.90	394.40	196.00

Source: https://www.statista.com/outlook/dmo/fintech/india#transaction-value

Prime segment of fintech services in India are five i.e., digital capital raising (crowd fund pulling), digital payments, digital investments, neo-banking ((an integrated payment solution with use of mobile applications and digital assets (wealth management). Of these five fintech service, Digital capital raising business has expected raised from US $ 0.85 billion in 2017 to US $ 0.90 billion by 2028. Digital payment is very active, most preferred and fast-growing service in India it has recorded a growth of US $ 216.02 billion in 2023 significantly raised from US $ 80.76 billion in 2017. Similarly, the neo-banking fintech service have raised from merger value of US $ 2.04 billion in 2017 to a whooping value of US $ 85.46 billion by 2023. The market size for various fintech services is expected to rise in the near future.

ONLINE PAYMENT PRACTICES IN INDIA

Payment systems through electronic instruments are in practice in India for many years. In a retail market consumers believe that electronic/ digital payments systems are the highly secure and convenient modes. Even, after the wide popularity and

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usage of electronic and digital payments systems, small/ medium scale retailers and their customers predominantly prefer cash transactions and payment until 8th November, 2016. After the proclamation of demonetisation of currency in India in November, 2016, the retailers have started widely accepting the electronic and digital payments systems in their retail POS (Point of Sales). From, November, 2016, cash transactions have been reduced and the usage of modern-day payments systems have increased across India. There are many potential benefits to merchants from accepting credit and debit cards or other digital payments. Generally, the modern payments modes enable the consumers to spend beyond the cash they carry in person. Thus, merchants who accept their payments through this mode of payments often experiences increase in their average sales. Modern payments systems facilitate the retailers bookkeeping and currency conversion practices and it also decrease the merchants' operational cost and credit risks. Similarly, the consumer enjoys benefits like: convenience of electronic payment and greater security both in domestic and overseas travel. Convenient of remote purchasing-ordering / shopping online or by phone. Purchase products or services is made possible whenever and wherever they prefer that too with the option of paying immediately or later date.

Outbreak of Covid pandemic has supported in the extensive use of digital payments in the country. As there is a rise in the first-time users of digital payment platforms. Retail consumers are blessed to use different forms of alternative payments systems for settling their bill of essential or non-essential items purchased. The value of digital payments made in India has raised from ₹.162 crores in 2012-13 to ₹. 14, 726 crores in 2023-24, recording over 90 per cent growth in a period of 12 years. Nearly, 46 per cent of the world digital payments are made in India and there prevails wide scope for promotion of digital payment system in the country.

ADOPTION TO FINTECH AND DIGITAL PAYMENTS IN INDIA

Though fintech service and digital payment systems are fast growing in India, in reality there prevails a digital divide been the urban and rural peoples as the digital literature among these two segments of the population ensures frequency of usage of alternative cash payment mediums. Youth and younger generation citizens of this big country (aged between 18 years to 34 years) predominately use digital/electronic platforms, while its usage among the elderly populations are found to be less. middle income population are found to be major adopters and users of modern-day payment mediums compared to the other two extreme segments i.e., very low- or high-income categories. Salary credited in the bank by the employers, convenience realised in usage of digital or e-payments and safety feel motivated middle-income segment of population to adopt accept and frequently it. Whereas, digital/electronic illiteracy, fear of taxation, e-fraud and other malpractices restrict the lower- and upper-income category population to use these modern payment media in an elaborate form.

CONCLUSION

Digital payments and fintech service market is expected to grow multi-fold in the near future, with active support from the user, Government and financial institution. The financial market is found be less matured and large number of people are still uncovered by various financial service, through enhancing their knowledge on easy and safe mode of payment either for physical or online shopping or for money transfer with support the fintech services to growth in India.

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AN EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF APPLICATION OF CABBAGE LEAVES ON REDUCTION OF BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS IN SELECTED HOSPITALS OF JABALPUR

Smita Richesh Robert

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ABSTRACT

Background *– The most innate and purest of all human activities is breastfeeding. Its an up breast in strengthening the mother baby bonding. Amongst the postpartum complications one of the commonest is breast engorgement. Its an painful overfilling of the mammary glands with milk. If not treated it can result in severe breast complications like mastitis. The nurse practioners knowledge of alternative and complementary therapy of dealing with engorgements would surely help in reducing this post partum morbidity and thereby improving the maternal and newborn care Need Of The Study---The investigator herself is a woman, hence she could discern the urgent requirement of promoting an efficacious technique for decreasing the breast engorgement following labour. Using cabbage leaves is a convenient method for this purpose. Hence the study was undertaken to determine the outcome of cabbage leaves application in reducing it. Method The study utilized a Quasi experimental research approach with two group pretest - posttest design. The data was collected from selected hospitals of Jabalpur city by using purposive sampling technique. The sample comprised 40 postnatal mothers. The tool used for collecting demographic data were a interview along with the analogue pain scale and Hill& Humenic breast engorgement scale, Application of cabbage leaves was done for 20 minutes after the breast feeding for reduction of breast engorgement in post natal mother*

Result*-- The assessment of breast engorgement scale in this study shows that the Assessment control group indicate majority of engorgement scale Severe engorgement (11) 55% group, moderate was (8) 40% and mild engorgement is (1) 5% Finding of the present study shows the assess in breast engorgement scale indicate majority of engorgement scale Severe engorgement (13) 65% group, moderate was (6)30% and mild engorgement is (1)5% in Pre-Experimental group. Finding of the present study shows the assess in breast engorgement scale indicate majority of engorgement scale Severe engorgement (11)55% group, moderate was (8)40% and mild engorgement is (1)5% in Post-Experimental group.The t-test compared result showed positive correlation that calculated value is t=5.075 which is greater than t=1.685 at the 0.05 level of significance. Findings related to the comparison of severity of the breast engorgement score with control group and experimental group by the unpaired t-test, compared result showed positive correlation t=3.90 which is greater than the table value 2.02 at the 0.05 level of significance. Conclusion – In order to foster the MGDs 4 and MGD 5 simple and easily available techniques like cabbage leaves application on breast engorgement should be commonised in practice by the nurse administrators and midwifery practioners so that this major discomfort is relieved .cabbage leaves does not reduce the milk production and suplly but only works on the fluid trapped around . it helps in the capillary dilatation and acts a counter irritant . The inflammation ,pain and engorgement is reduced allowing the milk to flow freely*

KEY WORDS-- *Cabbage Leaves, Reduction of breast Engorgement, Postnatal mothers*

INTRODUCTION

Sufficient milk, early supplementation and the higher percentage of breast feeding results in minimal or no engorgement in the first seven days postpartum .This leads to the decline in the early week. [1] (Dutta 2004)

It is well established that cabbage leaves contain sinigrin (allylisothiocyanate) rapine, magnesium, oxalate and sulphur heterosides. sulpher and the sulpher and amino acid methionine in cabbage contains both antibiotic and anti-irritant qualities. It dilates local capillaries and hence reduces congestion in tissues. This results in enhanced blood flowwhich permits reabsorption of the fluid confined in the breast by the body. This in turn helps in relieving the engorgement and inflammation ensuring free flow of the breat milk.[2]

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In May 2004, Cotterman conducted a study which proved that efficacious breastfeeding needs effective milk transfer through the nipple areola complex embraces sub-areola tissue.Resistance in sub-areola tissue enhancesduring engorgement, as there is competitition for space as a result of increased circulation and surplus interstitial fluid with expanding milk volumes. Breast anatomy often gets distorted owing to physiologic and iatrogenic activities. Several mothers get disheartened because of various underlying factors such as latch difficulty, slow milk ejection, reflex, low milk transfer, persistent pain and nipple injury. [3]

NEED OF THE STUDY

13.3% of non-breastfeeding mothers suffer from puperial fever as a result of breat engorgement. Although there are several medications, which go well with breastfeeding, minimizing the use of medication during brastfeeding is recommended.[4]

The incidence rate of breast engorgement all over the world is 1:8000 and in India its 1:6500. Symptoms of engorgement usually appear between days 3 and 5. Generally, more than 2/3 of women get tenderness on fifth day but some may show tenderness as late as ninth or tenth day. Two-thirds of women feel at least moderate symptoms. Engorgement reduces if the mother breastfeeds more during the first 48 hours. The 20% postnatal mothers particularly primigravida mothers suffer from breast engorgement as early as 0-4 days of postnatal period.[5]

Looking to both educate mothers and celebrate breastfeeding, UNICEF, WHO and WABA along with the scientific community strongly advocate beginning breastfeeding within of the first hour of birth. Various researches have proved that early start of breastfeeding can check 22% of all fatalities among infants under 1 month in developing countries. (Cape Cod Daily 2017)[6]

Investigator had observed many mothers who were suffering from breast engorgement during postnatal period. The maternal complications like mastitis and breast abscess were common. This results in the infant being deprived of adequate milk, incomplete emptying of the breast and sore and damaged nipples with an indirect adverse impact on the infant. The nurse should have a knowledge of the fruitful treatment of breast engorgement and the resulting complications in order to diminish the pain of mothers a bit. The study was undertaken with the following objectives:

1. Assessment of the level of breast engorgement among post natal mothers in control group.
2. Assessment of the effectiveness of cabbage leaf application during breast engorgement among experimental group mothers.
3. Comparision of the breast engorgement score of postnatal mothers in control group with experimental group.
4. Association of the breast engorgement level with selected socio demographic variable in control group.
5. Association of the breast engorgement level with selected socio demographic variable in the experimental group.

HYPOTHESES (All hypotheses were tested at 0.05 % level of significance)

H1: There will be significant mean difference between control group and experimental group in level of breast engorgement and pain among post-natal mothers.

H2: There will be significant association between breast engorgement score with selected demographic variable in control group.

H3: There will be significant association between the breast engorgement score with selected demographic variable in experimental group.

Modified Wiedenbach's Helping Art of Clinical Nursing Theory was adopted as conceptual frame.

RESEARCH METHODOLOGY

The study utilized a Quasi experimental research approach with two group pretest - posttest design. The data was collected from selected hospitals of Jabalpur city by using purposive sampling technique. The sample comprised 40 postnatal mothers. The tool used for collecting demographic data were a interview along with the analogue pain scale and Hill& Humenic breast engorgement scale, Application of cabbage leaves was done for 20 minutes after the breast feeding for reduction of breast engorgement in postnatal mothers.

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MAIN OPERATIONAL DEFINITIONS

1.Application of Cabbage leaves

In this study it refers to cover the engorged breast with the appropriate size cabbage leaves to decrease the breast engorgement during post-natal period for 20 minutes

<repeated from introduction> Use of Cabbage Leaves for Breast Engorgement

•The leaves were rinsed and the stem was carefully cut out so that the leaves might fit entire breasts leaving the nipples uncovered.

•Clean cabbage leaves were placed on the breasts. Areola was left uncovered while wrapping the leaves around breastso that the area around areola might remain dry and intact.

2.Breast engorgement

In this study, breast engorgement refers to the disease condition in the mammary glands which results from expansion of blood vessels and the pressure of new breast milk filled within them and this is assessed by using Storr scale/ Hill & Humenic scale.

3. Postnatal mother

In this study it refers to all the mothers of post-natal period with normal delivery and lower segment caesarean delivery admitted in selected hospitals of Jabalpur without any breast complications.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria-

Post natal mothers,

1. Who are undergoing normal vaginal delivery
2. Who have had a lower segment caesarean section
3. Who have had classical caesarean section
4. Both primi and multi para mothers

Exclusion criteria-

Postnatal mothers,

1. Who were having mastitis and cracked nipples
2. Who did not agree to participate in the study
3. Who were absent when data were being collected.

VALIDATION OF THE TOOL

The prepared tool with statement, objectives, and hypotheses was submitted to ten obstetrics and gynecology department experts and five other experts. Necessary changes were made as per suggestions given by the expert's opinion.

RELIABILITY OF THE TOOL

The reliability was calculated by means of split half method, which measures the coefficient of internal consistency. The correlation obtained by using Karl Pearson's Correlation Coefficient.

The reliability for visual analogue pain scale was calculated and obtained value was r= 0.93 which showed that the tool was reliable.

The reliability for breast engorgement scale was calculated and obtained value was r= 0.93 which showed that the tool was reliable.

DESCRIPTION OF THE TOOL

The tools used in this study were:

1)Section A: Demographic data of post natal mothers

2)Section B:

i. Assessment by visual analogue pain scale

ii. Six point breast engorgement scale

Section A:

Socio-Demographic Data of Postnatal Mothers

A structured interview schedule was used to collect baseline data about socio-demographic variables like age, education, working, socio-economic status, parity of mother, type of delivery process, previous treatment for breast engorgement, breastfeeding initiated within and baby is with.

Section B

i. Assessment of Breast Pain Intensity

It comprised visual analogue pain assessment scale to assess the intensity of pain during breast engorgement.

ii. Six Point Engorgement Scale:

Developed by Hill & Humenick, it was utilized to assess the level of breast engorgement in the given scoring ranges from 1 to 6.9 In this the researcher rated the breast engorgement level of the post natal mothers. The scoring was done before and after application of cabbage leaves. Engorgement score increases from 1 to 6 according to severity of engorgement.

i. VISUAL ANALOUGE PAIN SCALE.[8]

FACIAL EXPRESSION	SCORE
NONE	0
ANNOYING	1-2
UNCOMFORTABLE	3-4
DREADFUL	5-6
HORRIBLE	7-8
AGONIZING	9-10

Score of postnatal women's response to the questions was marked as follows:

- soft breast and without any changes, score as-1
- slight changes in the breast, score as-2
- firm and no tender breast, score as -3
- firm, and beginning tenderness in breast, score as-4
- firm and tender of the breast, and score as-5
- very firm and very tender, score as-6

ENGORGEMENT SCORE:Mild: (1-2) Moderate: (3-4) Severe: (5-6)

RESULTS

Control Group

Finding of the variables shows that out of 40 samples maximum numbers of mothers are in the age group of 26-30 years which is 40%, in education group majority of mothers are primary which is 35%, in type of family majority belongs to nuclear family which is 45%, the maximum socio economic status was below Rs. 10000 (40%), maximum occupation of mother were self employed which is(45%), maximum age for menarche was 11 years and 12 years which is (35%), the maximum parity of

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mother was primi para was 10 which is (50%), the maximum mothers who faced breast engorgement were 18 which is (90%), the maximum delivery was lower segment caesarean section were 13 which is (65%), the maximum breast feeding initiated was feeding after 11-15 hours which is 9 that is (45%), the maximum babies were with mother were 15 which is (75%)

Experimental Group

Finding of the variables show that the maximum age group was between 21-25years 8 (40%), the maximum place of residence was urban (45%), the maximum educational standard of mother was senior secondary (35%), the maximum family type is joint family (60%), the maximum socio economic status was below Rs. 10000 which is (55%), the maximum occupation of mother were home maker (60%) the maximum parity of mother was primi para which is (55%), the maximum delivery were lower segment caesarean section which is(60%), in the maximum samples breast feeding was not initiated which is (55%) the maximum babies were with mother which is (75%)

FINDINGS RELATED TO THE SEVERITY OF BREAST ENGORGEMENT IN THE CONTROL GROUP

Finding of the present study shows the assess in breast engorgement scale shows that the

I Assessment control group indicate majority of engorgement scale Severe engorgement (11) 55% group, moderate was (8) 40% and mild engorgement is (1) 5%

Finding of the present study shows the assess in breast engorgement scale shows that the IIAssessment control group indicate majority of engorgement scale Severe engorgement (11)55% group, moderate was (8)40% and mild engorgement is (1)5%.

The t-test is 0.35, which is less than t=1.685 at the 0.05 level of significance. compared result showed to be non-significant. Thus it fulfilled the objective no.1

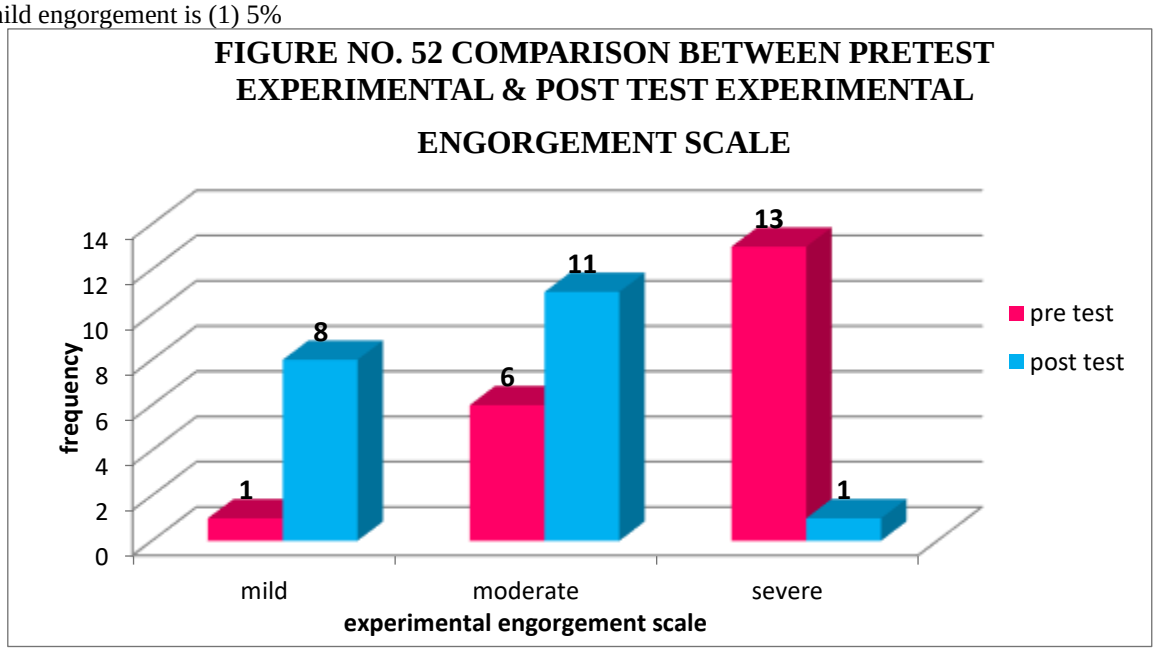
FINDINGS RELATED TO THE SEVERITY OF BREAST ENGORGEMENT IN THE EXPERIMENTAL GROUP

Finding of the present study shows the assess in breast engorgement scale indicate majority of engorgement scale Severe engorgement (13) 65% group, moderate was (6)30% and mild engorgement is (1)5% in Pre-Experimental group.

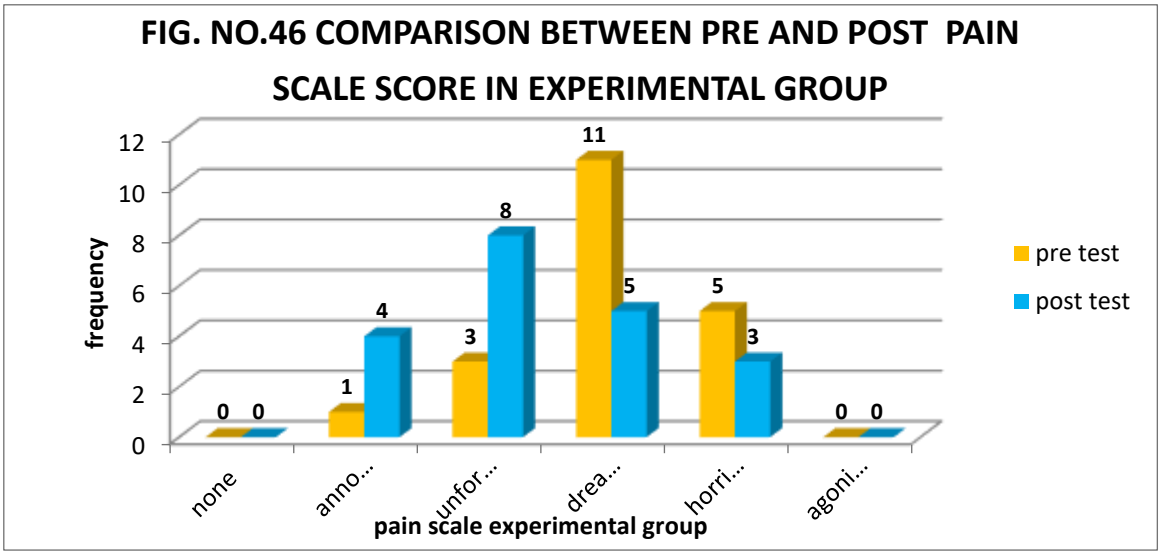
Finding of the present study shows the assess in breast engorgement scale indicate majority of engorgement scale Severe engorgement (11)55% group, moderate was (8)40% and mild engorgement is (1)5% in Post-Experimental group.

The t-test compared result showed positive correlation that calculated value is t=5.075 which is greater than t=1.685 at the 0.05 level of significance. Thus, it fulfilled the objective no.2

FIGURE NO. 52 COMPARISON BETWEEN PRETEST EXPERIMENTAL & POST TEST EXPERIMENTAL ENGORGEMENT SCALE

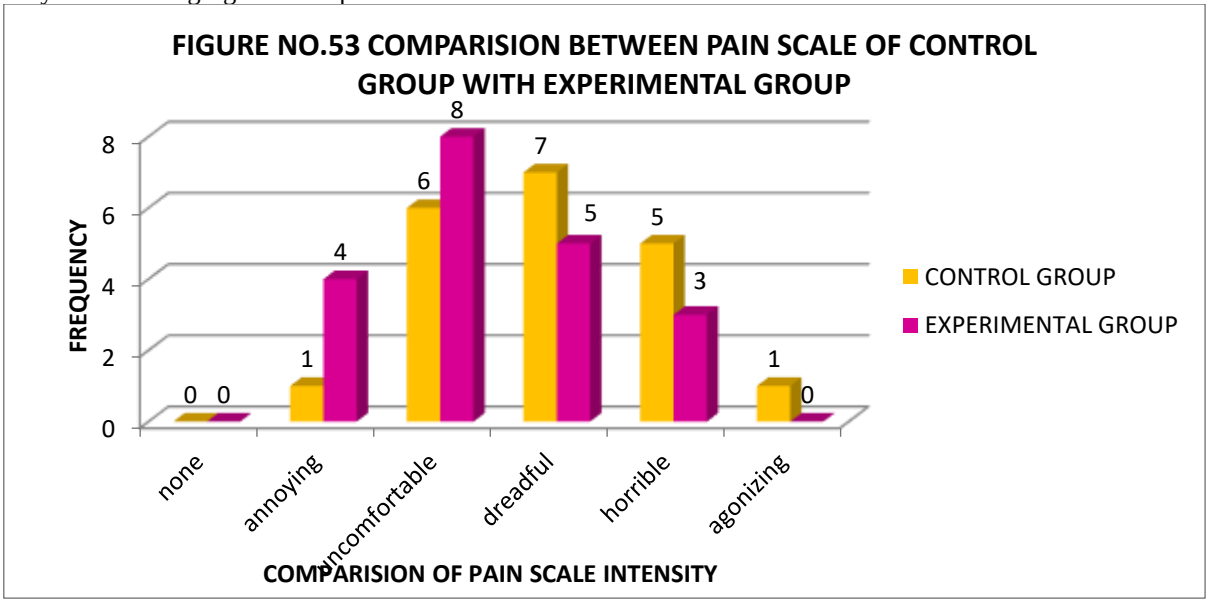


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FINDINGS RELATED TO THE COMPARISION OF THE PAIN SCALE SCORE OF CONTROL GROUP WITH PAIN SCALE SCORE OF EXPERIMENTAL GROUP.

Control group indicate that the pain intensity of breast engorgement in postnatal mother none was 0, annoying was 1(5%), uncomfortable 6(30%), dreadful 7(35%), horrible 5(25%), agonizing 1(5%). Post-Experimental group indicate pain intensity in breast engorgement of postnatal mother none was 0, annoying was 4(20%),uncomfortable 8(40%), dreadful 5(25%), horrible 3(15%), agonizing 0. The comparison between the control and experimental group in which the pain intensity among post natal mothers in experimental group, the pain is reduced, when compared to the control group. The paired t-test compared result showed positive correlation that calculated value is t= 2.974 which is greater than t=1.685 at the 0.05 level of significance

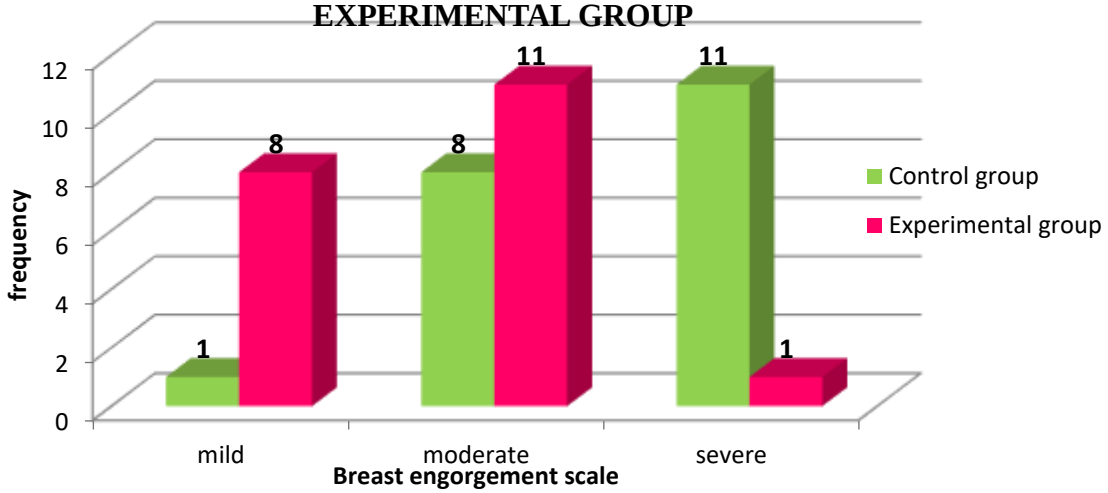


The comparison between the control and experimental group in which the pain intensity among post natal mothers in experimental group, the pain is reduced, when compared to the control group. The unpaired t-test compared result showed positive correlation that calculated value is t= 3.47 which is greater than t=1.685 at the 0.05 level of significance. 0 2 4 6 8 0 1 6 7 5 1 0 4 8 5 3 0 FREQUENCY COMPARISION OF PAIN SCALE INTENSITY COMPARISION BETWEEN PAIN SCALE OF CONTROL GROUP WITH EXPERIMENTAL GROUP CONTROL GROUP EXPERIMENTAL GROUP Thus it fulfilled the objective no.3 hence hypothesis 1 was accepted H1 - that there will be significant difference in mean control group and experimental group in the level of breast engorgement and pain among post-natal mothers. FINDINGS RELATED TO THE COMPARISION OF SEVERITY OF THE BREAST ENGORGEMENT SCORE WITH CONTROL GROUP AND EXPERIMENTAL GROUP. Control group indicate that the severity of breast engorgement in postnatal mother Severe engorgement (11)55% group, moderate was (8)40% and mild engorgement is (1)5%. Experimental group indicate that the severity of breast engorgement in postnatal mother, Severe engorgement (1)5% group, moderate was (11)55% and mild

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engorgement is (8)40% . Thus, the severity of breast engorgement in experimental group has been reduced after the application of cabbage leaves i.e severe reduce from 11(55%) to 1(5%), moderate increased from 8(40%) to 11(55%) and mild increased from 1(5%) to 8(40%)

FIG NO. 54 COMPARISON BETWEEN SEVERITY OF ENGORGEMENT IN CONTROL GROUP WITH EXPERIMENTAL GROUP



The comparison of six point engorgement scale and engorgement score among post natal Mothers, The paired t-test, compared result showed positive correlation t=5.075 which is greater than the table value 2.02 at the 0.05 level of significance. The unpaired t-test, compared result showed positive correlation t=3.90 which is greater than the table value 2.02 at the 0.05 level of significance. Thus it fulfilled the objective no.3 hence hypothesis 1 was accepted H1 - that there will be significant difference in mean control group and experimental group in the level of breast engorgement and pain among post-natal mothers.

FINDINGS RELATED TO THE ASSOCIATION OF THE LEVEL OF BREAST ENGORGEMENT WITH SELECTED SOCIO DEMOGRAPHIC VARIABLE IN CONTROL GROUP.

MOST SIGNIFICANT In association of severity of breast engorgement with demographic variable, Age is most significant in control group its chi- square value 60, & p value is 0 so p< 0.001). On Day 3, tenderness vanished in 86.20% subjects in experimental group compared to 58.62% subjects in control group. Thus, the study concluded that application of cabbage leaves was effective in diminishing breast engorgement.

CONCLUSION

The study focused on the fact that home remedies are also of great scientific values. The simple measures like cabbage leaves application was very helpful in reducing the breast engorgement . The nurse midwives could use it effectively in minimizing the complications at the earliest, thereby promoting safe and sound maternal and neonatal care. This research helps in the implementation of the MDG 5 for fostering safe and sound postnatal care.

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WAYS TO CONVEY THE MEANING OF THE INITIAL PHASE EXPRESSED BY THE GERMAN "BEGINNEN" AND "ANFANGEN" IN UZBEK

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ABSTRACT

This article explores the translation of analytical constructions from German literature into Uzbek, focusing on the purely phasal verbs "beginnen" and "anfangen + zu + infinitive." The study investigates the methods of conveying these constructions in the Uzbek language. The findings indicate that in Uzbek, the phasal meaning associated with initiation can be expressed analytically not only through exclusively phasal verbs but also through polysemous verbs containing a phasal seme.

KEY WORDS: *onset phase, phase verb, polysemous verbs with a phase seme, phase analytical construction, constant phase component, variable procedural component, lexical-semantic groups, limit/non-limit verbs.*

Analytical constructions in German literature are identified as formations consisting of an infinitive phase verb linked to a main verb (phase verb + the main verb), as illustrated by Baklushin (1989) and Rizaev (2019). Extending this framework to Uzbek, several studies have explored the nuanced meanings tied to phase stages within such compounds, including contributions from Nurmukhamedov (1976), Nasilov (1989:16–18), Nematov, Gulomov, et al. (1998:52), Shukurov (2004:11), Makhmudov, Nurmonova, et al. (2009:61), and Muminova (2021:42-44). Building on these insights, this article aims to examine the translation of the German verbs "Beginnen" and "Anfangen" into Uzbek, focusing on how the initial phase meaning is conveyed within the Uzbek language through these translations.

In this article, the term "Phase Analytical Compound" (PAC) is defined as a verbal or verb-based compound that encapsulates a phasal meaning, which is then paired with a linguistic element (such as a verb in various forms or a noun) that denotes a process and its stages—specifically, the initiation, continuation, or completion of that process. Rizaev (2019: 17) references this concept. Within such compounds, the verb conveying the phase is designated as the constant component (CC), while the element representing the process is termed the variable component (VC). This relationship is succinctly formulated in the generalized model of the phase-analytical compound: PAC = CC + VC.

In German, the concept of the initial phase is predominantly conveyed through two phasal verbs, "Beginnen" and "Anfangen", which are employed in a strictly lexical context with the singular seme of "beginning".

Among these, "Beginnen" is the more frequently utilized verb in the texts analyzed. Typically, "Beginnen" is paired with an infinitive form preceded by "zu", representing various processes. Thus, "Beginnen + infinitive" serves as the primary model for articulating the notion of the initial phase in German. This model is translated into Uzbek in several different ways, as evidenced by examples in the study that feature the Uzbek equivalent of the verb "to begin".

I. Models with beginning:
1. Beginning + adverb – (a):

(1) Er **begann zu zittern**, als er es hörte (Remarque. Drei Kameraden, S. 474). -

(1a) Hearing this, he began to tremble **(**Remark. Uch og'ayni, 273 p);

(2) Nacht. Draußen **begann** es **zu regnen** (Remarque. Drei Kameraden, S. 161). –

(2a) Night. It started to rain. **(**Remark. Uch og'ayni, 94 p);

(3) Ich sprang über das Gitter und **begann** einen weißen Fliederbusch **zu plündern.** (Remarque. Drei Kameraden, S. 179). -

(3a) I jumped over the fence and began cutting down lilac branches**..** (Remark. Uch og'ayni, 105 p);

(4) Sie sperrte ab, trieb einen Keil in den Knäuel, riß die Haufen auseinander, löste sie auf und **begann** sofort **abzutransportieren** (Remarque. Drei Kameraden, S. 474). -

(4a) They blocked all the roads, rushed into the crowd and, until silence fell, covered the crowd and began throwing people one by one into the truck. (Remark. Uch og'ayni. 278 p);

(5) Die Kanonenkugel strich durch die Halle, blieb hinter unserem Tisch stehen und **begann** wohlwollend **zu kiebitzen** (Remarque. Drei Kameraden, S. 529). -

(5a) When the bald man walked through the hall and approached us, he began to watch the game with interest. (Remark. Uch og'ayni. 310 p);

(6) Dann **begann** sie sich **zu pudern**, das arme, abgezehrte Gesicht, die zerrissenen Lippen, die schweren, braunen Höhlen unter den Augen (Remarque. Drei Kameraden, S. 591). -

(6a) Then he began to powder his tired, bloodless face, dry lips and sunken eyes. (Remark. Uch og'ayni. 332 p);

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(7) Ich kam nicht los von ihm, und nicht ohne warnende Stimmen in mir zu vernehmen, nahm ich ihn wieder in die Hand und **begann** mich mit ihm **auseinanderzusetzen** (Hesse. Der Steppenwolf, S.76). -

(7a) Even though I felt and noticed the inner warning voices, I picked him up again and began to openly "argue" with him. (Hesse. Cho'l bo'risi, 100 p).

(8) Immer näher, immer deutlicher **begann** ich das Gespenst **zu sehen**, vor dem ich mich fürchtete (Hesse. Der Steppenwolf, S.79). -

(8a) The shadow that struck fear into my heart moved closer and closer to me, and it began to appear more clearly in my eyes. (Hesse. Cho'l bo'risi,103 p)

1. Beginning + adverb -(ay):

(9) Graus Schultern **begannen zu beben** (Remarque. Drei Kameraden. S. 205). -

(9a) Grouse's shoulders began to shake (Remark. Uch Og'ayni, 120 p);

(10) Langsam **begann** sie die Vorhänge mit Nadeln **zuzustecken** (Remarque. Drei Kameraden, S. 300). -

(10a) He slowly began to close the curtains (Remark. Uch og'ayni. 178 p).

(11) Dann setzte ich mich an den Schreibtisch und **begann** mein Geld **zu zählen** (Remarque. Drei Kameraden, S. 381). -

(11a) Then I sat down at the table and started counting my money. (Remark. Uch og'ayni, 230 p);

(12) Die Wiesen schimmerten plötzlich von Reif, die Bäume standen wie aus Stahl gegossen vor dem fahler werdenden Himmel, in den Wäldern **begann** es **zu wehen**, und aus den Schornsteinen der Häuser stieg vereinzelt Rauch auf. (Remarque. Drei Kameraden, S. 519).

(12a) The dew that covered the meadows sparkled, and the trees under the pale sky looked as if they were made of lead. The wind rose in the forests, and smoke began to rise from some roofs. (Remark. Uch og'ayni, 297 p).

2. Beginning + noun:

(13) Die Vögel **begannen zu zwitschern** (Remarque. Drei Kameraden, S. 239). -

(13a) The birds began to chirp (Remark.Uch og'ayni, 141 p);

(14) Die Kapelle **begann** wieder **zu spielen** (Remarque. Drei Kameraden, S. 225). -

(14a) The orchestra started playing again (Remark. Uch Og'ayni, 132 p);

4. Beginning + noun-verb combination (adjective – (a)):

(15) Sie **begann** tiefer **zu atmen**, und ich stand leise auf und ging in den Garten hinaus (Remarque. Drei Kameraden, S. 278).

(15a) He began to breathe deeper, I slowly stood up and went out into the garden. (Remark. Uch og'ayni. 164 p);

(16) Dann **begann** sie **zu singen**, und es war, als schwebe ein dunkler Vogel durch den Raum (Remarque. Drei Kameraden, S. 564). -

(16a) Then he started singing and it was as if a black bird was flying over us. (Remark. Uch og'ayni, 318 p).

(17) Denn, unter uns, seit ich **angefangen habe zu schreiben,** war ich schon dreimal in den Begriffen, die Feder niederzulegen, mein Pferd satteln zu lassen und hinauszureiten (Goethe. **Die Leiden des jungen Werthers, S.14).**

(17a) There's nothing to be done, since I started writing, I've had the idea three times to put down my pen, saddle my horse and ride in that direction. (Goethe. The Sorrows of Young Werther 19 p)

In German, expressions such as beginnen+infinitive are commonly used to denote the commencement of situations, conveying a distinct phasal meaning. In contrast, Uzbek employs a variety of verbs that bear a polysemous phasal seme to reflect similar meanings. The analysis of the material reveals several Uzbek verbs used to express phase-related concepts, including equivalents to the English verbs "go," "pass," "fall," "move," and "enter." The study provides examples of models formed using these verbs to demonstrate how the initial phase is articulated in Uzbek.

I. Models with verbs with ambiguous phase seme enter + action name (for):

(18) Jeden Tag gab es ja Dutzende von Auktionen. Mit runden Gesten **begann** er den armseligen Kram **zu versteigern**. (Remarque. Drei Kameraden", S. 169). -

(18a) There were dozens of auctions every day. With circular gestures he began to auction off the poor stuff. (Remark. Uch og'ayni. 98 p);

1. begin + action name + noun:

(19) Ferdinand war bis dahin ziemlich zugeknöpft gewesen; jetzt **begann** er **zu überreden** (Remarque. Drei Kameraden, S. 175). -

(19a) Ferdinand had been pretty buttoned up until then; now he began to persuade **(**Remark. Uch og'ayni, 103 p);

2. Will go down + action name:

(20) Aber in Frankfurt stieg ein Mann mit einem Seehundsbart ein, der sofort einen Koffer auspackte und **zu essen begann** (Remarque. Drei Kameraden", S. 426) -

(20a) But in Frankfurt a man with a seal's beard got on, immediately unpacked a suitcase and began to eat. (Remark. Uch og'ayni, 249 p).

3. Begin + noun:

(21) Die Frau **begann zu sprechen** (Remarque. Drei Kameraden, S. 228). -

(21a) The woman began to speak (Remark. Uch og'ayni, 134 p);

4. Begin + adverb -(ab):

(22) Die Sonne ging hinter den Dächern des Gewerkschaftshauses auf. Die Fenster **begannen zu blitzen** (Remarque. Drei Kameraden, S. 241).

(22a) The sun rose behind the roofs of the union building. The windows began to flash **(**Remark. Uch og'ayni, 142 p);

(23) Sie ließ einen Foxtrott spielen, machte mir die ersten Schritte vor, nahm meine Hand und **begann** mich **zu führen.** (Hesse. Der Steppenwolf, S.114). -

(23a) She played a foxtrot, showed me the first steps, took my hand and began to lead me. (Hesse. Cho'l bo'risi,144 p.)

5. Put + noun

(24) Als ich ihre Lippen fühlte, **begann** ich **zu zittern** (Remarque. Drei Kameraden, S. 520). -

(24a) When I felt her lips I began to tremble**.** (Remark. Uch og'ayni, 298 p);

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6. To move (transition from one state to another):

(25) Langsam **begannen** die Ketten klappernd durch den Schnee **zu mahlen** (Remarque. Drei Kameraden, S. 535) -

(25a) Slowly the chains began to grind through the snow, clattering**.** (Remark. Uch og'ayni, 305 p).

7. Begin +-(ly)

(26) Der Wagen **begann** langsam bergab **zu fahren**, in das Tal und in die Schatten. (Remarque. Drei Kameraden, S. 521).

(26a) The car began to drive slowly downhill, into the valley and into the shadows**.** (Remark.Uch og'ayni, 306 p).

In some examples, the meaning of the initial phase given in German is not directly transmitted in Uzbek. For example, in example (27 a), the verb to give is used and together "they began to curse" is translated "cursed", cf.:

(27) Es waren vier harmlose, ältere Leute. Einer von ihnen war betrunken. Sie **begannen zu schimpfen** (Remarque. Drei Kameraden, S. 493). –

(27) There were four harmless, elderly people. One of them was drunk. They began to scold (Remarque. Three Comrades, p. 493). -

(27a) Yo'lovchilar beozor, keksa odamlar ekan. Bittasini kayfi bor. Ular bizni **so'kib berishdi** (Remark. Uch og'ayni, 284 p).

In sentence (28a), instead of "the radio started playing", "they turned on the radio":

(28) Ein Radio **begann zu spielen** (Remarque. Drei Kameraden, S. 534). –

(28) They turned on the radio (Remarque. Three Comrades, p. 534). –

(28a) Radioni **burashdi** (Remark. Uch og'ayni, 304 p).

In the primary (29a) the first stage is removed after the treatment:

(29) Die Reifen **begannen zu knarren – zu zischen – zu heulen – zu pfeifen** – der Motor gab jetzt alles her, was er hatte (Remarque. Drei Kameraden, S. 290). –

(29) The tires began to creak - to hiss - to howl - to whistle - the engine was now giving everything it had (Remarque. Three Comrades, p. 290). -

(29a) G'ildiraklar goh g'ijirlar, goh vishillar, bir g'uvillab, bir chiyillardi- tezlik shu darajada baland edi (Remark. Uch og'ayni. 170 p).

Another example (30a) shows that the subject passes into a new state without transmitting the original meaning in Uzbek:

(30) Langsam **begann** er **zu lächeln**, sein hübsches und jämmerliches Lächeln, mit dem er mir so oft das Herz schwer gemacht hat,... (Hesse. Der Steppenwolf, S.11).

(30) Slowly he began to smile, his pretty and pitiful smile, with which he so often made my heart heavy... (Hesse. Der Steppenwolf, p.11).

- (30a) So'ng u asta **jilmaydi,** u har doim ana shunday o'ziga yarashgan, chiroyli tabassumi bilan yuraklarni ezib yuborardi. (Hesse. Cho'l bo'risi, 23 p).

The analysis of examples indicates that in most instances, the expression of the initial phase in Uzbek typically utilizes a single initial phase verb in various combinations, along with polysemous verbs that can convey multiple phase patterns.

Thus, in Uzbek, scenarios typically rendered in German by the combination of "beginnen + infinitive" are articulated not only with the direct Uzbek equivalent of the verb "to begin," which denotes the initial phase, but also with movement verbs that abstractly signify the onset of an action. Such verbs include translations for "go," "pass," "fall," "move," and "enter." These verbs are used to construct a range of models that represent the initial phase concept in different contexts.

Below is a table presenting the types of models identified in the study materials, illustrating the diverse linguistic strategies employed in Uzbek to convey these initial phase concepts.

Table 1

German language model	**Uzbek language model**
I. **beginnen + zu + Infinitiv**	1. Begin + adverb –(a) 2. Begin + adverb -(ay) 3. Begin + noun 4. Begin + noun-verb combination 5. Enter + action name (to) 6. Pass + (to persuade) 7. To fall + action name 8. To fall + noun (to a sentence) 9. Go + adverb -(ib) 10. Give + -(ib) not so much 11. To put + noun 12. To move (from place) 13. Go +(ib)
Es + beginnen + infinitive	Begin + noun-verb combination

It has been noted that the verb Beginnen has a very wide range of conjugations. Constructions with it as a variable component in the infinitive form may involve verbs with different lexical meanings. These are (a) natural states (regnen - rain), (b) actions associated with speech and voice ((aus)sprechen - speak, speak), überreden - persuade, convince), zwitschern - chirp, knarren - creak, zischen - hiss, heulen - cry, pfeifen - Pipes, (v) various actions and situations (versteigern - auction), (plündern - plunder), (beben - tremble), (spielen - play), (atmen - breathe), verbs denoting static states (blitzen - flash).

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Functionally, verbs in German can be categorized into finite and non-finite groups based on how they express actions, states, or events. Impersonal verbs such as "regnen" (to rain), "sprechen" (to speak), "zwitschern" (to chirp), "knarren" (to creak), "zischen" (to hiss), "heulen" (to howl), "pfeifen" (to whistle), "beben" (to quake), "spielen" (to play), "atmen" (to breathe), and "blitzen" (to flash) represent actions or states without clear boundaries, signifying either the ongoing flow or repetition of a process (like "beben" and "atmen") or a static state (like "blitzen"). These verbs are therefore non-finite as they do not specify a beginning or an end to the action or state.

Conversely, verbs such as "aussprechen" (to express), "überreden" (to persuade), "plündern" (to plunder), and "versteigern" (to auction) indicate processes with a definite starting or ending point—for instance, "plündern" involves the initiation of taking possession, and "aussprechen" could mean concluding a sentence or speech. These verbs are classified as finite because they signify actions with discernible boundaries.

Thus, the verb "Beginnen" (to begin) is not only combined with the infinitive forms of impersonal (non-finite) verbs but also with finite verbs to reflect the commencement of the processes they denote.

In German, alongside "Beginnen," its synonym "anfangen" can also be paired with "zu + infinitive" to form similar analytical constructions. However, such combinations are less commonly found in texts compared to "Beginnen." In Uzbek, the concept conveyed by "anfangen + zu + infinitive" is typically expressed by pairing the verb equivalent to "to begin" with an adverb to denote the initial phase. For example, the specific Uzbek translation might adapt the verb "begin" with a qualifying adverb to mirror the German structure, capturing the essence of the starting phase of an action or process.

(27) Sie **fing an zu weinen** (Remarque. Drei Kameraden, S. 297). –

(27a) She started to cry (Remark. Uch og'ayni. 173 p);

(28) Nase **fing an zu bluten**, ich verfehlte den nächsten Schlag... (Remarque. Drei Kameraden, S. 372). –

(28a) Nose started bleeding, I missed the next blow... (Remark. Uch og'ayni, 223 p).

(29) Der Auktionator **fing an,** die Sachen **auszubieten.** (Remarque. Drei Kameraden, S. 499).

(29a) The auctioneer began offering the items. (Remark. Uch og'ayni, 287 p).

(30) Drunten in der brennenden Stadt **fingen** die Glocken **an zu läuten,** aufgeregt und angstvoll (Hesse. Der Steppenwolf, S.184).

(30a) Down in the burning city the bells began to ring, excited and fearful (Hesse. Cho'l bo'risi, 223-бет.)

In some cases, the initial stage of the process in German is given the meaning of the process, expressed without direct translation into Uzbek. Compare:

(30) "Ich **fange an zu vergessen**", sagte ich schwärmerisch (Remarque. Drei Kameraden, S. 274). -

(30a) "I'm starting to forget," I said enthusiastically (Remark. Uch og'ayni. 161 p).

(31) Ich **fange** schon **an,** mich an Kaffee **zu gewöhnen** (Remarque. Drei Kameraden, S. 183). -

(31a) I'm starting to get used to coffee... – dedi Pat (Remark. Uch og'ayni,107 p).

The analysis reveals that in the German language, the meaning of the initial phase is predominantly expressed through two phase verbs, "Beginnen" and "Anfangen." In contrast, in Uzbek, this concept is conveyed in two primary ways: firstly, through a single verb that directly denotes the beginning, such as "boshlash" (to begin), along with its various conjugations; and secondly, through multiple verb combinations that also capture the seme of the initial phase.

This distinction highlights the linguistic adaptation required when translating concepts from German to Uzbek. While German often utilizes specific phase verbs to explicitly denote the commencement of an action, Uzbek might employ a broader array of verb combinations to express similar ideas. These Uzbek verb combinations are capable of conveying the nuanced aspects of the initial phase without necessarily relying on a direct counterpart to the German phase verbs. This flexibility in verb usage allows for a rich expression of temporal phases in Uzbek, accommodating both direct translations and more interpretive, contextually fitting expressions.

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NAVIGATING THE JOB MARKET: A MULTIPLE CASE STUDY ON SENIOR HIGH SCHOOL GRADUATES IN JOB SEARCHING

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ABSTRACT

This multiple case study aimed to discover and understand the experiences of Senior High School graduates in job searching in Davao Region. The data were taken from the three (3) participants and three (3) informants whose responses were collected through in-depth interviews. Using the thematic analysis, essential themes were extracted from the participants' responses. On the lived experiences related to job searching, the results revealed nine (9) major themes: preference for college graduates over SHS graduates, difficulty in job application process, stress and pressure in job searching, sense of unfulfilled career potentials despite K to 12 training, job instability and short-term opportunities, impediments to self-confidence and job security, importance of preparation before a job interview, economic insecurity, and deprivation of field experience during the work immersion. Furthermore, on how they overcome their struggles from job searching, six (6) themes emerged: preventing burnout from rejections through leisure activities, earning income through side hustles, intensifying self-reliance and independence, cultivating positive mindset, seeking advice and preparing for interviews, and applying for an industry that accept SHS graduates. Moreover, from the insights gained by the participants, six (6) major themes emerged: disregard the educational-based bias, nurture job resiliency, enhance the job readiness skills for practical experiences, call for work immersion opportunities for SHS students, meet the demands of the industry, and invest in career guidance programs. Cross-case analysis were also utilized to determine the similarities and differences of the themes that transpired. The results of this study were deemed significant to senior high school graduates, parents, teachers, school administrators, DepEd authorities, and future researchers.

KEYWORDS: *job searching, multiple case study, senior high school graduates*

CHAPTER 1
INTRODUCTION

The Department of Education (DepEd) in the Philippines has launched the MATATAG program to strengthen the resilience of schools to natural disasters and other emergencies. However, the MATATAG initiative also recognizes other concerns that affect the future of Senior High School (SHS) graduates in the Philippines. One of the concerns identified by the program is the challenge of finding employment opportunities after graduation. Despite the increasing number of SHS graduates each year, there are still concerns about their employability and their readiness to enter the workforce.

The Bureau of Labor Statistics in United States [Department of Labor] revealed in February 2022 that the lowest unemployment rate, accounting for 2.2%, was among those with more senior high school graduate students (Bureau of Labor Statistics, 2023). Meanwhile, the problem of increasing unemployment in Indonesia arises from high school graduates of both vocational high schools (VHS) and general high schools (non-VHS). The national average unemployment rate of both school graduates was 8.72% and 11.11% respectively in 2016, and 7.92% and 10.42% respectively in 2019. The causes of unemployment from VHS and non-VHS graduates are: 1) the competence of VHS and non-VHS graduates unable to satisfy demands of the labor market; 2) the number of graduates higher than available job vacancies, and 3) the educational system in Indonesia not involving industry in the curriculum planning process (Ohara et al., 2020).

In the Philippines, 35% of the companies are not willing to hire and 41% are indefinite or are reluctant in hiring SHS graduates as they lack the necessary specialized skills for the job needed. On the other hand, research stressed out that some SHS graduates also do not apply because they think they lack the competencies, aside from not having confidence in competing with college graduates. More specifically, they added that most of the job openings were for college graduates (36%), SHS graduates were not qualified (25%), employers have no job openings for any position (20%), and SHS graduates lack work experience (16%) (Orbeta et al., 2019).

Hence, the researchers believed it is a need and essential to carry out the study to explore the challenges faced by SHS graduates in their job search and identify potential solutions to address these challenges. For educators, career counselors, and policymakers, they can develop programs and policies that may include offering job search skills training, career

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counseling, and advocating for policies that promote equal access to employment opportunities for all.

Purpose of the Study

The purpose of this multiple case study was to discover and understand the challenges faced by senior high school graduates in job searching in Davao Region.

At this stage in the research, the experiences of senior high school graduates in job searching were generally defined as their quest in landing a job after graduating and if they pursue not to go in college. To give a clearer view of the story, this study explored the unique characteristics, experiences, coping mechanisms, and insights of the senior high school graduates.

Research Questions

This multiple case study aimed to find out the experiences of senior high school graduates in job-searching through the following questions:

1. What are the unique characteristics of each case of the senior high school graduate in finding a job?
2. What are the challenges encountered by the senior high school graduates in finding a job?
3. How does the senior high school graduate cope with the challenges of finding a job?
4. What are the insights of the senior high school graduates regarding finding a job that can be shared with others?
5. What are the similarities and differences of one case to the other cases?

Theoretical Lens

This study was gleaned through the Trait and Factor theory of Parsons (1909), which is a well-known career development theory. It emphasizes the importance of assessing individual characteristics such as interests, values, skills, and personality traits to make informed decisions. This examines how a senior high school graduate's abilities, interest, and personality traits match with the demands of the job market, and how it affects their career choices and job search strategies (Armitage & Amar, 2021).

Furthermore, this study was hinged on the Social-Cognitive Career Theory (SCCT) developed by Lent, Brown, and Hackett in 1994 which suggests that individuals' career choices and employability are influenced by their social environment, personal factors, and cognitive processes. This also emphasizes the role of self-efficacy, outcome expectations, and goals in career development. Moreover, this explores how they perceived job security or work-life balance in different industries (Lent & Brown, 2019).

Moreover, this was supported with the Attribution Theory proposed by Fritz Heider (1958) which explains the causes of events and behaviors of individual by making attributions, which are inferences about the underlying causes of those events and behaviors. Attributions theory suggest that SHS graduates may make attributions about the reasons why they are successful or unsuccessful in finding a job. This also explains how feedback from job applications or interviews affects SHS graduates' attributions about their job search outcomes (Hewett et al., 2018).

CHAPTER 2
METHODOLOGY

Research Design

This study employed a qualitative multiple-case study approach to produce a high-quality description that accurately depicts the experiences of senior high school graduates in job searching. The goal of qualitative research is to thoroughly examine, comprehend, and explain social phenomena in their natural environment (Creswell, 2013.

Research Participants

In choosing the research participants, the researchers utilized purposive sampling. In this multiple case study, there were three (3) participants who are all senior high school graduates in the Davao Region. Also, one (1) informant for each of the participants was interviewed to support their distinct responses to the given research questions. These informants are friends or relatives who have known them so well.

The participants' selection was based on the following criteria, through which the researcher can get a reliable and rich understanding of the unique characteristics of senior high school graduates in job searching. As for the inclusion criteria for identifying the participants, we considered the following: (a) must be female or male; (b) must be aged between 18-26 years old; (c) must be a senior high school graduate in Davao Region; and (d) have experienced being rejected in a job application at least three times. For the exclusion criteria, individuals who have already secured a stable job and who are self-employed will be excluded.

Data Analysis

The results of the gathered data will be the basis for conclusions and recommendations for further research. Creswell (2013) developed the five steps in data analysis: data logging, anecdotes, vignettes, data coding, and thematic analysis. In this study, we will utilize data coding, thematic analysis, and even cross-case analysis in relation to a multiple-case study approach.

CHAPTER 3
RESULTS
CROSS CASE ANALYSIS

This section provides a cross-case examination of all three cases in this study.

In this study, we have three (3) cases that are presented individually from the preceding chapters.

Table 1 displays the profile of each case. Firstly, Seeker in Rural Area is a resident of a rural area, which according to him has limited job opportunities. On the other hand, living in an urban area with diverse job opportunities, Applicant in Urban Area has been rejected five times. Lastly, PWD Job Aspirant faces challenges with limited job opportunities as a Person with Disability.

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Table 1
Profile of the Students

CASE (Pseudonym)	Job Opportunities	Rejection Frequency	Graduation Year	SHS Strand
Seeker in Rural Area	Limited Job Opportunities in a Rural Area	Three Times Rejected	Graduated SHS Year 2020	General Academic Strand
Applicant in Urban Area	Diverse Job Opportunities in an Urban Area	Five Times Rejected	Graduated SHS Year 2018	General Academic Strand
PWD Job Aspirant	Limited Job Opportunities for PWD	Three Times Rejected	Graduated SHS Year 2019	TVL (Cookery) Strand

Cross-Case Analysis on the Experiences of Senior High School Graduates in Job Searching

Table 3 illustrates a cross-case examination of senior high school graduates in job searching. After a rigorous and thorough investigation of the three cases' results, common essential themes were identified. Using the analysis of the responses of the participants in all cases, the researchers identified nine (9) essential themes that are shared by the two, if not all three, cases: 1) preference for college graduates over SHS graduates; 2) difficulty in job application process; 3) stress and pressure in job searching; 4) sense of unfulfilled career potentials despite K to 12 Training; 5) job instability and short-term opportunities; 6) impediments to self-confidence and job security; 7) importance of preparation before a job interview; 8) experiences on economic insecurity; 9) deprivation of field experience during the work immersion.

Table 3
Cross Case Analysis on the Experiences of Senior High School Graduatesin Job Searching

Essential Theme	Cases		
	1	2	3
Preference for College Graduates over SHS Graduates	✓	✓	✓
Difficulty in Job Application Process	✓	✓	✓
Stress and Pressure in Job Searching	✓	✓	✓
Sense of Unfulfilled Career Potentials Despite K to 12 Training	✓	✓	✓
Job Instability and Short-Term Opportunities	✓	✓	
Impediments to Self-Confidence and Job Security		✓	✓
Importance of Preparation Before a Job Interview	✓	✓	
Economic Insecurity	✓	✓	
Deprivation of Field Experience during the Work Immersion	✓		✓
Numerous Career Choices for College Graduates		✓	
Hesitation to Cause Damage in Workplace			✓
Importance of Dressing Well and Making a Good First Impression	✓		
Difficulty in Finding Suitable Job for PWD			✓
Disparity of Salary in the Workplace	✓		
Envy of Friends Who Are Graduating			✓

Preference for College Graduates over SHS Graduates

The first common thread in all three examples is a preference for college graduates over high school graduates. All of the participants were able to experience the difficulties and results of an unfavorable attitude toward undergrads seeking employment. All three cases provided various contexts, each with indications of the inequality they face.

Difficulty in Job Application Process

Another theme that arises was difficulty in job application process. As evidenced by the responses in all three cases, the job application process may be a difficult and frustrating experience. They discussed their difficulties in finding jobs as a result of unfair hiring practices, a highly competitive job market, and the demand for specified requirements, such as a college degree.

Stress and Pressure in Job Searching

The theme stress and pressure in job searching is also present in all three cases. For many people, especially SHS grads seeking employment, the job search process may be a scary and stressful experience. Participants shared their struggles with

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financial concerns, commuting expenses, and the pressure of finding work to support themselves and their families.

Sense of Unfulfilled Career Potentials Despite K to 12 Training

The K-12 program was implemented in the Philippines with the goal of providing senior high school graduates with the necessary abilities and expertise to enter the workforce. This is not the case on all of the three cases. All participants offered their perspectives on whether the K-12 Program is truly beneficial in preparing students for the workforce.

Job Instability and Short-Term Opportunities

The themes of work insecurity and short-term prospects were both present in the replies to Seeker's case in rural areas and Applicant's example in urban areas. Working in an occupation that requires hard work for little in the way of compensation can be physically and financially stressful. The issue is that stable jobs need college degrees, which they lack.

Impediments to Self-Confidence and Job Security

Job searching is already an exhausting experience; being rejected is significantly a more challenging circumstance that can have a detrimental impact on one's self-confidence, mental health, and well-being. This is the case for Applicant in Urban Area and PWD Job Applicant.

Importance of Preparation Before a Job Interview

Both Seeker in Rural Area and Applicant in Urban Area both agree that excellent work preparation is critical to acquiring employment, especially in a competitive job market. From looking at the company's history to formulating potential interview questions. Both individuals used a variety of strategies, which they discussed throughout the interview.

Economic Insecurity

Economic insecurity is a substantial barrier to employment for many people. This has been particularly the case for Seeker in Rural Area and Applicant in Urban Area. Both cases shed light on the financial pressures that come with the complicated world of job searching. Alongside this, they also mentioned some techniques they employed to deal with these particular challenges.

Along with the abovementioned similarities, there are certain essential themes that distinguish their experiences as senior high school graduates in job searching. These include numerous career choices for college graduates, hesitation to cause damage in workplace, importance of dressing well and making a good first impression, difficulty in finding suitable job for PWD, disparity of salary in the workplace, and envy of friends who are graduating.

Cross-Case Analysis on the Coping Mechanisms of Senior High School Graduates in Job Searching

Table 4 presents the cross-case analysis of the coping mechanisms of senior high school graduates in job searching. It seems that participants are trying to overcome their challenges in order to acquire employment. As a result, the following essential themes emerged: 1) preventing burnout from rejections through leisure activities; 2) earning income through side hustles; 3) intensifying self-reliance and independence; 4) cultivating positive mindset; 5) seeking advice and preparing for interviews; 6) applying for an industry that accept SHS graduate.

Table 4
Cross-Case Analysis on the Coping Mechanisms of Senior High School Graduates in Job Searching

Essential Theme	Cases		
	1	2	3
Preventing Burnout from Rejections Through Leisure Activities	✓	✓	✓
Earning Income through Side Hustles	✓	✓	✓
Intensifying Self-Reliance and Independence	✓	✓	✓
Cultivating Positive Mindset	✓	✓	✓
Seeking Advice and Preparing for Interviews	✓	✓	
Applying for an Industry that Accept SHS Graduates	✓	✓	
Identifying Strengths and Neglecting Difficulties			✓
Aspiring to be an Entrepreneur			✓

Preventing Burnout from Rejections Through Leisure Activities

The entire process of job searching has an impact on every part of a job seeker's life. It is critical to be aware of strategies for dealing with burnout and the frantic reality of job searching. All three individuals discuss their personal coping mechanisms and beliefs as they negotiate the harsh reality of job searching and rejection.

Earning Income through Side Hustles

Since SHS graduates had difficulty finding employment, the three participants all looked for means and solutions to add to, if not generate, their income. Life can be challenging now, and it is hard to provide for everyday needs without sufficient funds. During their unemployment, all of the individuals worked hard and found menial side hustles to increase their sources of income.

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Intensifying Self-Reliance and Independence
Another theme that appears in all three cases is intensifying self-reliance and independence. All three of the participants agree that self-reliance and independence are crucial attributes in life, particularly in their journey of seeking employment despite being merely undergrads.

Cultivating Positive Mindset
Despite difficulties, particularly job rejections, as mentioned by the three participants, it is extremely important that you possess a positive mentality. Rather than perceiving rejection in a negative way, use it as fuel to improve. Not giving up is already an achievement in itself.

Seeking Advice and Preparing for Interviews
Seeking advice and preparing for interviews are one of the themes that are present in two cases. Both Seeker in Rural Area and Applicant in Urban Area talked about their instances of seeking guidance from several different people in order to improve and maximize their chances of employment.

Applying for an Industry that Accept SHS Graduates
Job searching is already difficult; doing it without a college degree is considerably harder. Both Seeker in Rural Area and Applicant in Urban Area both stated that they had difficulty finding work as SHS graduates. Most employers prefer college grads. As a result, the two of them both said that they looked for jobs that did not require such qualifications.

While there were some similarities in the coping mechanisms of senior high school graduates in job searching, there were also some differences. These include identifying strengths and neglecting difficulties and aspiring to be an entrepreneur.

Cross-Case Analysis on the Insights of Senior High School Graduatesin Job Searching
Table 5 presents the cross-case analysis of the insights of senior high school graduates in job searching. As analyzed, the following common themes have emerged; 1) disregard the educational-based bias; 2) nurture job resiliency; 3) enhance the job readiness skills for practical experiences; 4) call for a work immersion opportunity for SHS students; 5) meet the demands of the industry; 6) invest in career guidance programs.

Table 5
Cross-Case Analysis on the Insights of Senior High School Graduates in Job Searching

Essential Theme	Cases		
	1	2	3
Disregard the Educational-Based Bias	✓	✓	✓
Nurture Job Resiliency	✓	✓	✓
Enhance the Job Readiness Skills for Practical Experiences	✓	✓	✓
Call for Work Immersion Opportunities for SHS Students	✓	✓	✓
Meet the Demands of the Industry	✓	✓	
Invest in Career Guidance Programs	✓		✓
Promote Alternative Career Paths	✓		
Job Accessibility and Equal Opportunity for PWDs			✓
Stay Confident and Manage Time		✓	

Disregard the Educational-Based Bias
Education and physical attributes aren't only the indicators of success. One of the themes that appear in all three cases is disregard the educational-based bias. This answers the still prevalent preference for college graduates over SHS graduates. The three participants came together and appealed for a fair and unbiased judgment, without prejudices.

Nurture Job Resiliency
Another theme that resurfaces in all three cases is nurture job resiliency. Things like staying positive, adapting, and persevering are some of the key concepts that emerged from the participants' responses. These are crucial during the job search process, especially in the face of rejection.

Enhance the Job Readiness Skills for Practical Experiences
In the job market, experience is undeniably crucial. A theme that emerges in all three cases is enhanced job readiness skills for practical experiences. The three participants agreed on the importance of having relevant experience and abilities in the industry you wished to work in. As a result, their response included suggestions to emphasize this component more in high school.

Call for Work Immersion Opportunities for SHS Students
The last theme that appears on all of the three cases' responses is call for work immersion opportunities for SHS students. When applying for a job, all three participants stressed the importance of having prior experience. They are disappointed that an opportunity to learn something valuable was not properly implemented in the work immersion program that they participated in.

Meet the Demands of the Industry
Time is gold, and it should not be spent applying for jobs that do not match your interests, abilities, and other factors. Knowing the job hiring requirements entails being aware of

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what areas you need to improve or what skills you must possess. This is the initial stage in developing and improving yourself until you are qualified for the job. Both Seeker in Rural Area and Applicant in Urban Area emphasize this idea to increase chances of getting employed.

Invest in Career Guidance Programs

Investing in career advice programs is critical, particularly for students who have not gotten appropriate instruction or support from their schools. Seeker in Rural Area remarked that he wished they had been educated about a specific issue, such as what to do during an interview, and feels it should be included in the high school curriculum.

While there were some similarities in the insights of senior high school graduates in job searching, there were also some differences. These include promote alternative career paths, job accessibility and equal opportunity for PWDs, and stay confident and manage time.

Implications for Educational Practices

The results showed that the senior high school graduates were struggling to seek job opportunities and faced difficulties primarily due to the requirement of having a college degree or diploma.

Based from the findings, the researchers wanted to address the issue by delving into their experiences and know their struggles to give awareness to higher authorities. With this, the researchers find it significant to intensify the career guidance programs and the Gender and Development (GAD) principles, vocational education program as well as to foster relationship with the local industry, establish career centers, orient SHS students with Republic Act 11261 which is about the first-time job seekers assistance act, and contribute to the Sustainable Development Goal (SDG) 8 of UNESCO.

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PROBLEMS ENCOUNTERED OF BARANGAY TANOD IN PERFORMING THEIR DUTIES AND RESPONSIBILITIES

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ABSTRACT

This study aims to identify the problems encountered by Barangay Tanods in Barangay Sto. Rosario in performing their duties and responsibilities during the COVID-19 pandemic. The Barangay Tanods, or Barangay Police Security Officers (BPSOs), serve as the lowest level of law enforcement officers in the Philippines and play a crucial role in maintaining peace and order in their respective barangays. However, their effectiveness and preparedness during the pandemic have been challenged due to various factors. The research utilizes a descriptive research design and qualitative descriptive approach to gather data through questionnaires, informal interviews, and observations. The data collected is analyzed using weighted mean and the Likert scale to assess the seriousness of the identified problems. The findings reveal several significant problems faced by Barangay Tanods during the pandemic. These include dealing with ill-tempered and stubborn individuals, non-compliance with safety protocols such as wearing face masks and observing social distancing, residents' resistance to following rules, encountering hostility and harassment, and facing challenges in correcting violators. These problems are categorized as serious to very serious based on their weighted mean scores. The study emphasizes the need for increased awareness and preparedness among Barangay Tanods in fulfilling their duties and responsibilities during the pandemic. The findings can serve as a basis for developing interventions and training programs to address these challenges effectively. By enhancing the competence and knowledge of Barangay Tanods, their ability to ensure the safety and well-being of their community can be strengthened even in the face of unprecedented circumstances like the COVID-19 pandemic.

INTRODUCTION

Barangays have ancient roots in the Philippines, serving as independent villages resembling city-states. Organized by indigenous communities, they were crucial to the social structure of the Philippine Archipelago. The term "barangay" stems from the Malay word "balangay," signifying early settlements with around 50 to 100 families (Jimenez, 2013).

Within the barangay governance structure, the Barangay Police Security Officers (BPSOs) or Tanods are frontline law enforcers within barangay governance. Supervised by the Barangay Captain, they serve as watchmen and peacekeepers. While collaborating with the Philippine National Police (PNP), they're not part of it but are acknowledged as force multipliers, assisting in law implementation within barangays (Manual on Barangay Peace Keeping Operation and Peace Keeping Action Team, 2009).

Barangay Tanods play a vital role in maintaining peace and order within their respective barangays, serving as an effective and indispensable instrument of even the smallest Local Government Units (LGUs). Composed of civilian volunteers, they safeguard their neighborhoods from lawless elements and deter criminals, particularly in areas where police presence may be limited. Equipped with nightsticks, they face inherent risks and dangers while carrying out their duties. However, the incentives provided to them are often inadequate compared to the risks they undertake (Gapangada, A.B., 2013).

In an effort to professionalize the BPSOs and enhance peace and order, the Department of Interior and Local Government (DILG) introduced a program that includes various training and seminars. However, due to financial constraints within the barangay, the selection process often skips this crucial stage. Consequently, the competency of barangay tanods in dealing with crimes comes into question. Their preparedness and awareness as first responders in crime incidents continue to fall short, putting their lives and well-being at risk. Regrettably, a significant number of barangay tanods have already been assaulted, injured, or even killed, leaving their families and dependents to fend for themselves (DILG, 2003).

Amidst these challenging circumstances, The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has surpassed previous outbreaks in global impact and death tolls. Emerging in Wuhan, China, in December 2019, COVID-19 primarily affects the respiratory system. While most cases are mild, some individuals, especially older adults and those with underlying conditions, face severe illness. Vaccines have been developed and proven effective in combating the virus (Joi, P. 2020; Center for Disease Control and Prevention, 2021).

Frontline workers, including many essential workers, play a vital role in meeting basic needs during the COVID-19 crisis. They often cannot work remotely and are disproportionately comprised of less educated and minority individuals, earning below-average wages. Providing hazard pay to these workers is justified due to the risks they face and for equity reasons (Francine D. et.al., 2022).

Jhoselle Tus's 2021 study sheds light on the challenges faced by barangay tanods amid the COVID-19 pandemic. Exposed to public areas, they not only risk contracting the virus but also endure mistreatment from violators while carrying out their duties. Tus identifies specific challenges within their work environment and explores the shifts in policing strategies necessitated by the pandemic, along with how barangay tanods cope with these changes. Meanwhile, Ayeo-eo, Paet, and Repoyo's study in the same year reveals three main challenges encountered by barangay front liners in Cabanatuan City. Residents' difficult behaviors, such as non-compliance with

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safety measures like wearing facemasks and maintaining social distancing, pose significant hurdles for enforcement. Moreover, residents' resistance to following protocols and their unfriendly responses when confronted exacerbate the difficulties faced by barangay front liners (Ayeo-eo, S. et al., 2022).

Barangay tanods, as front-line workers, have not been exempt from the risks posed by the COVID-19 pandemic. Working in public areas, they face potential exposure to the virus. Apart from health risks, they also encounter mistreatment from violators. The sudden shift in their work environment has presented various challenges, and their ability to cope and adapt to new policing strategies is crucial. In response, the government has provided incentives to address their health

OBJECTIVES

The study determined the problems encountered by barangay tanods during the COVID-19 pandemic. It identified and analyzed the specific issues faced by barangay tanods in their work environment, including problems related to communication and other factors that hindered their ability to effectively perform their duties during the pandemic. By achieving these objectives, the study contributed to a better understanding of the challenges faced by barangay tanods during the COVID-19 pandemic. The findings could inform the development of targeted interventions, policies, and support systems to enhance the well-being and effectiveness of these essential frontline workers in the future.

STATEMENT OF THE PROBLEM

What are the problems encountered in performing their duties and responsibilities by the Barangay tanods of Brgy. Santo Rosario, Santa Rosa Nueva Ecija?

METHODOLOGY

The methodology for this study utilized a descriptive research design to address the research questions outlined above. A quantitative descriptive approach was employed, as it was best suited for providing a straightforward description focusing on the details of the event or experience, including the what, where, when, and why. To gather data for this study, a survey questionnaire was administered to the participants. The questionnaire was was adopted on the study of Ayeo-eo,S.,Paet,E.,Repoyo,L., 2022Problems encountered by the barangay front liners on the onset of the covid-19 pandemic. It included a range of questions that explored their experiences, challenges, and interactions in the workplace.

The study involved 30 barangay tanods from Barangay Sto. Rosario, Sta. Rosa, Nueva Ecija, who served during the pandemic. These frontline responders played a crucial role in enforcing health protocols, ensuring compliance with quarantine measures, and assisting residents. Their experiences provide valuable insights into public safety and pandemic management at the grassroots level, highlighting adaptive strategies and community dynamics. Understanding their perspectives contributes to discussions on community resilience and preparedness for future crises.

Table 1. Likert Scale

Numerical Rating	Statistical Limit	Descriptive Value
4	3.26 - 4.00	Very Serious (VS)
3	2.51 - 3.25	Serious (S)
2	1.76 - 2.50	Moderately Serious (MS)
1	1.00 - 1.75	Not Serious (NS)

Table 1 represents the likert scale is used to gauge the seriousness of the problems encountered by the respondents regarding specific indicators.

RESULT AND DISCUSSION

Table 2 The Problems Encountered by Barangay Tanods

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Ill tempered,Stern (Masusungit)	2.60	Serious	7
2. Stubborn (Madalas Pasaway)	2.75	Serious	6
3.Not frequent wearing of facemask (hindi madalas mag facemask)	3.60	Very Serious	2
4.Not observing social distancing when gathered (ang di pagdistancia sa maraming tao)	3.65	Very Serious	1
5.Not following rules (mga di sumusunod sa alituntunin)	3.50	Very Serious	3
6. They hate you because of the prohibitions (may nakakagalit dahil sa mga ipinagbabawal)	3.35	Very Serious	4
7. Sulking when corrected (nagtatampo sila pag nasisita)	2.95	Serious	5
8.Harassed and bad-mouthed (inaaway at minumura)	2.45	Moderately Serious	8
TOTAL	**3.10**	**Serious**	

These indicators evaluate the problems encountered by barangay tanods. Here is the interpretation for each indicator based on their weighted mean and the corresponding verbal interpretation:

Harassed and bad-mouthed (inaaway at minumura): With a weighted mean of 2.45, this indicator is classified as "Moderately Serious." It suggests that individuals who engage in harassment and verbal abuse are considered moderately serious. It ranks 8th among the indicators.

Ill tempered,Stern (Masusungit): This indicator has a weighted mean of 2.60, which falls under the category of "Serious." It suggests that individuals exhibiting ill-tempered or stern behavior are considered serious in terms of their impact or severity. It ranks 7th among the indicators.

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Stubborn (Madalas Pasaway): With a weighted mean of 2.75, this indicator is also classified as "Serious." It implies that individuals who are frequently stubborn are regarded seriously. It ranks 6th among the indicators.

Sulking when corrected (nagtatampo sila pag nasisita): This indicator has a weighted mean of 2.95, falling under the category of "Serious." It implies that individuals who sulk or get upset when corrected are seen as a serious matter. It ranks 5th among the indicators.

They hate you because of the prohibitions (may nakakagalit dahil sa mga ipinagbabawal): With a weighted mean of 3.35, this indicator is also classified as "Very Serious." It suggests that individuals who are disliked or provoke anger due to prohibitions are considered a very serious issue. It ranks 4th among the indicators.

Not following rules (mga di sumusunod sa alituntunin): This indicator has a weighted mean of 3.50, falling under the category of "Very Serious." It indicates that individuals who fail to follow rules are regarded as a very serious concern. It ranks 3rd among the indicators.

Not frequent wearing of facemask (hindi madalas mag facemask): This indicator has a weighted mean of 3.60, falling under the category of "Very Serious." It indicates that individuals who do not often wear facemasks are considered to pose a very serious risk. It ranks 2nd among the indicators.

Not observing social distancing when gathered (ang di pagdistancia sa maraming tao): With a weighted mean of 3.65, this indicator is also classified as "Very Serious." It suggests that not adhering to social distancing guidelines when in a group is seen as a very serious violation. It ranks 1st among the indicators.

The total weighted mean for all indicators is 3.10, which falls under the category of "Serious." This indicates an overall serious level of concern for the evaluated behaviors or traits within the given context.

These factors suggest that face masks and social distances different fractions of asymptomatic individuals, as well as a realistic hypothesis of face masks protection during inhaling and exhaling, our simulations demonstrate that a synergistic use of face masks and social distancing is the most effective intervention to curb the infection spread.To control the pandemic, our models suggest that high adherence to social distance is necessary to curb the spread of the disease, and that wearing face masks provides optimal protection even if only a small portion of the population comply with social distance. In the case of COVID-19, community collaborations, healthcare systems, local governments, and the private sector will be critical in slowing the spread, mitigating the effects, and facilitating local recovery. Local governments are at the forefront of the fight: their leadership is not only distinguished by the language and speed with which they respond to this disaster, but it also has a direct impact on the health and well-being of their citizens. (B,M,D, Gupit, Cuevas, 2022)

CONCLUSION

1. In conclusion, the evaluation of indicators pertaining to the problems encountered by barangay tanods in Barangay Santo Rosario, Santa Rosa, Nueva Ecija, paints a concerning picture. The findings reveal a range of behaviors and issues, from ill-tempered attitudes to non-compliance with essential health protocols like wearing face masks and observing social distancing. These factors collectively underscore a serious level of concern regarding the ability of barangay tanods to effectively carry out their duties in maintaining peace and order within the community.

Recommendation

Based on the identified problems of barangay tanods not observing social distancing and not wearing facemasks, the following recommendations can be made to address these concerns:

1. Implement targeted communication strategies to educate barangay tanods about the importance of social distancing and wearing facemasks. Utilize training sessions, informational campaigns, and materials to emphasize these practices' significance in disease prevention.
2. Provide comprehensive training programs to equip barangay tanods with the knowledge and skills needed to adhere to public health protocols. Ensure they understand the rationale behind these practices and the consequences of non-compliance.
3. Strengthen enforcement of social distancing and facemask mandates, assigning individuals or teams to monitor compliance. Implement penalties for violations to deter non-compliance effectively.
4. Equip barangay tanods with necessary resources such as facemasks and sanitizers to enforce protocols effectively. Install signs and markings in public areas to remind individuals to maintain social distancing.
5. Encourage community members to actively participate in adhering to protocols and support barangay tanods in enforcement efforts. Foster a sense of collective responsibility for public health.
6. Regularly assess the effectiveness of implemented strategies, gathering feedback from barangay tanods and community members. Use this feedback to refine approaches and adjust measures as needed for ongoing improvement.
7. By implementing these recommendations, barangay tanods can work towards addressing the problems of not observing social distancing and not wearing facemasks. Through effective communication, enforcement of rules, and community collaboration, the aim is to promote compliance and create a safer and healthier environment within the barangay.

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A COMPREHENSIVE ANALYSIS OF KINESIO TAPING'S EFFICIENCY IN VARIOUS MUSCULOSKELETAL DISORDERS

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ABSTRACT

Background: *Kinesio tape is a stretchable medical tape used to treat a different of conditions, including musculoskeletal problems. To summarise all relevant data regarding the therapeutic efficacy of Kinesio taping for the treatment of improving pain and functional skills in various musculoskeletal conditions, a systematic review and network meta-analysis approach were employed.*

Aim: *To ascertain whether Kinesio taping is a beneficial tool to decrease pain and functional abilities in different musculoskeletal conditions.*

Method: *A comprehensive research on PubMed, Medline, Google Scholar, and Science Direct database using keywords kinnesiotaping, musculoskeletal conditions, disorders, injuries, and physiotherapy evidence-based database was utilized for assessment.*

Results: *This review's findings demonstrate that Kinesio taping will improve in the pain and functional abilities in the Musculoskeletal conditions.*

Conclusion: *This review's findings provide enough proof that Kinesio taping will improve in the pain and functional abilities in the different musculoskeletal conditions.*

KEYWORDS: *Kinesio taping, taping techniques, musculoskeletal conditions, sham taping, scope of practice, evidence-based practice.*

INTRODUCTION

Dr. Kenzo Kase introduced Kinesio taping (KT), the medical taping method, to Japan around 25 years ago. This method supports the connective tissue of fascia, the muscles, and joints in place of sports tape. But unlike sports tape, KT permits ROM and is said to hasten the recovery process following an injury by reducing inflammation as well as pain.[1]

The media came to accept this different method of taping at the 1988 Seoul Olympics.[1] Since then, it has been more well-liked as a therapeutic choice, especially for athletes. Physicians, physio therapists, & athletic trainers have all tried this technique to hasten the recovery process following musculoskeletal injuries.[2]

KT tape has special qualities since it was made to resemble skin in terms of texture and weight and because it can flex between 30% and 40% of its resting length.[1,3] This tape has an adhesive made completely of heat-activated acrylic and contains no latex.3. Patients don't need to reapply the tape for up to five days while using the shower or swimming pool since the 100% cotton fibres allow for rapid drying and evaporation. This prolongs the advantages of the therapy.[3]

Usually, the tape is wrapped around and over the muscles to avoid over-contraction. It is believed that Kinesio tape reduces inflammation as well as pain by enhancing circulation & lymphatic circulation with no limiting the range of motion in an injured region.3. By using this method, stress and discomfort are released from the neurosensory receptors that may cause pain. Additionally, by microscopically raising the skin, the tape encourages lymphatic drainage, which lowers inflammation in the afflicted areas.[3]

One of the following mechanisms of action for Kinesio Taping may be at play: (1) increasing local circulation; (2) reducing exudative substances to lessen local edema; (3) promoting blood circulation via muscle facilitation; (4) delivering a positional stimulation on the skin, muscle, or fascial structures; (5) offering the appropriate afferent input to the CNS; or (6) restricting the ROM of the affected tissues.[4]

It is recommended to use kinesiology taping to treat chronic pain related to musculoskeletal disorders, such as lower back, shoulder, and knee discomfort, which are very usual in the adult general population. A tiny percentage of people may get mild skin irritation from kinesiology taping, but the likelihood and severity of hazards are low. When given the right instructions or training, patients or carers can do kinesiology taping on their

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own for a cheap cost and without a prescription. Because of this, kinesiology taping is in line with best practices and may be used as a therapeutic alternative for musculoskeletal discomfort. Kinesiology taping is an approach which physical therapists commonly employ as an element of a comprehensive therapy programme for patients. Kinesiology tape helps best when combined with other therapies like manual therapy, according to the American Physical Therapy Association.[5]

METHODOLOGY

Study Design

Search Method and Eligibility Criteria

A thorough an examination of the literature was conducted using PubMed, Google Scholar, Medline, and Pedro as the search engines. According to research that is currently accessible, Kinesio taping can help with pain and functional abilities in orthopaedic diseases. Key words: scope of practice, evidence-based practice, musculoskeletal problems, Kinesio taping, taping techniques, and sham taping. The study only includes literature that discuss the use of KT for musculoskeletal problems; articles that have never been published in English were removed.

Sample Size

The terms Kinesio taping, taping techniques, musculoskeletal diseases, sham taping, scope of practice, and evidence-based practice were used to search a sample size of 32 articles. Twelve of these publications were ultimately selected for examination after papers meeting the inclusion and exclusion criteria were screened.

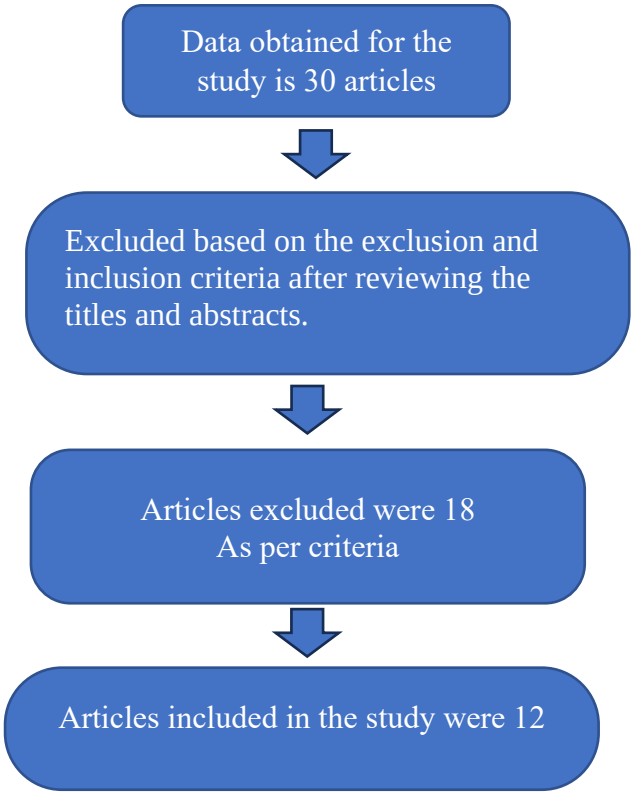
Inclusion Criteria

Articles that describe about Kinesio tape.
Articles that were recently published.
Articles with full text.
Articles that are written in English.

Exclusion Criteria

Articles before 2013.
Articles discussed other than Kinesio taping were excluded.
Articles discussed other than musculoskeletal conditions were excluded.
Articles not containing the relevant discussion were excluded.

Flow chart



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LITERATURE REVIEW

s. no	Author \ year	Title	Study method	Study design	Conclusion
1	Anna Lina Rahlf 2019	Kinesio taping improves perception of pain and function of patients with knee osteoarthritis	A randomised sham-controlled trial yielded 141 clinically and radiographically confirmed cases of knee OA. You can use Kinesio tape for three days, fake tape for three days, or no tape at all. The patients' self-reported discomfort, pain, and function were assessed using the WOMAC. The peak voluntary isometric contraction force for the quads femoris, the 10-meter walk test, the Balance Error Grading System, and the knee active ROM were among the other assessments.	Randomized controlled trail	Reported clinical results of pain, stiffness in the joints, and function improved shortly after using Kinesio tape for three days in a row. This highlights the potential for Kinesio taping to be an effective conservative treatment for knee OA symptoms.
2	Majid Farhadi an 2017	Effect of Kinesio taping on pain, range of motion, hand strength, and functional abilities in patients with hand osteoarthritis	A total of 38 individuals with a diagnosis of HOA were chosen for this randomized clinical study inquiry and placed in one of two groups: exercise or Kinesio tape with exercise. Nineteen people in each group participated in the eight-week intervention. The measures for pain quality, upper- extremity functional disabilities, range of motion, and hand grip strength were obtained prior to and following the treatment utilising the DASH questionnaire, goniometer, dynamometer, visual analogue scale, and 2-month follow-up.	Randomized controlled trail	According to the study's findings, Kinesio taping and hand exercises may be able to benefit HOA patients with their discomfort, ROM, hand strength, and functions and capacities in their upper extremities. Additionally, this problem can be treated by combining these two methods at the same time. As per the study's findings, Kinesio taping and hand exercises may be able to benefit HOA patients with their discomfort, ROM, hand strength, and functions and capacities in their upper extremities. Moreover, this illness can be treated by combining these two methods simultaneously.
3	Elaheh Aghapo ur 2017	Effects of Kinesio taping on knee function and pain in athletes with patellofemor al pain syndrome	Fifteen individuals with unilateral PFPS (10 females and 5 males) underwent taped and untaped examinations and comparisons. circumstances. Seventy-five percent of KT's maximum stretch tension was used to tape the vastus medialis oblique of the damaged leg from origin to insertion. Important Outcome Measures The maximal eccentric and concentric maximum torques of the quadriceps were determined at 60 & 180°/s angular velocities using an isokinetic dynamometer. A VAS was used to gauge pain, while step-down and bilateral squats tests were used to assess functional performance.	Comparative study	When KT is applied over VMO, athletes with PFPS can have less pain, better functional performance overall, and increased quadriceps muscular strength. To assess the long-term impacts of this therapeutic technique, additional research is necessary.
4	Ebru Topde mir 2021	The effectiveness of Kinesio taping on playing related pain,	Over the course of a week, a total of 117 people, comprising 82 women who had been professional violinists for at least two years, were randomised to receive either no application (control group), a sham tape application	A randomized controlled clinical trial	The discomfort associated with playing was somewhat improved in violinists who used KT, and after a week of use, left-hand grip strength and the degree of post-performance pain continued. It is also important

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		function and muscle strength in violin players	(placebo group), or a therapeutic tape therapy (KT group). Measures of the result: The primary outcome was the DASH in One Week. The secondary outcomes were the VAS, grip and pinch strength, and the Purdue Pegboard Test. The outcome measures were carried out three times: at baseline, immediately following the intervention, and one week later (follow-up). Participants were asked to perform "Violin Concerto (Rieding, Oskar)"; grip and pinch strength, as well as pre & post-performance discomfort, were measured.		to consider the possible post-performance impacts of the tape on grip strength and discomfort intensity, as KT may be utilised during the performance. T-application. It is also important to consider the possible post-performance impacts of the tape on grip strength and discomfort intensity, as KT may be utilised during the performance.
5	Edwin Choon Wyn Lim 2014	Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks	There were 606 articles found in the first electronic database search; 29 of them were chosen for closer examination, and 17 of the qualifying papers were kept for this study. demonstrates how papers are reviewed and provides an explanation for any articles that are excluded. A more thorough review of these papers revealed one additional paper26, which was also added.	A systematic review with meta-analysis	This review demonstrates that KT is a better pain management strategy than minimum intervention. The evidence that is currently available refutes the assertion that, in terms of minimising disability, KT is more effective than minimal or alternative forms of intervention. All things considered; our data suggest that KT may be useful in lowering pain when combined with traditional therapy.
6	Saime Ay 2017	The effectiveness of Kinesio taping on pain and disability in cervical myofascial pain syndrome	A double-blind and randomised, placebo-controlled approach was employed in this investigation. Eleven MPS participants were divided into two distinct groups at random. The first group had Kinesio Taping, whereas the second group had five days of sham taping spaced three days apart throughout a fifteen-day period. Also, each patient received a regimen of neck exercises. Neck flexibility, ROM, discomfort, pressured pain limit, and impairment were used to evaluate the patients. An algometer was used to assess the pressure pain threshold, goniometry was used to test the active neck ROM, and the VAS was used to quantify the pain. The handicap was assessed using the Neck Pain Disability Index Disability. Measurements were obtained earlier and right after the procedure.	Experimental study	This study shows that Kinesio Taping does not affect neck range of motion; instead, it gradually increases discomfort as well as painful tolerance. Because of this, Kinesio taping may be beneficial for those with myofascial pain syndrome patients as a substitute for traditional treatment.
7	Cho H-y 2015	Kinesio taping improves pain, range of motion, and proprioception in older patients with	Two groups, one for KT and the other for placebo-KT, were randomly assigned to forty-six elderly participants suffering from osteoarthritis. Participants had their quads taped with KT application (tension) or without (placebo-KT application) in the two groups. An algometer was used to quantify the PPTs in the quads and tibialis anterior	Experimental study	This study shown that applying KT with the proper tension to the quadriceps effectively improves AROM and proprioception in individuals with osteoarthritis and lowers pain of all sorts. For this reason, KT may be a useful intervention to aid clinic patients with osteoarthritis with their proprioception, AROM, and pain.

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		knee osteoarthritis	muscles both before and after the intervention. A VAS was used to record the level of discomfort both at rest and during walking. AROM without pain and proprioception were also assessed.		
8	Scott R. Freedman 2014	Short term effects of patellar Kinesio taping on pain and functions in patients with patellofemoral pain syndrome	This study involved 49 participants aged 12-24 who underwent sham and experimental patellar Kinesio taping after completing four functional tasks and a single-leg triple jump test. The treatment outcome was analysed using paired t tests and a 2-way, 2-by-2 analysis of variance to investigate the relationship between tape condition and side for STJT scores.	Experimental study	Comparing patellar Kinesio taping to a sham application, patients with PFPS experienced an instant and substantial improvement in discomfort and single-leg hop performance. But STJT score improvement fell short of the minimum measurable change value, indicating that KT's therapeutic efficacy in improving the single-leg hop the current investigation does not establish function.
9	Amazan Oğuz 2021	Effects of exercise training alone and in combination on with Kinesio taping on pain, functional ability and biomarkers related to the cartilage metabolism in knee osteoarthritis	Twenty-two female patients with osteoarthritis (OA) in total were randomly assigned to one of two groups: exercise training alone or in conjunction with Kinesio taping. The ET patients had six weeks of fitness training. Patients in the ET + KT group used Kinesio tape in addition to their exercise regimen for a duration of six weeks. Before and after the interventions, each group had a twenty-minute walk. The WOMAC and VAS were used, respectively, to measure the patients' functional status and pain at rest prior to and during the intervention. Blood samples were obtained prior to, during, and right after the physical activity in order to measure the levels of COMP, the MMP-1, and the MMP-3.	Comparative study	Pain and physical function were improved by physical activity either by alone or in conjunction with KT taping; COMP, MMP-1, and MMP-3 values did not change.
10	Marc Campolo 2013	A comparison of two taping techniques Kinesio taping and McConnell and their effect on anterior knee pain during functional activities	Each participant was evaluated on two functional activities: climbing stairs under three circumstances (i.e., 1) no tape, 2) MT, and 3) KT) and executing a squat lift with a weighted box (10% of the subject's body weight plus the weight of the box, or 8.5 pounds). To quantify pain, the NPRS was employed, offering a range of 0 to 10.	Comparative study	According to the study's findings, discomfort during stair climbing activities may be effectively decreased by using both the KT and the MT.
11	Peilin Deng 2020	Effect of Kinesio taping on hemiplegic shoulder pain	We looked at English- or Chinese-language randomised controlled studies that treated hemiplegic patients' sore shoulders with Kinesio taping. Two reviewers independently analysed the publications; they also gathered the data, using the Cochrane's risk of bias tool to assess the risk of bias, and	A systematic review and meta-analysis of randomized controlled trial	According to this meta-analysis, Kinesio taping improved Upper Body Motor Functioning and Daily Activities, reduced shoulder subluxation, and improved patients' shoulder discomfort following intervention in hemiplegic patients. This benefit cannot be explained by

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			scored the level of methodology using the PEDro scale. The discomfort, upper limb movement, the degree of shoulder subluxation, and daily living activities were the results after the intervention.		a placebo effect alone. Additionally, it was linked to people with persistent stroke experiencing less discomfort.
12	Liane de Brito Macedo 2019	Kinesio taping reduces pain and improves disability in low back pain patients	Evaluations were completed by 108 women with persistent non-specific low back pain prior to, throughout the three-day period after, and ten days following the intervention. Intervention Courses Following randomization, participants were divided into four groups: the KT with tension group applied KT with tension in the same area; the Micropore group taped the muscles of the erector spinae with Micropore tape; and the control group got no treatment at all. important metrics for performance the main outcome, pain perception, was measured using a NPRS. The Roland Morris Disability questionnaire, strength (dynamometry), trunk range of motion (inclinometry), and electromyographic amplitude (electromyography) were the secondary results.	Randomised controlled trial	Pain is reduced three days after using KT, whether or not tension is present. It also helps individuals with LBP who have it administered with tension; improvement is seen after three and ten days.

DISCUSSION

Anna Lina Rahlf et al 2019 In comparison to a sham tape or no intervention, this study demonstrated that wearing a Kinesio tape for three consecutive days improves individuals with knee osteoarthritis' (OA) self-reported sense of pain, stiffness in their joints, and physical function. Although the exact mechanism underlying these benefits is yet unknown, it is thought that the flexibility of the tape and its application under strain cause the skin to mobilise during movements and enhance blood and lymph circulation, all of which have a direct impact on the feeling of pain. The study found that the Kinesio tape group experienced a decreased impression of stiffness, which might be attributed to the stimulation of cutaneous mechanoreceptors. This could potentially alter the relationship between cutaneous mechanoreceptors and proprioception. It is necessary to rigorously examine the clinical significance of WOMAC alterations since they are only considered clinically significant when the difference exceeds 12% of the baseline measurement or 6% of the highest value. For patients with knee OA, functional exercises combined with applied Kinesio tape are an effective therapy, especially during the transition phase, since it improves pain perception right away.[6] This investigation concluded that Kinesio Taping over the lumbar spine for one week dramatically reduced pain and impairment in a randomised study of sixty persons with non-specific persistent low back pain. After one week, the experimental group improved by 4 points on the Oswestry Disability Index and 1.2 points on the Roland-Morris score; however, these improvements did not hold true after four weeks. Following treatment, the experimental group also reported a higher immediate reduction in pain compared to the control group; this difference persisted for four weeks. Furthermore, after one week and four weeks, the trunk muscle endurance showed a significant increase. There was no discernible impact on other outcomes. The study found that in patients with persistent, non-specific low back pain, Kinesio Taping decreased pain and impairment.[18] Mostafavifar M et al 2012 Kinesio Taping (KT) is a therapeutic procedure that decreases pain, inflammation, and recovery times by enhancing blood and lymphatic circulation without limiting range of motion. The use of KT after musculoskeletal injuries is examined in this systematic study, with an emphasis on pain, function, and return to play. According to theory, KT reduces pain by microscopically elevating the skin, enhancing blood and lymph flow, and releasing pressure on and irritating neurosensory receptors. It has been found to relieve myofascial pain and meralgia paresthetica, two types of musculoskeletal discomfort that are not related to injuries. Supporting muscles without limiting movement improves function. Research indicates that while patellofemoral pain syndrome patients are not affected, healthy individuals may benefit from KT in terms of improved muscular effort and functional performance. It's still unclear, though, if KT is helpful as an adjuvant treatment to enhance function. There is no evidence that performance or return to play shortens the recovery period after a musculoskeletal injury. Although there is no conclusive evidence to support a link between the administration of KT and a faster return to play, the patient or athlete may believe that using KT enables them to do so. The search methodology, the restriction to English-language publications, and the lack of a precise criteria for musculoskeletal injury are some of the systematic review's limitations. The perceived benefits of KT are a major influence

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in its use, and its advantages should be evaluated from a variety of angles.[1]

CONCLUSION

The papers that were previously discussed demonstrated that Kinesio taping significantly improves pain and functional capacities in a variety of musculoskeletal disorders. When treating the majority of musculoskeletal disorders, the therapist is advised to do Kinesio taping alone or combine exercises with the Kinesio taping techniques.

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SOCRATIC METHOD OF TUTORING: AN INNOVATION FOR BETTER STUDENTS' NUMERACY SKILLS

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ABSTRACT

This action research sought to determine the students' numeracy skills before and after using the Socratic Method of Tutoring (SMT). This exploration also measured the effect of SMT on the students' mathematical operations of numbers. Additionally, the study investigated the challenges encountered by the peer tutors in handling their peers' numeracy skills and their coping mechanisms in addressing the problems they experienced. The study used sequential explanatory research. The research participants consisted of thirty (30) students from the ABM strand and eighteen (18) peer tutors from the STEM strand of Zamboanga del Sur National High School – Senior High during the school year 2022-2023. The students obtained below-normal scores before the utilization of SMT, but the performance of the students in numeracy tests significantly improved after the intervention. The drastic shift in students' numeracy skills proved the effectiveness of the Socratic Method of Tutoring to the students. The Peer tutors experienced four (4) major problems or challenges: (1) the peer's lack of mathematical fundamentals, (2) the distracted peer's focus, (3) insufficient knowledge as tutors, and (4) management of time constraints as tutors. Further, the peer tutors articulated their four (4) coping mechanisms: (1) reviewing and reteaching the competencies to their Peers, (2) being patient towards their Peers, (3) self-preparation of the topic as tutors, and (4) proper time management as tutors. The findings of this research support the conduct of a learning program to capacitate the students in their numeracy skills and enhance the pedagogical skills of the Peer Tutors of the school.

KEYWORDS: *Socratic Method of Tutoring; Numeracy Skills; Peer Tutors*

1. INTRODUCTION

1.1 Context and Rationale

The careful assessment of K–12 students plays a crucial role in ensuring compliance with the standards and requirements set by the Department of Education (DepEd) for K–12 graduates. Education Secretary Leonor Briones, in conjunction with DepEd Order No. 18 series 2017, emphasized the importance of fostering reading skills in every child through the implementation of the Early Language, Literacy, and Numeracy Program (Department of Education 2017, 1). While numerous studies have been conducted on literacy programs, only a limited number have focused on numeracy. Numeracy encompasses the knowledge, skills, attitudes, and behaviors that students need to effectively apply mathematics in various contexts. It involves understanding the role of mathematics in the world and possessing the mindset and ability to utilize mathematical knowledge and skills proficiently (Numeracy for All Learners, 2022).

The Socratic Method of Tutoring (SMT) was anchored on the philosophies of teaching with the Greek philosopher Socrates. By probing the opinions of the pupils with questions, any contradictions will be made clear. Additionally, by employing this method of inquiry, it pushed people to challenge what they said and to look beyond the obvious (Scholle, 2020, 1). The Socratic tutoring method can come across as adversarial. Students' views frequently contested by tutors to make them defend their decisions and demonstrate how a rule that produces a just outcome in one instance could have an unfavorable effect on another. When employing this method, tutors can be unpredictable by calling on students randomly or by giving them advance notice that they would be on call. Tutors often differ in demeanor and whether they will allow a student to opt out of providing an answer (Coughlin and Shadel, 2022, 1).

The inquiry method is another name for the Socratic method of tutoring. The method based on a student's current level of comprehension of a subject. Questions move from what the student already knows to new information and concepts the tutor leads the student into with their directed inquiry (Connor, 2003,1). A key component of the Socratic Method of teaching is the dialogue between the teacher and the students, who are then asked questions and given the opportunity to respond. This approach based on the principle that questions should be asked repeatedly until a student discovers the proper response to their academic query. It aims to support students in developing critical thinking abilities and meaningful engagement with their educational material (Saint Leo University, 2022, 1).

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Over time, a significant majority of students (63%) had trouble answering problems that called for knowledge of fractions, indices, logarithms, or units of measurement (Tariq et al. 2010, 47). It is alarming to know that some ZSNHS-SHS graduates have low levels of numeracy skills, considering the years they spent attending school.

1.2 Innovation, Intervention, and Strategy

The researcher designed a learning program to capacitate identified students who will act as tutors and determine those with low mastery levels in numeracy that will benefit the program. This learning program employs the Socratic Method of Tutoring to scaffold students' learning in numbers. In the aspiration to keep up the directive of the Department of Education to produce quality senior high school graduates, ZSNHS-SHS sought to implement tutorials among those students with the most minor numeracy skills at the school level. This strategy will reasonably convey the problems/challenges encountered by the tutors towards students' mathematical operation of numbers after implementing the innovation that affects the students' numeracy skills.

As an intervention, this learning program aims to: (1) sharpen the skills of participants in numeracy; (2) give technical assistance to students' difficulties in basic mathematical operations through tutors, and (3) convey the problems/challenges experienced by the tutors towards students' mathematical operations of numbers.

The usual tutoring method is a tutor-centered approach wherein most efforts of teaching-learning are within the tutors. At the same time, Socratic Method is a student-centered style of tutoring that utilizes the inquiry-based and discovery method of teaching-learning. Student tutors allowed their peers to express their prior knowledge of specific competencies and divulged their difficulties in solving mathematical operations of numbers. Repeated questions and exercises were given to their peers until they discovered the process of solving the mathematical operations of numbers.

Student tutors were purposely chosen from the STEM strand and assumed to have prior knowledge of the competencies. They have undergone training on how to employ the Socratic method of tutoring by the teacher knowledgeable with the approach. The tutorial program of their peers has started after the training of student tutors. The tutorial program lasted for four (4) weeks, every Friday, wherein students had ample time to attend the tutorial program. The tutorial program served as remediation for students who have difficulties executing mathematical operations of numbers.

The numeracy skills of individuals cover broad topics and competencies in Mathematics. In this innovation, the tutorial program focused on the following: the basic mathematical operations of fractions, indices, logarithms, exponents, and units of measurement. These competencies were the most common topics that would come out during entrance tests and other professional examinations.

This intervention's main goal was to support the curriculum's learning objectives, notably in creating qualified and prepared K–12 Basic Education Program graduates. Senior High Schools are prepared for life after graduation, according to the Department of Education. The K-12 program framed to produce long-lasting learners who are competitive worldwide and equipped to pursue their chosen journey (Ciriaco, 2018). The researcher desired to implement a school-wide program that will capacitate, develop, and enhance the learners' numeracy skills.

1.3 Action Research Questions

Determining the impacts of the Socratic Method of Tutoring in numeracy skills on students at Zamboanga del Sur National High School - Senior High School (ZSNHS-SHS) during the school year 2022–2023 was the primary goal of this action research. This study aimed to use the Socratic Method of Tutoring to improve the student's numeracy abilities.

Specifically, this action research sought to answer the following queries:

1. What is the level of students' numeracy skills before and after applying the Socratic Method of Tutoring (SMT)?
2. How do students' numeracy skills levels compare when applied with SMT and not applied with SMT?
3. What are the problems/challenges student tutors encounter in handling peers' mathematical operations of numbers?
4. How do student tutors cope with the challenges encountered towards peers' mathematical operations of numbers?
5. Based on the findings, what learning program can be designed to capacitate students' numeracy skills?

2. MATERIAL AND METHODS / EXPERIMENTAL DETAILS / METHODOLOGY

2.1 Research Design

This study utilized a mixed methods sequential explanatory design incorporating sequentially quantitative and qualitative data collection and analysis in a progressive approach (Creswell & Piano Clark 2017, 77). This design is appropriate for this study which started with a quantitative description and comparison of students' numeracy skills before and after applying the Socratic Method of Tutoring (SMT). This exploration was followed by a subsequent qualitative phase on the problems and coping strategies to the challenges encountered by the student tutors in handling peers' mathematical operations of numbers.

2.2 Participants and Other Sources of Data and Information

The trained STEM strand students who served as tutors and the chosen students or tutees through the universal sampling of Accountancy, Business, and Management Strand (ABM) of ZSNHS-SHS were the participants in this action research. These

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pupils, or tutees, responded to the verified pre-test and post-test created by the researcher.

Students who had an equivalent achievement level of utmost average down to absolutely no mastery during the pre-test were delegated into the learning program. In addition, non-probability sampling was used in choosing samples for the qualitative investigation in this action research. Data saturation was also utilized to determine the number of tutors who will supply information about the problems/challenges encountered in handling students' difficulties with the mathematical operation of numbers.

2.3 Research Instruments

The first research instrument used in the study is the researcher-made Test on Students' Numeracy Skills. This instrument underwent content validation by the expert validators and an internal consistency reliability test using Cronbach's alpha. The 40-item numeracy skills test captured ten (10) competencies/objectives as reflected in the Table of Specification.

The second instrument used in the conduct of research is the interview guide which explores the problems and coping strategies for the challenges encountered by the student tutors in handling peers' mathematical operations of numbers. This interview guide was validated by content experts to ensure the validity of the data collection.

2.4 Data Gathering Procedure

In order to uphold the integrity of the research procedure, the researcher received permission from the Office of the Principal to carry out the study at the school level. Before deciding to participate as research subjects, the chosen students were asked for their informed consent.

As part of the initial stages of the data collection procedure, participants were informed of the privacy of any information obtained. The data collected is only utilized for the study. The study's relevance and significance, the explanation of risks and benefits, the required degree of commitment, and confidentiality protection were all brought up in the researcher's reminders to the research participants.

In this action research, both quantitative and qualitative data were progressively examined using the Sequential Explanation Design. Participants in the study responded to a validated researcher-made post-test to reassess the degree of the students' numeracy skills after using the Socratic Method of Tutoring and finishing the learning program. Results from the pre-test and post-tests were compared to see if the innovation had made any difference.

The interview method through a questionnaire was used to solicit qualitative data on the problems/challenges identified by the tutors regarding students' difficulties with the mathematical operation of numbers and their coping mechanisms to address those challenges.

2.5 Data Analysis

Descriptive and inferential statistics were employed to analyze this study's quantitative data. Specifically, mean, standard deviation and Mean Percentage Score (MPS) were utilized to summarize the level of students' numeracy skills before and after using SMT. From DepEd Memorandum No. 160, s. 2012, the degree of learners' numeracy abilities, the scaling of their score, and its descriptive equivalent are displayed here and have been modified to fit.

Table 1. Mastery/Achievement Level

Pre-test / Post-test Score	Descriptive Equivalent
96 – 100%	Mastered
86 – 95%	Closely Approximating Mastery
66 – 85%	Moving Towards Mastery
35 – 65%	Average
15 – 34%	Low
5 – 14%	Very Low
0 – 4%	Absolutely No Mastery

Inferential statistics such as the paired-sample t-test was employed to determine the significant difference in the students' numeracy skills before and after using SMT. Moreover, thematic analysis was also utilized in inducing the themes of the qualitative data on students' difficulties with the mathematical operation of numbers and their coping mechanisms to address those challenges.

3. RESULTS AND DISCUSSION

Level of Students' Numeracy Skills. Students took two (2) sets of numeracy tests. The first was before the application of the Socratic Method of Tutoring (SMT), and the next test was after the application of SMT.

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Table 2. Level of Students' Numeracy Skills Before SMT

Test	Mean Score	SD	MPS	Descriptive Equivalent
Numeracy Test	17.37	4.13	43.42%	Average

Total Items: 40
Scale: 96 – 100% = Mastered; 86 – 95% = Closely Approximating Mastery; 66 – 85% = Moving Towards Mastery; 35 – 65% = Average; 15 – 34% = Low; 5 – 14% = Very Low; 0 – 4% = Absolutely No Mastery

Table 2 shows that the level of students' numeracy skills before Socratic Method of Tutoring disclosed as Average *(Mean = 17.37; SD = 4.13; MPS = 43.42%)*. The mean indicated that the students would typically get below 50% of the total items in every numeracy test conducted. The standard deviation proved that most students who took the test did not score more than 54%. Considering the years spent at school, the students obtained below-standard scores on the numeracy test. Moreover, the students demonstrated sub-par performance in mathematical operations of numbers. The school had some students with a low level of numeracy skills.

Among the ten (10) competencies considered in the numeracy test which was reflected in the Table of Specifications (TOS) (*See Appendix B*) and Test Item Mastery Level (TIML_Pretest) (*See Appendix C*), only Competency no. 7. Solve problems involving sequences *(TIML = 73%; Nearing Mastery)* posted excellent level of numeracy skills. These results indicated the need to capacitate and enhance the student's skills in the operations of numbers. Numeracy appears to be a current area of relative difficulty, and learning increasingly complicated mathematical concepts seems to progress slowly. However, some teaching strategies that try to utilize comparative advantages in communicating number concepts seem to be useful in practice. To assess instructional strategies and identify the problems pupils confront, more research is needed (Buckley, Sue. 2007, 11–14).

Table 3 confirms the effectiveness of the Socratic Method of Tutoring as the interpretation change to Moving Towards Mastery *(Mean = 32.87; SD = 4.93; MPS = 82.17%)*. On average, the students got 82% of the correct answers to the total items in the numeracy test. The standard deviation substantiated that more students could score up to 95% of the total items. The student's performance in numeracy tests significantly improved after SMT. The results inferred that the students could carry out good results with the guidance of their peers and their teachers. A notable increase in MPS is conspicuous after SMT.

Table 3. Level of Students' Numeracy Skills After SMT

Test	Mean Score	SD	MPS	Descriptive Equivalent
Numeracy Test	32.87	4.93	82.17%	Moving Towards Mastery

Total Items: 40
Scale: 96 – 100% = Mastered; 86 – 95% = Closely Approximating Mastery; 66 – 85% = Moving Towards Mastery; 35 – 65% = Average; 15 – 34% = Low; 5 – 14% = Very Low; 0 – 4% = Absolutely No Mastery

Out of ten (10) competencies included in the post numeracy test, which was reflected in the Table of Specifications (TOS) (*See Appendix B*) and Test Item Mastery Level (TIML_Post Test) (*See Appendix D*), only Competency no. 6. Solve problems involving factors of polynomials *(TIML = 50%; Not Mastered)* reported low levels of numeracy skills. This result convincingly shows the benefits of the Socratic Method of Tutoring (SMT) to the students. Positive evaluations praised the tutorials' inclusive communication style and clarity. Although research cannot verify that attending tutorials was the single factor in improving performance, it does indicate the benefit of early interventions to promote numeracy skills (Choudhary and Malthus 2017, 1-22).

Test of difference of students' numeracy skills before and after the Socratic Method of Tutoring (SMT). In this action research, the researcher used a paired-sample t-test to ascertain whether there was a significant difference between the students' numeracy abilities before and after SMT. The mean results of the pupils' numeracy examinations are shown in Table 4. (T-value = -19.09; p-value =.001). It showed that there is a substantial difference in the students' numeracy abilities before and after SMT. The fact that the students' performances significantly improved suggested that the tutorial session was effective in boosting their numeracy.

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Table 4. Test of difference before and after SMT

Variables	t-value	df	p-value	Interpretation
Before and After SMT	-19.09	29	.001	With Significant Difference

The outcome revealed that using SMT significantly improved pupils' numeracy abilities. Prior to SMT, the students' numeracy abilities were not very strong. However, with the aid of peer tutors after SMT, the students increased their knowledge and ability levels. Until students use the various parts of numeracy in real-world situations, they will not form the mental habits of a numerate citizen. Like literacy, numeracy is a skill that every person should be able to use (Steen 1999, 8-13).

One of the key benefits of the Socratic Method of Tutoring (SMT) is that it promotes active learning and engagement among students. By encouraging students to ask questions and participate in the learning process, they become more invested in their education and take ownership of their learning. This method leads to more excellent retention of information, as students are more likely to remember and apply concepts they have actively engaged. SMT also encourages student interaction and discussion, which is a bonus. Students learn cooperation and communication skills, which are crucial for success in both academic and professional settings when they are encouraged to collaborate to solve challenges.

SMT also encourages students to have a growth mindset, which encourages them to see barriers as opportunities for learning and development rather than things to fear. In general, the Socratic Method of Tutoring is a cutting-edge method of instruction that can greatly enhance students' numeracy abilities. By encouraging critical thinking, active learning, teamwork, and a growth mindset, this method aids students in acquiring the skills necessary to thrive in school and in their future employment. As a result, educators ought to think about incorporating it into their teaching methods.

Problems/Challenges Encountered by Student Tutors in Handling Peers' Mathematical Operations of Numbers. Selected STEM students were chosen to serve as peer tutors, assisting their peers in developing their numerical abilities and knowledge. Investigating the issues or difficulties the peer tutors faced while using the Socratic Method of tutoring is one of the goals of this study. To increase results, peer tutoring should address the students' difficulties and disappointments. According to Chow and Loke (2007, 237–244), peer tutors have better knowledge than teachers do of the learning difficulties that other peer learners encounter.

Using textual analysis of the qualitative responses, the peer tutors experienced four (4) major problems or challenges: (1) *Peer's lack of mathematical fundamentals*, (2) *Distracted Peer's focus*, (3) *Insufficient knowledge as a tutor*, and (4) *Management of time constraints as a tutor*.

Theme 1: Peer's lack of mathematical fundamentals. Several peer tutors expressed that their peers lack mathematical fundamentals such as mathematical operations of fractions, decimals, indices, and others. Moreover, this should be the foundation for better numeracy skills of the students. The research participants (RP) disclosed the following:

"*The problem that I have encountered with my tutees is they have to recall the basics such as: adding, subtracting, multiplying, and combining fractions. They also need to practice subtracting digits with decimals, as I observed with co-tutors. They had a hard time solving the operation. Nonetheless, they were able to cope with everything.*" -RP 3

"*Honestly speaking, my tutees were hard to handle. They do not know how to multiply using the traditional way. They must depend on a scientific calculator.*" -RP 8

"*One problem I encountered was their inability to recall the basics of Math, so I had to start from the very beginning before we had a smooth flow of the lessons.*" -RP 11

"*Some of them do not know how to solve fractions. They also do not know how to evaluate simple problem/s. They do not know how to find the LCD.*" -RP 16

Theme 2: Distracted Peer's focus. Catching the attention of their peers is a great challenge confronting peer tutors. Some of the students were not motivated by every topic discussed by tutors. Addressing peer's focus plays an integral part in understanding the topic better as they communicated:

"*At first, my assigned tutees lacked the presence of mind, which made it difficult to teach them even the most basic of math. It took them a while to fully comprehend the questions I prepared for them. It led to a point where I was also confused with my teachings.*" -RP 2

"*Some of the tutees get distracted by their phone, and they go to their social media while I teach them.*" -RP 9

"*I was having difficulty in teaching them since they tend to forget the lessons. One of the tutees does not pay attention. He gets distracted by his phone and social media.*" -RP 17

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"*One of my tutees is being distracted by his phone, which leads him not to understand the topic.*" -RP 26

Theme 3: Insufficient knowledge as a tutor. Peer tutors are not professional teachers, so they have limited content knowledge to teach and little experience in pedagogical skills to adjust to their peers' difficulties. Nonetheless, they have tried their best to help improve the numeracy skills of their peers. Peer tutors emphasized that they have difficulties in some topics or competencies tackled as they revealed:

" *In my case, the difficulty in transferring knowledge was a problem or challenge. Because I know I am not good at Math and Problem-solving.*" -RP 7

"*I have encountered the feeling of wanting to explain something concisely, but somehow, I cannot. Most of the items would take me a long time explaining it to them. However, I could still make them understand my point and the topic. It is a bit of a challenge when you should fully understand the whole lesson before teaching it to them.*" -RP 12

"*Having trouble in solving those math problems and how I should answer it and explain it to them, and I felt nervous at the same time because I am not familiar with them.*" -RP 13

"*After a month of tutoring my fellow schoolmates, I encounter some problems teaching them, like understanding the problem and solving the problem. As a student from the different building, they were shy to ask questions and sometimes hardly interact.*" -RP 14

Theme 4: Management of time constraints as a tutor. The process of having tutorials add a burden in the life of the peer tutors. As teachers mandated by the Department of Education to inculcate core values to the students, peer tutors responded by being Makatao in their peers by helping them. Moreover, peer tutors gave extra time to help students who have low numeracy skills. In this study, the peer tutors observed that time constraints should be dealt. The research participants (RP) expressed the following:

"*The problems/challenges I faced were time management and balancing my priorities. Instead of having fun and playing with my classmates, I spent it teaching students. I did not know. I even got intimidated by my fellow tutors because of how smart they are.*" -RP 4

"*I was challenged by the time given during tutorial as it seems it was not enough to perform the discussion.*" -RP 6

"*I have encountered the feeling of wanting to explain something concisely, but somehow, I cannot. Most of the items would take a long time explaining it to them. But despite that, I was still able to make them understand the point and the topic.*" -RP 12

"*To be honest, it takes much of time in teaching them for most of them forget the Basic Math.*" -RP 18

One of the most challenging tasks of teaching the students through SMT is their motivation to attend the learning program. Motivation serves as fuel to continue learning without expecting something in return. The use of diagnostic testing, according to studies, is only the first step in identifying the nature and severity of any skill impairments and treating them. Any identified issues must specify precisely for the best intervention plans to be developed and put into practice (Tariq 2004, 25-29). This exploration identified peer's lack of mathematical fundamentals, distracted peer's focus, insufficient knowledge as a tutor, and management of time constraints as the great challenges of the peer tutors. There are instances when students anticipated that a tutor would act as a knowledgeable group facilitator who would support them in their learning while fostering a good environment. They want the tutor to teach the content without thinking it is their responsibility to do the task (Holmes and Kaufman 1996, 371-377). Along with this proposition, this study claims the need to address the issues and concerns. Kindler et al. (2009) advocated with emphasis that the group, not just the tutor, is responsible for solving identified problems.

Coping Mechanisms for the Challenges Encountered by Tutors towards their Peer's Mathematical Operations of Numbers. Based on the coping mechanisms for the challenges encountered by peer tutors, the research participants articulated four (4) major categories: (1) *Reviewing and reteaching the competencies to their Peers*, (2) *Being patient towards their peers*, (3) *Self-preparation of the topic as tutors*, and (4) *Proper time management as tutors*.

Theme 1: Reviewing and reteaching the competencies to their Peers. Recalling what has been discussed previously during the early years of study would probably give a smooth flow of the tutorial sessions. Some students could not remember because they did not understand the topic in the first place. Teaching the topics in another way could bridge the learning gap for the students. The research participants (RP) disclosed:

"*I could cope by knowing their limitations and competencies in solving a particular operation. The tutees are indeed a fast learner as they are determined, focused, and has the eagerness to learn, therefore, the tutees were able to recall and solve problems effectively.*" -RP 3

"*I have shown them how to multiply and taught them the way to multiply.*" -RP 8

"*I was able to cope with the challenges by teaching them the basic maths again so they can recall it.*" -RP 9

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"*I taught them the things they forgot so we would not have a hard time progressing to the following lessons we needed to tackle.*" -RP 11
"*Before jumping to the next problem, I make sure they understand by letting them solve a different math equation. I also explain to them some mathematical terms.*" -RP 15

Theme 2: Being patient towards their peers. Patience is a virtue. Peer tutors, like the teachers, also encountered different behaviors of their peers. It requires much energy to be patient, thinking you are the one giving the favor. However, some peer tutors pinpointed being patient as their coping mechanism when they shared:

" *I managed to go through the obstacles through consistency. The consistent pursuit of teaching them lessons benefited them. I worked hard to teach them in different ways, such as oral, written, and games. In the end, they learned useful math from me.*" -RP 2

"*I patiently wait for them if they use their phone, and I continue to teach them lessons.*" -RP 9

"*I was being patient while teaching them because, without patience, our relationship can be ruined. As much as possible, we do our best to teach them in a fun way so that our goal in teaching will be successful. At the end of our tutorial session, we can see that my tutees are having improvements on themselves.*" -RP 17

"*We used conversational and fun way of teaching them so that they will no't get bored during our tutorial.*" -RP 18

Theme 3: Self-preparation of the topic as tutors. Stock knowledge is beneficial as it will be a reliable wealth in the future. Peer tutors looked for ways to make the tutorial sessions better when they found out to have limited knowledge about the topic. Internet may be a good option for everyone. In this research, the participants emphasized the following:

" *I deal with this challenge by asking how to do it so that you can learn to do it and have the knowledge to do it because confidence combined with preparation equals success.*" -RP 7

"*Before I taught them everything I knew about certain topics, I studied. I was learning, reviewing previous lessons, searching up on youtube, managing my time and priorities well, and lastly taking down notes so I could later show it to them during our meeting.*" -RP 12

"*By getting to know each other, sharing ideas, and helping each other with those math problems.*" -RP 13
"I cope with the challenges by teaming up together with my tutees. We study and learn together because some questions and mathematical problems are hard to understand. That is why we always ask sir Bongga to guide us." -RP 14
"I studied by myself before starting to tutor them." -RP 15

Theme 4: Proper time management as tutors. Some peer tutors conveyed that the time allotment for the tutorial program is short, considering that they met once a week for one (1) month. Nevertheless, they properly managed their time to complete the tutorial program. The research participants (RP) expressed the following:

" *I cope with the challenge by managing my time wisely and doing my best. I did not care if I was not good at Math, but I am trying, and I know teaching those students will not only benefit them, but it will also benefit me as a person to be selfless and caring to others.*" -RP 4

"*Considering many things to do, I set my schedule and priorities. Given that we only meet once a week for one month, I always check the level of the competencies we are about to teach. So far, the discussion went some progress.*" -RP 6

"*Before I taught them everything I knew about certain topics, I studied. I was learning, reviewing previous lessons, searching up on YouTube, managing my time and priorities well.*" -RP 12

"*I teach them the easiest way or fastest way in solving math problems to cover all the lessons we need to tackle. We usually do not proceed to the next topic if they do not yet understand the present topic.*" -RP 18

The peer tutors articulated the continuous implementation of the learning program to mitigate the problems/challenges they had encountered. Campbell et al. (2010) emphasize that the usage of mathematical terminology, strategic conversation, and praise between partners increased significantly during verbal encounters, while procedural speaking decreased. This study appeared to be largely successful in raising the self-esteem of both tutors and tutees, improving the frequency and quality of interactive math discussions among students, as well as the tutors' general social and communication skills.

Designing a learning program to capacitate the Students' Numeracy Skills. Based on the study's findings, the researcher created a learning program to boost students' numeracy abilities and enhance peer tutors' classroom management abilities. Senior High School students at Zamboanga del Sur National High School are being tutored using the Socratic Method to improve their numeracy skills. This intervention program supports the directive of the Department of Education to produce prepared and high-quality graduates of the K-12 Basic Education Program. In addition, this capacity-building program will also address the problems/challenges experienced by the peer tutors in handling the student's difficulties in the mathematical operations of numbers.

4. CONCLUSION

This study, which aims to determine the effects of Socratic Method of Tutoring (SMT) on students' numeracy skills,

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concluded that the use of SMT significantly improved students' numeracy skills as revealed by the pretest and posttest comparison of results. The remarkable increase in students' performance after the tutorial session warrants the claim that SMT is efficient in improving numeracy skills. Thus, SMT provides opportunities for learners to strengthen critical thinking, questioning, and dialogue to stimulate learning. Moreover, the thematic analysis induced four (4) major problems or challenges encountered by the peer tutors in handling their peers such as (1) the peer's lack of mathematical fundamentals, (2) the distracted peer's focus, (3) insufficient knowledge as tutors, and (4) management of time constraints as tutors. Further, the peer tutors articulated their four (4) coping mechanisms in handling the challenges encountered in the implementation of SMT: (1) reviewing and reteaching the competencies to their Peers, (2) being patient towards their Peers, (3) self-preparation of the topic as tutors, and (4) proper time management as tutors.

The findings of this research also recommend further exploration of the phenomenon, such as examining case studies or anecdotal evidence of the Socratic Method being used in teaching contexts. While these may not deliver immediate quantitative evidence of effectiveness, they can offer valuable insights and practical examples. Further research on the effectiveness of the Socratic Method of Tutoring is also recommended since the context in which the tutoring is taking place, and the specific goals through which SMT is implemented may vary depending on the subject, grade level, and individual learners.

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The Peer Tutors, who granted an ample time to help their peers through tutoring despite their loaded schedules. The researcher guaranteed that this study's findings would help the school to produce quality graduates, capacitate the Peer Tutors in handling their peers, and convey the problems/challenges encountered in the implementation of the tutorial sessions.

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EMPOWERING THROUGH AWARDS AND RECOGNITION: STRENGTHENING TEACHERS' MORALE

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ABSTRACT

The study unfolded the experiences of the school heads in award and recognition approach for teachers. This study employed a phenomenological research design which aims to determine the experiences and perceptions of the eight (8) participants. The generated themes on the positive experiences of teachers were improved work and creation of school-community Collaboration. On the other hand, the themes under negative experiences were the feeling of being left out, the sense of distrust and envy, and increased stress levels. Meanwhile, in the coping mechanisms of school heads in awards and recognition approach for the teachers, three subthemes were generated which were re-defining school cultures, providing appropriate motivation, and enacting different roles. Lastly, for the insights drawn from the experiences of the school heads three subthemes were also generated which were instituting a positive culture, creating trusting relationships, and provide adaptive leadership. These implied that school heads can provide effective support to teachers when utilizing a collaborative and coordinated strategy to facilitate improvement in teacher performance. Moreover, the results generated provided comprehensive data in conducting future research with similar scope. This study may be published in reputable research journal.

KEYWORDS: *Experiences, awards, recognition, approach, Tagum City*

INTRODUCTION

In the global world is that people influence important aspects of organizational performance in a multitude of ways. People conceive and implement the organizational strategy, while the mix of people and systems mostly determines an organization's capabilities. Competencies are required to execute the strategy, and these competencies are primarily a function of the skills and knowledge of an organization's human capital. Therefore, if an organization is to treat its employees as its most important asset, it has to be knowledgeable about what it is that motivates people to reach their full potential (Lawler, 2003).

Appropriate motivation plays a vital role in determining the quality of teacher work efforts. And the incentive system of the school largely determines how strongly teachers will be: motivated to perform their work responsibilities! These simple, intuitively obvious propositions have been largely ignored in most recent efforts to enhance the effectiveness of the public schools. Recognition is a very rewarding experience for an excellent classroom teacher and his or her students. Recognition for teachers builds off of some of the well-known extrinsic and intrinsic motivational theories. It offers hope for meaningful recognition to the other teachers working to improve student-learning outcomes. It also brings pride and support from the teacher's students, administration, governing board, and the general public (Andrews, 2000).

However, in USA and Australia, there is a lack of recognition existing for outstanding teachers in the US and Australia. Based on the survey of 23,569 teachers in the countries found that only 50 percent of the teachers reported a recognition program existed in their schools. It is hard to believe that many school administrators, teacher unions, and governing boards have neglected to realize the importance of recognition as a motivator for their teachers (Andrews, 2000).

Further, in Somalia, it appears to be mounting concerns that unacceptably high proportions of teachers working in private secondary schools in Somalia are poorly motivated due to a combination of low morale and job satisfaction, poor incentives, and inadequate controls and other behavioral sanctions. Consequently, standards of professional conduct and performance are low and falling, and incentives for teachers to perform well are frequently weak. This has resulted in high labor turnover, teachers' part-timing as a means of topping up on the basic salary by teaching in two or more schools, late coming, lack of commitment to the job, and dodging classes which consequently results in poor performance of teachers and hence students.

In the public school system in the Philippines, where the organization is the largest, problems arise in terms of giving awards to teachers. The basis for giving awards and recognition depends on the availability of savings. There is an allotment of 5% of the human resource management, yet it is not even the priority or not enough for the department to use in recognizing the so many teachers in the entire country.

The award that employees most noticeably receive from their organization is pay, allowances, recognitions, and promotions, etc. These awards are used to encourage the employees to perform their tasks at full potential. Therefore, an organization has to be informed about what motivates people to perform in order to develop their employees' excellence (Lynch, 2000). Teachers are the most important part of the whole education system. Effective teaching and learning activity are impossible to take place if teachers themselves are not motivated. The theoretical foundation of this study was based on expectancy theory of motivation. It is stated that employees' performance is an outcome of their expectations (Vroom, 1964).

In the school setting, most teachers are not awarded and recognized for the countless hours they spend preparing for their students and the improvement they contribute to the learning outcomes. In an effort to determine what teachers are seeking, this study will collect data from the schools in Tagum Central Division, Tagum City. In doing so, this study investigated the experiences of school administrators on the awards and

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recognition approach for teachers. Awards are essential in order to motivate teachers and to make their performance effective. Through this investigation, one will discover some of the types of recognition teachers are looking for and some of the ways in which these recognition mechanisms may impact the culture of the school.

Purpose of the Study

The goal of the study was to investigate the experiences of school administrators on the awards and recognition approach for teachers. In a profession where teacher burnout is a major issue, it is necessary to determine ways to motivate and encourage individuals to continue doing this difficult work. When a teacher is motivated, it is more likely for them to have a positive impact on students and the school. This may also make the work environment more pleasant. In order to best support teachers, it is vital to understand what forms of recognition teachers seek. In addition, when such recognition systems are introduced, it is important to understand how the system may alter the environment.

Research Questions

The primary research questions of this study are the following:

1. What are the experiences of school heads on awards and recognition approaches for teachers?
2. How do they cope with the challenges of awards and recognition approach for teachers?
3. What educational insights are drawn from the study?

METHODOLOGY

Design and Procedure

This study adopted a phenomenological qualitative research design, exploring the lived experiences of school principals regarding awards and recognition for teachers. Phenomenology focuses on understanding the essence of experiences within a specific group, aiming to derive a deep, meaningful understanding of a phenomenon through detailed descriptions. The primary data collection method involved long interviews with school principals who have first-hand knowledge of the phenomenon. Additional data were gathered from documents and observations. The interviews were audio-recorded, transcribed verbatim, and then analyzed to identify themes and patterns that provide insights into the principals' experiences.

Ethical Considerations

Ethical integrity was paramount in the research design. The study adhered to the principles of social value, informed consent, and the minimization of risk. Participants, all professional teachers, voluntarily joined the study after being thoroughly informed about its purpose and procedures. They signed consent forms ensuring confidentiality and the right to withdraw at any point. The study also complied with the Data Privacy Act to protect participant identities, using pseudonyms in all reports.

Research Participants

The research involved eight school heads from Tagum Central District, selected through purposive sampling based on their experience and performance ratings. This method ensured that the participants could provide relevant and significant insights into the research questions.

Role of the Researcher

The researcher acted as a facilitator, expert in qualitative methods, data collector, and analyst. This involved conducting unbiased interviews, ensuring competent data collection and analysis, and safeguarding the data and participants. The researcher maintained a neutral stance throughout the study to avoid introducing personal bias into the data interpretation.

Data Collection

Data collection followed strict procedural guidelines, including obtaining necessary permissions from educational authorities and ensuring participant consent. The in-depth interviews were conducted using a researcher-developed questionnaire, which was validated by experts to ensure clarity and relevance. Responses were recorded and transcribed for analysis.

Data Analysis

The analysis utilized a thematic approach as described by Creswell (2012), beginning with data familiarization, followed by coding, and then theme development. The themes were reviewed to ensure they provided a comprehensive understanding of the data. This process involved a blend of inductive and deductive reasoning, ensuring a robust analysis that reflects the participants' true experiences and perspectives.

Analytical Framework

The analytical framework followed Ritchie and Spencer's (1994) five-step process: familiarization, identifying a thematic framework, indexing, charting, and mapping and interpretation. This structured approach allowed for a systematic analysis of the data, ensuring that findings were reflective of the participants' experiences and perspectives.

Trustworthiness of the Study

The study's trustworthiness was established through credibility, transferability, dependability, and conformability. Techniques such as prolonged engagement with participants, validation of findings through participant checks, and external audits were employed to enhance the study's reliability and validity. The researcher's adherence to a methodical process in data handling and analysis further reinforced the trustworthiness of the findings.

RESULTS & DISCUSSION

Experiences of School Heads on Awards and Recognition Approach for teachers

School principals encounter both positive and negative experiences with the awards and recognition approaches for teachers. The good and the bad experiences of school principals form an essential part of the context of their approach to the teachers. These experiences may influence subsequent behavior and may be especially important when they form the context for situations involving some level of risk or uncertainty.

Positive Experiences Paragraph

Awards and recognition systems in schools serve as potent motivators that significantly enhance teacher performance and engagement. Regular evaluations and adjustments, as highlighted by Susta (2019), ensure these systems remain relevant and effective, thus maximizing positive outcomes such as enhanced teacher performance and alignment with organizational goals. Beyond tangible rewards, these recognitions lead to intrinsic benefits including goal setting, professional development, and collaborative growth among teachers, as suggested by Kelly (1999). Additionally, such programs foster school-community collaboration, enhancing community involvement and support for the educational process. As noted by Andrews (2011), these recognition initiatives not only highlight individual accomplishments but also inspire other teachers and students, thereby setting high aspirational standards and strengthening community ties through visible recognition of teachers' hard work.

Negative Experiences Paragraph

However, the implementation of awards and recognition systems can also lead to several negative experiences among teachers. One significant issue is the feeling of exclusion for those who are not

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recognized, which can diminish morale and engagement, as described by Heneman (1989) and Breccia (2013). This sense of being left out can lead to disengagement and reduced job satisfaction among non-awarded teachers. Furthermore, as explored by Lange (2015) and Wang & Sung (2016), such systems can inadvertently foster negative competition, envy, and distrust among colleagues, disrupting teamwork and the collaborative environment that is crucial for educational effectiveness. Additionally, the pressure to achieve and maintain recognition can lead to increased stress and anxiety, negatively impacting teachers' mental health and leading to burnout, which was highlighted in studies by Kelley (1999) and Saunderson (2010). This stress can decrease overall job performance and satisfaction, underlining the need for careful implementation and management of recognition systems within schools.

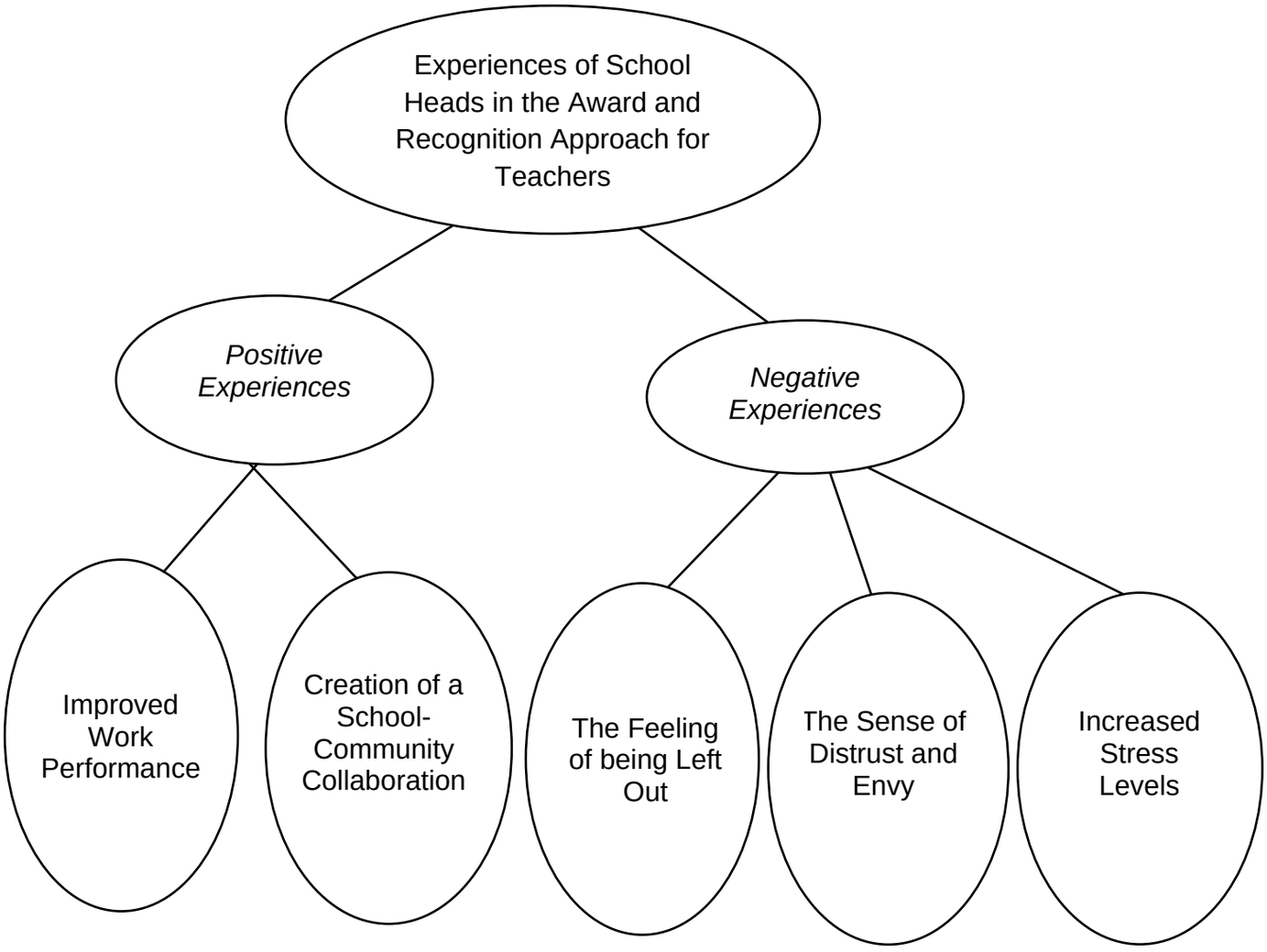


Figure 1: Emerging Themes on the Experiences of School Heads in Award and Recognition Approach for Teachers

Coping ways with the challenges of awards and recognition approach for teachers.

School heads employ several dynamic coping strategies to manage the complexities associated with awards and recognition systems for teachers. These strategies focus on re-defining school cultures, providing appropriate motivation, and enacting diverse roles, aimed at enhancing the efficacy and acceptance of these systems.

Re-defining School Cultures. School heads play a pivotal role in molding and adapting school cultures to support the effective implementation of awards and recognition programs. This involves a deep understanding and observation of existing cultural dynamics within the school, as suggested by Handrich (2014), who emphasizes the importance of school heads understanding teacher attitudes and the overall school atmosphere. Drew (2011) further asserts that school heads can enhance the positive aspects of school culture by integrating new values and attitudes that support recognition programs, thereby fostering a positive environment. Clear objectives and criteria, which Becker (2011) notes as crucial for clarity and effective evaluation, are essential components that school heads work to define, ensuring that teachers fully understand what is expected of them and how they can meet these expectations.

Providing Appropriate Motivation. Motivation is critical in driving teacher participation and excellence within award systems. School heads focus on aligning motivation with the teachers' goals and the broader organizational objectives. The definitions by Obi Ndu, Ocho, and Okeke (1977) and Peretomode (1991) highlight motivation as a complex, socially learned behavior essential for achieving organizational goals. School heads involve teachers in decision-making processes regarding the award criteria and fund allocation, a practice supported by Andrews (2009) and Rosver (2010), who argue that such involvement is crucial for enhancing decision quality and promoting democratic values within the school setting.

Enacting Different Roles. The multifaceted roles school heads adopt are critical in navigating the award and recognition

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landscape effectively. These roles, as identified by Casas (2014), range from interpretive to representational and authenticating, each playing a distinct part in shaping school and classroom cultures. By actively participating and supporting various facets of the award process, school heads ensure strategic implementation and visibility, which is essential for the success of recognition programs. These roles enable school heads to create and maximize opportunities for teachers, facilitating their professional development and aligning with the school's goals.

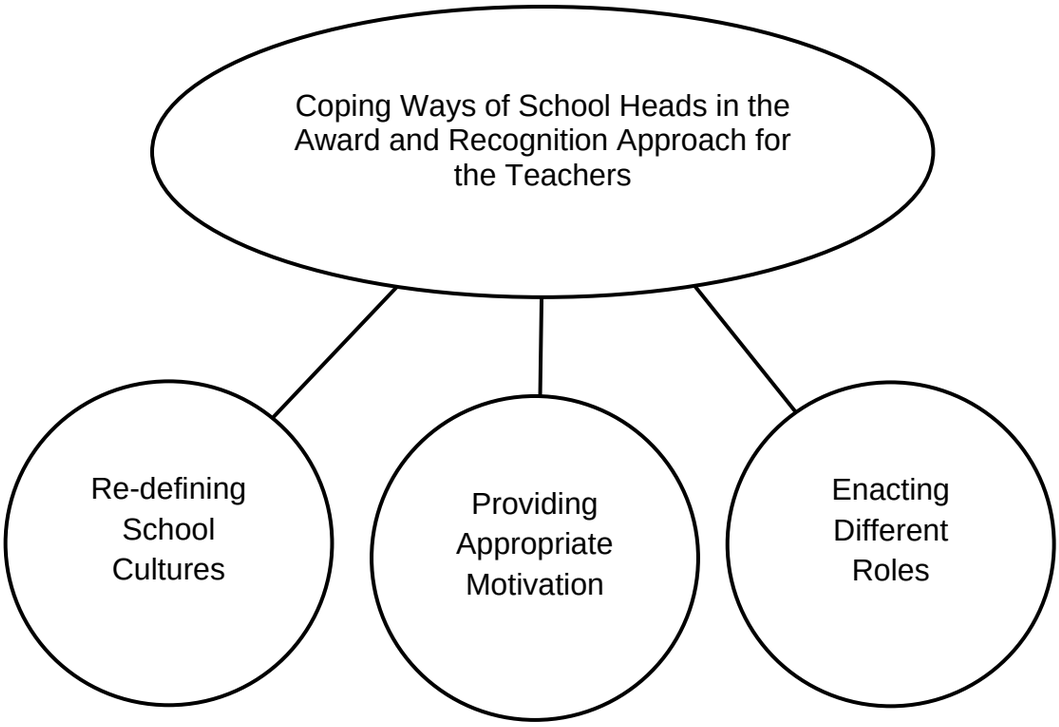


Figure 2. Emerging themes on the Coping Ways of School Heads in the Award and Recognition Approach for Teachers

Educational Management Insights Drawn from the Experiences of the School Heads

Instituting a Positive Culture. School heads recognize the critical role of cultivating a positive school culture to enhance the effectiveness of award and recognition programs for teachers. According to MacNeil, Prater, & Busch (2009), a positive school climate, which includes aspects like goal focus, cohesiveness, and adaptability, is foundational for fostering an environment where teachers feel motivated and valued. Participants in the study underscored the importance of creating a supportive atmosphere where teachers are encouraged and recognized, leading to reduced stress and increased job satisfaction. This aligns with Lindahl's (2001) assertion on the interdependence of school climate and teacher performance, suggesting that a supportive climate enhances both teacher satisfaction and effectiveness.

Creating Trusting Relationships. The ability to build trusting relationships is another vital aspect of educational management. Effective communication and empathy are essential, as they allow school heads to understand and address the concerns and aspirations of teachers. This collaborative approach not only involves teachers in the decision-making process but also strengthens their commitment to organizational goals, as noted by participants who emphasized the importance of empathy and understanding in leadership roles. The concept of emotional intelligence, as described by Mindtools (2019), plays a significant role here, enabling school heads to manage their emotions and better connect with their staff, thereby fostering a more cooperative and productive educational environment.

Providing Adaptive Leadership. Adaptive *leadership is crucial for managing the diverse needs and capabilities of teachers, especially in the context of recognition and awards. School heads must be flexible and responsive to the varying expectations and professional goals of their staff. This involves creating opportunities for all teachers to achieve and be recognized, regardless of their starting points. Participants highlighted the need for school heads to harness the collective knowledge and expertise of their staff to navigate the challenges posed by award systems effectively. This approach aligns with Heifetz's (2018) views on adaptive leadership, which emphasizes the importance of collaborative problem-solving and innovation in contemporary educational settings.*

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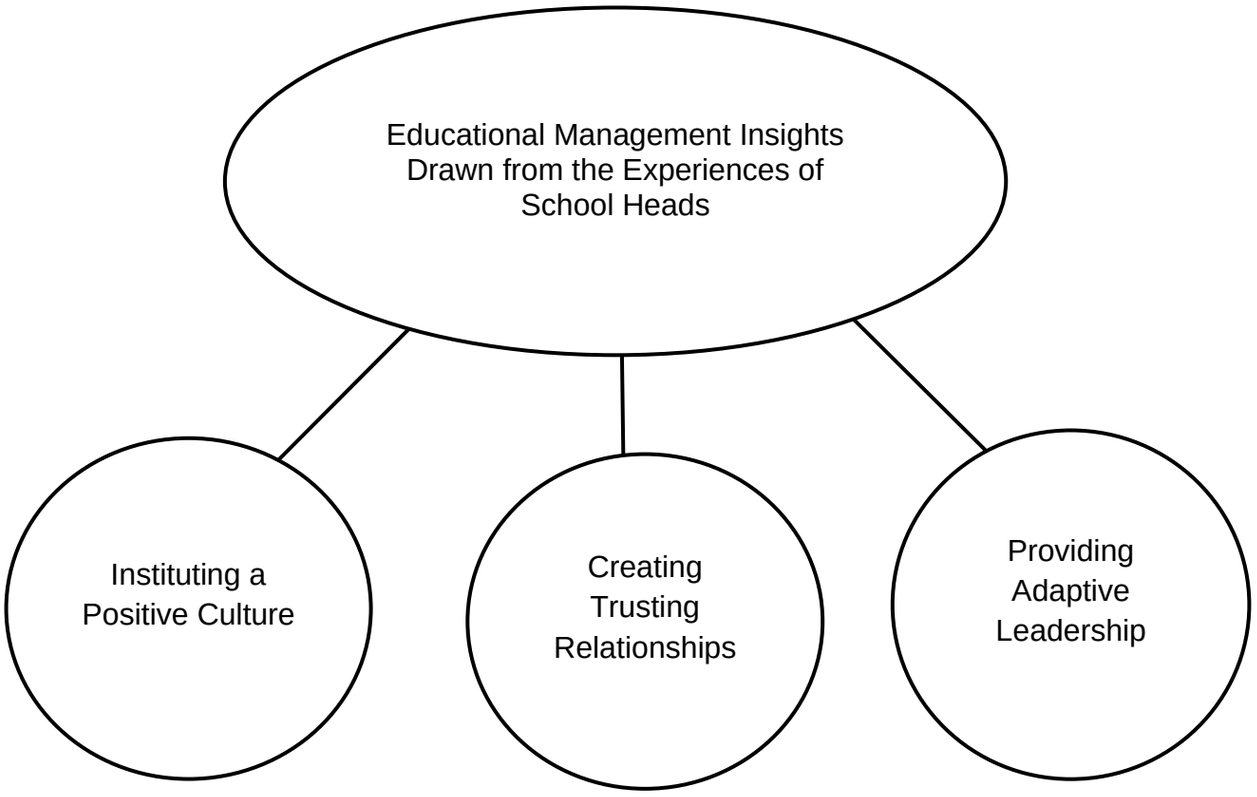


Figure 3. Emerging Themes on the Educational Management Insights Drawn from the Experiences of the School Heads

Implications and Future Directions

Implications

The goal of this study is to investigate the experiences of the school heads in awards and recognition approach for the teachers. The first theme, which is all about the experiences of the school heads, generated five subthemes. The themes under positive experiences were improved work and creation of school-community collaboration.

Improved work. Implementing an effective awards and recognition approach creates a positive work environment that stimulates teacher growth and professional development. It encourages teachers to strive for excellence and engage in continuous learning. The prospect of recognition motivates educators to explore innovative teaching methods, participate in professional development programs, and pursue higher levels of academic qualifications. Ultimately, this improves the overall quality of education provided to students.

Creation of school-community collaboration. A successful awards and recognition approach requires collaboration between schools and communities. By involving the community, we extend appreciation beyond the school walls and strengthen the bond between educators and the society they serve. Community members can provide valuable insights, nominate outstanding teachers, and participate in the recognition process. This collaboration helps foster a sense of shared responsibility for education, as well as a deeper understanding of the challenges and triumphs in the teaching profession.

On the other hand, the themes under negative experiences were the feeling of being left out, the sense of distrust and envy, and increased stress levels.

The feeling of being left out

One of the significant challenges faced by school heads in implementing awards and recognition approaches is the feeling of being left out. As the focus shifts towards recognizing teachers, school heads might perceive their own contributions as undervalued or overshadowed. This can lead to a sense of exclusion and demotivation among school leaders. It is vital to address this concern by actively involving school heads in the selection process and recognizing their leadership and administrative achievements. Their role in creating an enabling environment for teachers should be acknowledged and appreciated.

Sense of distrust and envy

The implementation of an awards and recognition approach can inadvertently create a sense of distrust and envy among teachers and school heads. When recognition is perceived as unfair, biased, or influenced by favoritism, it erodes trust and damages the overall morale within the school community. School heads must ensure transparency and objectivity in the selection process, clearly communicating the criteria for awards and recognition. Open dialogue, feedback mechanisms, and appeals processes can help address any concerns related to fairness, thereby fostering a sense of trust and unity among all stakeholders.

Increased stress levels

The teacher awardee then has a reputation to live up to his/her accomplishments. While some saw this as a positive outcome, others may feel they were required to live up to what the award presented, always requiring them to work harder.

These implied that the tremendous successes made by school heads on the subject of award and recognition approach for teachers are enhancing the work performance of the teachers and inviting additional opportunities for school and community partnership. However, they face a significant obstacle in the form

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of the establishment of a healthy and safe working environment for the teachers within the organization.

Pertaining to the coping ways of school heads in the award and recognition approach for teachers, three subthemes were generated, which were re-defining school cultures, providing appropriate motivation, and enacting different roles.

Re-defining school cultures
Principals can promote a collaborative school culture by emphasizing teamwork and shared goals. Encourage teachers to collaborate on projects, share best practices, and support one another's professional growth. By nurturing a culture of collaboration, principals create an atmosphere where teachers view recognition and awards as celebrations of collective achievements rather than individual accomplishments.

Providing appropriate motivation
Appropriate motivation will help teachers achieve their career goals. If an individual is motivated, there is a high chance that they will be able to attain the performance standard and criteria. Job satisfaction would increase too.

Enacting different roles
Principals should play an active role in planning and executing recognition programs. Ensure that the selection process is fair, transparent, and inclusive. Involve teachers, students, parents, and community members in the decision-making process, thus reinforcing a sense of shared responsibility and ownership.

These implied that the school heads are working on the internal aspect of awards and recognition for the teachers. They restructure the school culture to make the approach accepting for the teachers. They also provide appropriate motivation to enhance teachers' commitment and engagement. And they enact different roles to enable teachers to acquire the varied support they need to achieve the performance standard.

Further, on the educational insights drawn from the experiences of school heads, the following subthemes emerged: instituting a positive culture, creating trusting relationships, and providing adaptive leadership.

Instituting a positive culture
Clearly define the core values and principles that guide the school community. These values should emphasize the importance of excellence in teaching, continuous learning, collaboration, and student success. Aligning the awards and recognition scheme with these values, principals can promote a positive culture that values and celebrates the achievements of teachers.

Creating trusting relationships
Foster open and transparent communication channels between principals and teachers. Regularly share information about the awards and recognition scheme, its purpose, criteria, and selection process. Ensure that the process is fair, objective, and accessible to all. Providing clear communication, principals build trust and confidence among teachers, reducing any apprehensions or misconceptions.

Provide adaptive leadership
Principals should articulate a clear vision for the awards and recognition scheme that aligns with the overall goals of the school. Inspire teachers by communicating the purpose, significance, and long-term benefits of recognition. A visionary leader creates a sense of purpose and direction, motivating teachers to strive for excellence and actively participate in the program.

These implied that school heads can provide effective support to teachers when utilizing a collaborative and coordinated strategy to facilitate improvement in teacher performance. The school leaders may strengthen the capability of both organizations and teachers, finally resulting in the achievement of great outcomes.

Future Directions
Data obtained had future directions for various stakeholders in education, including DepEd Officials, school administrators, teachers, students, other stakeholders, and future researchers.

DepEd Officials
The findings of the study prompt them to give webinars and training to school heads so that they could cope effectively with the challenges of the award and recognition approach for the teachers.

School Administrators
The findings of the study give insights on what strategies and best practices should be incorporated in giving awards and recognition to the teachers. The findings would also enlighten them on the importance of acknowledging the efforts and contributions of the teachers at school. The findings would also help school administrators to adjust and adapt to the varying needs of the teachers.

Teachers
The findings of the study give them information on the common challenges in awards and recognition; hence, they can benchmark collaborative efforts that would assist them in gaining awards and recognition.

Other Stakeholders
The findings of this study encourage stakeholders to be involved in planning school initiatives that help and assist teacher development. Such initiatives could be included in the crafting of a School Improvement Plan (SIP) in which stakeholders could participate.

Researchers
Several areas for future studies within this field remain need to be explored. Further development on the similar and different contexts can be done in this study. It is recommended to consider the experiences of the school heads in using varied ways of giving awards and recognition to the teachers (e.g., public recognition, private recognition, peer recognition, etc.). Surely, this will yield advantageous findings and implications tailored to the strengthening of awards and recognition approach in schools and other hierarchical organizations in the education sector.

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TEACHERS' CONFLICT-INDUCING ATTITUDES AND THEIR REPERCUSSIONS ON STUDENTS' PSYCHOLOGICAL HEALTH

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ABSTRACT

This purpose of the study was to determine the influence of teacher's conflict-inducing attitudes on the student's psychological health. A total of 110 public elementary school teachers teaching in Tarragona District, Davao Oriental Division were identified through Tabachnick and Fidell (2007) calculation of sample size. The study utilized a descriptive-correlation design. Mean, Pearson r, and regression analysis were used as statistical tools of the study. Results revealed on the extent of teacher's conflict inducing attitudes in terms of Teacher Incivility were sometimes evident, in terms of Teacher Discrimination was sometimes evident, in terms of University Resources was oftentimes evident. On the Student's Psychological Health was always evident. Clearly, the findings inferred a strong significant relationship between teacher's conflict-inducing attitudes and student's psychological health. Based on the result of the analysis, the teacher's conflict inducing attitudes domains namely: teacher incivility, teacher discrimination, and university resources significantly influences student's psychological health by registering a p-value of <.000 in the level of significance. Further, the result indicates that for every unit increase in the three domains of teacher's conflict inducing attitudes predictors, the student's psychological health will increase by 3.894 holding other factors constant. Conflict inducing attitudes significantly influenced student's psychological health. Hence, this study recommends teachers should be encouraged professional development programs that target specific conflict-inducing attitudes, leading to personal growth and improved professional practice. Teachers should engage in training and workshops that help them develop stronger interpersonal skills and conflict resolution strategies.

KEYWORDS: *Teacher's conflict inducing attitudes, psychological health, teacher incivility, teacher discrimination, university resources*

INTRODUCTION

Conflicts are bound to arise since these are fundamental to human nature and are necessary for moral and emotional growth. Likewise, it is present at every school, too. Despite the fact that they are a reality that is minimized or "hidden" by teachers and school administrators, these conflicts have an impact on the quality of the learning environment as well as the relationships between individuals within the school, especially the learners. The mental and interpersonal behavior of students has a direct connection with effective teaching and learning environments. Despite the fact that many studies have concentrated on the positive behavior of teachers, there is little research on the conflict-inducing attitudes of educators.

Bad attitudes among teaching faculty members can unfortunately be worsened by a variety of factors, including but not limited to teachers' low pay, lack of comprehension, inappropriate behavior, authoritative behavior, excessive workload, lack of in-service training, gender bias among teachers, and university culture. Destructive behavior makes the issue worse and has a bad impact on the relationships between teachers and pupils. These conflict-inducing attitudes may hamper the learning processes and psychological health of students in educational institutions (Kidger et al., 2016). Moreover, according to recent studies (Denhardt et al., 2012; Bibi & Karim, 2015), employee rudeness, discrimination, and higher levels of dissatisfaction with organizational resources might lead to conflict-inducing attitudes. The effects of rudeness, prejudice, and university resources on teacher-student relationships have been investigated in a number of studies, but their implications on the psychological health of students have not been studied.

In Istanbul, Turkey, the study by Agir (2019) looked at the impact of perceived teacher behaviors on students' attitudes toward learning and their sense of self-esteem. The perceived teacher behaviors were found to have a negative impact on self-esteem, a positive impact on the expectations, openness, and nature of learning dimensions in the sub-dimensions of attitudes toward learning, and a negative impact on learning-related anxiety.

In the Philippine context, according to Rico and Rodriguez (2012), students have been exposed to many sorts of violent behavior from their teachers. In grades 1-3, 7 out of 10 in grades 4-6, and 6 out of 10 in high school, at least 5 out of 10 Filipino students reported experiencing some form of violence in the classroom, according to a 2009 report by the children's organization PLAN Philippines. Based on the report, psychological and verbal abuse are the most frequent types of violence that Filipino students encounter. These take the form of joking, calling names, swearing, yelling, and using foul language. It was shown that children who experience violent behavior from their teachers typically suffer from psychological problems like low self-esteem, anxiety, anger, and helplessness.

Meanwhile, in Davao Oriental, the goal of this study was to ascertain how student behavioral engagement in the Tarragona District was impacted by teacher behaviors such bullying. According to the study's findings, bullying by teachers has a big impact on how engaged their behavior is. Because of bullying in the classroom, students find it difficult to focus on their work, participate in class activities, and pay attention to their teacher's directions. As a result, they get disengaged from their studies.

Unfortunately, only a limited number of research investigated the issues on teachers' conflict-inducing attitudes and students' psychological health. Hence, the researcher is inspired to move further with this study as a result of the aforementioned manifestations since it is critical to gauge the extent of teachers' conflict-inducing attitudes and students' psychological health. There are several researches on the relationship between teachers'

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attitudes and students' psychological health, but none of it has been specifically established for teachers' conflict-inducing attitudes, which place a strong emphasis on teacher incivility, teacher discrimination, and university resources. In order to determine how the two variables are related, it is imperative to continue with the current inquiry.

Statement of the Problem

The study aimed to determine the extent of teachers' conflict-inducing attitudes and extent of students' psychological health. Specifically, it sought to answer to the following questions:

1. What is the extent of teachers' conflict-inducing attitudes in terms of:
    1.1 Teacher incivility,
    1.2 Teacher discrimination, and
    1.3 University Resources
2. What is the extent of students' psychological health?
3. Which domains of teachers' conflict-inducing attitudes significantly influence students' psychological health?
4. What predictive model can be generated from the regression analysis?

METHODOLGY

The current study adopted a quantitative descriptive-correlational methodology to examine the relationship between teachers' conflict-inducing attitudes and students' psychological health. Utilizing multiple linear regression, the research aimed to determine the extent of these attitudes and their correlation with the psychological well-being of students. Descriptive methods helped characterize the current states of both variables, while the correlational approach assessed the strength and nature of their relationship. Participants were selected via purposive sampling from public schools in Tarragona District, Davao Oriental, ensuring that respondents could provide relevant data based on predefined inclusion criteria.

The research instruments comprised two main parts: a questionnaire assessing teachers' conflict-inducing attitudes and another for students' psychological health, both adapted and modified from Ali, Ashraf, and Shuai (2019) after expert validation to ensure reliability and validity. The instruments demonstrated satisfactory reliability indices from pilot testing, confirming their effectiveness for the main study. Respondents rated items on a five-point Likert scale, with established ranges aiding the interpretation of the severity and frequency of observed behaviors and attitudes.

Data collection followed a structured process that began with obtaining necessary permissions and conducting content validation and pilot testing to refine the questionnaires. The main survey was distributed and administered face-to-face, followed by the retrieval of completed questionnaires for data analysis. Ethical considerations were rigorously maintained, ensuring respect, safety, and confidentiality for all participants. Data were analyzed using statistical tools such as mean, standard deviation, Pearson correlation, and linear regression to interpret the results, aiming to provide actionable insights into how teachers' behaviors impact student well-being and inform interventions to enhance educational environments.

RESULTS AND DISCUSSIONS

Extent Of Teacher's Conflict-Inducing Attitudes in Terms of Teacher Incivility

Table 1 in the study delineates the extent of teachers' conflict-inducing attitudes in terms of Teacher Incivility, arranging the data from highest to lowest mean scores to enhance clarity and understanding. The top-rated indicators include: teachers or supervisors addressing others unprofessionally at a mean of 3.67 (rated high), colleagues displaying hostile expressions like stares or sneers at 3.45 (high), and minimal attention to one's statements by coworkers or supervisors at 3.38 (high). Less severe but still notable were behaviors like ignoring colleagues (3.27, rated moderate) and making disrespectful remarks (2.58, low). The overall average score for Teacher Incivility stood at 3.27, indicating a moderate level of such attitudes being sometimes evident.

Research in educational settings identifies incivility as behaviors that disrupt relationships or the learning process, such as rudeness or non-inclusive decision-making, which can provoke conflicts stemming from personality clashes or miscommunication. Notably, incivility among faculty can diminish respect for educators, degrade the learning environment, and even lead to reduced productivity due to its impact on psychological well-being. Students perceive and are affected by teachers' uncivil behaviors, which might include unpreparedness, unexpected assessments, or lack of engagement in the classroom.

Furthermore, uncivil conduct has been linked to numerous adverse outcomes such as diminished self-esteem, psychological distress, and disrupted educational processes. Incidents of incivility can lead faculty to reconsider their career choices and impact their overall job satisfaction. The reciprocal nature of disrespect between students and teachers can foster an atmosphere that hampers both teaching effectiveness and student learning. Research underscores the need for addressing incivility within educational institutions to foster healthier, more productive teaching and learning environments.

No.	Items	Mean	Descriptive Interpretation
1	*My coworkers and/or supervisors pay little attention to my statements or showed little interest in my opinions.*	3.38	Moderate
2	*My colleagues gave me hostile looks, stares, or sneers.*	3.45	High
3	*My coworkers and/or supervisors address me in unprofessional terms, either publicly or privately.*	3.67	High
4	*My coworkers and/or supervisors make insulting or disrespectful remarks about me.*	2.58	Low
5	*My coworkers and/or supervisors ignored me or failed to speak to me (e.g., gave me "the silent treatment").*	3.27	Moderate
	Overall	**3.27**	**Very High**

Table 1. Extent of teacher's conflict-inducing attitudes in terms of Teacher Incivility

Extent of teacher's conflict-inducing attitudes in terms of Teacher Discrimination

Teacher Discrimination involves treating someone unfairly due to their gender, religion, ethnicity, or political affiliation, which can foster a culture of power, domination, and favoritism at work. This often leads to emotional distress and discomfort among employees. Discrimination can also impact teacher interactions

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and workload distribution, significantly affecting job satisfaction, emotional health, and teaching efficacy.

Table 2 details teacher's conflict-inducing attitudes regarding discrimination, presenting data from highest to lowest mean scores: discrimination by colleagues due to gender and ethnicity rated high at 3.44; doubting of one's judgment rated moderate at 3.38; accusations of incompetence rated moderate at 3.22; undervalued evaluations at 2.66, and exclusion from social and professional circles at 2.43, both rated low. The overall average was moderate at 3.02, indicating that discrimination occasionally occurred.

Globally, discrimination remains pervasive despite laws aimed to curb it, affecting various demographics across workplaces, including education. Discrimination creates an environment where employees may feel undervalued and stressed, and it negatively impacts organizational performance. In education, discrimination can also lead to conflict and entrenched cultural stereotypes, complicating interactions among teachers and affecting the school's social harmony.

For example, in Australia, LGBTIQA+ teachers and school leaders report discrimination and disadvantage, affecting their employment and well-being. Such experiences can lower job satisfaction and overall well-being, underscoring the need for robust anti-discrimination policies and practices to foster inclusive and supportive workplace environments.

No.	Items	Mean	Descriptive Interpretation
1	*I experience discrimination by my colleagues (due to gender and ethnicity).*	3.44	High
2	*My coworkers and/or supervisors accuse me of incompetence.*	3.22	Moderate
3	*My coworkers and/or supervisors doubt my judgment on a matter over which I have responsibility.*	3.38	Moderate
4	*My coworkers and/or supervisors rate me lower than I deserved on an evaluation.*	2.66	Moderate
5	*My coworkers and/or supervisors ignore or exclude me from social and professional comrades.*	2.43	Low
	Overall	**3.02**	**Very High**

Table 2. Extent of teacher's conflict-inducing attitudes in terms of Teacher Discrimination

Extent of teacher's conflict-inducing attitudes in terms of University Resources

The competition for limited university resources, such as funding, materials, and facilities, often leads to conflicts among teachers, creating a tense and negative school environment that can adversely affect both educators and students. These resource conflicts typically manifest in teacher behaviors and school dynamics, as illustrated in Table 3, which presents data in descending order of severity. Notable concerns include poor physical resources adversely affecting working conditions (rated very high at 4.35) and difficulties accessing facilities (rated high at 5.05). Other significant issues highlighted include pressure to use only available resources and perceptions of inadequate compensation.

Such competition can result in open conflict and a lack of cooperation among staff, impacting the school's operational efficiency and the psychological well-being of students. To mitigate these effects, schools must prioritize fostering a supportive culture through open communication, collaboration, and effective conflict resolution strategies. This approach can enhance overall academic success and student well-being by creating a more harmonious environment.

Furthermore, the distribution and management of resources play a crucial role in either exacerbating or alleviating conflicts within educational institutions. Effective administrative strategies that ensure equitable resource allocation and clear, transparent communication can reduce potential conflicts and build a more collaborative atmosphere. Addressing these issues is vital for maintaining a productive educational environment where both students and teachers can thrive.

No.	Items	Mean	Descriptive Interpretation
1	*I think that lack of facilities creates conflict, due to inadequate financial resources.*	3.42	High
2	*Incentives and salary are less than I deserve.*	3.39	Moderate
3	*Poor physical resources of my school affect working conditions badly.*	4.35	Very High
4	*I have been pressured to use only available resources.*	3.97	High
5	*Facilities and resources in school are not easily accessible.*	4.05	High
	Overall	**3.83**	**High**

Table 3. Extent of teacher's conflict-inducing attitudes in terms of University Resources

Summary on the Extent of teacher's conflict-inducing attitudes

Table 4 summarizes the extent of teachers' conflict-inducing attitudes across three indicators: Teacher Incivility, Teacher Discrimination, and University Resources. The mean ratings are as follows: Teacher Incivility scored 3.27 (Moderate), indicating that conflict-inducing attitudes related to incivility occur occasionally; Teacher Discrimination scored 3.02 (Moderate), suggesting that discriminatory attitudes also occur sometimes; and University Resources scored 3.83 (High), showing that conflicts over resources are frequently evident. The overall mean for these domains is 4.19 (High), indicating that conflict-inducing attitudes among teachers are often evident.

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Resource competition, such as for time, money, space, materials, and equipment, invariably leads to conflicts within educational settings. Insufficient resources can force tough decisions, often laying the groundwork for conflict when not all parties receive their desired share. Furthermore, scarcity can exacerbate competition, increasing the likelihood of conflicts over both tangible and intangible assets.

In terms of Teacher Incivility, uncivil behaviors by teachers, including non-participatory lectures, distant attitudes, and unpredictability in assessments or class schedules, deeply affect students' respect and comfort in the learning environment. Such incivility not only disrupts classroom dynamics but also diminishes teachers' morale and motivation, negatively impacting their professional and personal well-being.

Regarding Teacher Discrimination, particularly among LGBTQIA+ staff in Australia, discrimination and disadvantage in schools are significant, despite a generally progressive societal stance. This discrimination can lead to job insecurity, altered responsibilities, and overall poorer well-being among affected teachers, demonstrating the profound impact of such biases on individuals and institutional culture.

No.	Indicators	Mean	Descriptive Interpretation
1	Teacher Incivility	3.27	Moderate
2	Teacher Discrimination	3.02	Moderate
3	University Resources	3.83	High
	Overall	**4.19**	**High**

Table 4. Summary on the extent of teacher's conflict-inducing attitudes

Extent of the Student's Psychological Health

Student Psychological Health refers to a state where individuals are effective, content, and able to fully express their potential, crucial for their overall well-being, academic performance, and long-term success. When students are psychologically healthy, they are more engaged, motivated, and academically successful. Recognizing and prioritizing mental health in educational settings is essential, involving raising awareness, providing counseling, and implementing support programs.

Table 5 shows the impact of negative teacher-student interactions on students' psychological health, with high mean scores indicating that such interactions frequently reduce students' concentration, self-esteem, morale, and prompt thoughts of retaliation. The overall mean rating is high at 4.26, suggesting these issues are consistently present.

Research highlights a growing prevalence of severe psychological issues among students, including depression, anxiety, and eating disorders. For example, a study at a major American university found significant numbers of students suffering from anxiety, depression, and other mental health challenges, underscoring the need for comprehensive support and intervention strategies.

The cognitive function of students can be severely impaired by psychological conditions, with symptoms like reduced concentration and social withdrawal directly affecting their learning. Moreover, systemic issues such as inadequate access to mental health services exacerbate these challenges. Only a fraction of children in need receives proper treatment, which is vital for early diagnosis and management of mental health issues.

Furthermore, experiences of violence, discrimination, or lack of support can lead to significant psychological stress and long-term mental health problems. It is critical to foster a supportive educational environment that not only addresses these issues but also integrates mental health services effectively within schools. This includes collaboration across community systems, families, and educational staff to promote mental health through early detection, prevention, and intervention.

No.	Items	Mean	Descriptive Interpretation
1	*Negative behavior and interaction with my teacher make me think that l am unable to do things well as most students do.*	4.25	Very High
2	*Negative behavior and interaction with my teacher give me the impression that I am not good at anything.*	4.36	Very High
3	*Negative behavior and interaction with my teacher reduce my concentration and attention span to focus on the lecture.*	4.42	Very High
4	*Negative behavior and interaction with my teacher lower my morale for active learning*	4.29	Very High
5	*Negative behavior and interaction with my teacher make me think of ways of taking revenge for my suffering.*	4.08	High
	Overall	**4.28**	**Very High**

Table 5. Extent of Student's Psychological Health

Domain of teacher's conflict-inducing attitudes that significantly influence student's psychological health

The study analyzes three domains of teachers' conflict-inducing attitudes—teacher incivility, teacher discrimination, and scarcity of university resources—to assess their impact on students' psychological health. Behaviors such as rudeness, prejudice, and insufficient resources are known to foster conflicts, complicate problem resolution, and contribute to a toxic work environment. The term "students' psychological health" refers to the mental and emotional well-being of individuals enrolled in educational institutions, encompassing aspects such as emotional regulation, coping skills, self-esteem, and overall psychological resilience.

Unstandardized Regression Coefficients Results:

Table 7 presents a regression analysis examining the impact of teachers' conflict-inducing attitudes—specifically teacher incivility, teacher discrimination, and university resources—on students' psychological health. The results demonstrate a very strong significant relationship between these teacher behaviors and student well-being, evidenced by a correlation coefficient (r-value) of 0.859 and a p-value less than .000, indicating a highly

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positive correlation and confirming the significant relationship hypothesized.

The regression model is robust, with an F-value of 68.84 and a p-value less than .000, suggesting a good model fit. Furthermore, the R-squared value of 0.738 indicates that 73.8% of the variance in students' psychological health is explained by these predictors, with the remaining variance attributable to other unaccounted factors.

Among the predictors, university resources had the most substantial influence on students' psychological health, as indicated by a beta coefficient (β=0.312) and p-values less than .05, leading to the rejection of the null hypothesis. The analysis shows that for every unit increase in the measures of teacher incivility, discrimination, and university resources, there is a corresponding significant increase in the measure of students' psychological health by 3.894, holding other factors constant.

This high R-squared value surpasses the threshold needed to formulate a predictive model based on regression analysis, suggesting all examined dimensions of teacher's conflict-inducing attitudes significantly influence student psychological health.

Student's psychological Health						
Teacher's conflict-inducing Attitudes	Unstandardized Coefficients **B**	**Std. Error**	Standard Coefficients **Beta**	**t-value**	**p-value**	**Decision @= 0.05**
Constant	3.894	.329		18.610	.000	
Teacher Incivility	.268	.036	.491	.7376	.000	Reject H_o
Teacher Discrimination	.231	.079	.408	2.918	.000	Reject H_o
University Resources	.312	.085	.102	1.056	.001	Reject H_o

Dependent Variable: **Student's psychological Health**
R= 0.859, R^2=0.738, F-ratio=68.844 p-value= .000

Table 7. Domain of teacher's conflict-inducing attitudes that significantly influence student's psychological health

Generated Predictive Model from the Analysis
Below was the predictive model that was generated from the regression analysis:

PREDICTIVE MODEL
$= \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4$
= 3.894 + .268 (teacher incivility) + .231 (teacher discrimination) + .312 (university resources)

PREDICTIVE MODEL = 3.894 + .268 (3.27) + .231 (3.02) + .312 (3.83)

PREDICTIVE MODEL = 3.894 + 0.8764 + 0.6976 + 1.1950
PREDICTIVE MODEL = 6.66

The analysis conducted in this study revealed a significant predictive influence of factors such as teacher incivility, discrimination, and university resource constraints on students' psychological health. Specifically, it was found that for each unit increase in these conflict-inducing factors, there is a corresponding 6.66 unit increase in the negative impact on students' psychological well-being, highlighting the profound effect that teacher behavior and resource availability have on student health.

Resource competition is identified as a fundamental source of conflict within educational institutions. Plunkett et al. (1997) note that competition often arises when individuals attempt to outperform each other, potentially escalating into open confrontation and breakdowns in cooperation. This situation is exacerbated by resource scarcity, which, according to Zia & Syed (2013), Moen et al. (2019), and Rahim (2017), negatively impacts teachers' performance and their interpersonal relationships. Further compounding this issue, Barsky (2002) and Collins and Parson (2010) observed that a lack of resources diminishes teachers' motivation and their ability to effectively engage with students, thereby adversely affecting the educational environment.

The constraints on resources also lead to challenging budget allocations, as highlighted by Cannie & Sasse (2002) and Pohl (2023). These constraints can result in perceived injustices in how resources are distributed among departments, heightening the potential for conflicts. Moreover, Mullins (2010) and Isabu (2017) emphasize the importance of effective communication and equitable resource distribution in mitigating conflicts and enhancing educational outcomes.

Furthermore, the scarcity of resources not only impacts teacher interactions but significantly affects students as well. Berger et al. (2018) and Francis (2018) discuss how deficiencies in resources contribute to poorer health outcomes in children, particularly in economically disadvantaged areas. These findings underscore the critical need to address both resource availability and teacher behavior to create supportive environments that foster educational success and psychological well-being.

Conclusions and Recommendations
This study aimed to assess the extent of teachers' conflict-inducing attitudes—namely teacher incivility, teacher discrimination, and university resources—and their impact on students' psychological health. Key findings indicated moderate levels of teacher incivility and discrimination, suggesting these behaviors occur occasionally, while conflicts related to university resources were more frequent. Student psychological health rated very high, highlighting the significant impact of the educational environment on student well-being.

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The regression analysis confirmed a strong correlation between teachers' conflict-inducing attitudes and students' psychological health, with an F-value of 68.84, an R-squared value of 0.738, and a p-value of less than .05, leading to the rejection of the null hypothesis. This suggests that improvements in teacher behavior could lead to significant enhancements in student psychological health.

Conclusions drawn from the study revealed that unprofessional interactions and discriminatory practices among teachers were occasionally evident, contributing to a strained educational environment. Frequently occurring resource-related conflicts further compounded these issues. The strong correlation between teacher attitudes and student psychological health underscores the necessity for interventions aimed at improving the educational climate.

Recommendations based on these findings include:

Department of Education: Utilize this study's findings to inform discussions on how teachers' attitudes impact student well-being and educational outcomes. Insights from this research should guide policy revisions, program development, and resource allocation to foster a healthier educational environment.

Teachers: Engage in professional development programs focused on mitigating conflict-inducing behaviors. Participation in training sessions designed to enhance interpersonal skills and conflict resolution strategies could significantly improve teacher-student interactions.

Students: Schools should aim to create supportive classroom environments that not only reduce student stress and anxiety but also enhance academic, social, and emotional well-being.

Future Research: Further studies should explore additional aspects of the relationship between teachers' attitudes and students' psychological health that were not covered in this study.

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CARCINOGENESIS IN OCCUPATIONAL DISEASE

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ABSTRACT
Carcinogenesis is one of the most significant research topics in the realm of occupational disorders. Substances with the potential to cause cancer are known as carcinogens. Carcinogens have a significant impact on public health and on worker safety. Worldwide, occupational exposure to carcinogens is a leading cause of mortality and disability, with an estimated 666,000 fatal work-related cancer cases occurring each year. The burden of occupational diseases is expected to increase in the future due to worker exposure to carcinogens, and occupational cancers are still cause for concern today. The objective of the study is to identify Occupational Carcinogens, to assess the epidemiological status of occupational cancer globally, to identify and assess the cancer risk and to determine which occupations have a potentially higher risk of developing cancer and to establish preventive measures for occupational cancers.
KEYWORDS: *Occupational diseases, Workplace cancer, Occupational cancer, Carcinogenesis, Occupational health hazard.*

INTRODUCTION
Occupational cancers are types of cancer that employees develop after extended exposure to carcinogenic substances in the workplace during a protracted latent phase . The process via which a normal cell can become cancerous is known as carcinogenesis. The development of cancer is the result of a cascade of events arising from the unchecked growth of malignant cells due to the combined influence of several genetic mutations [1]. Many carcinogens have been discovered in the workplace over the past few decades, and their presence is frequently linked to an increased cancer incidence. Occupational exposure involves several factors, and it is still unclear how carcinogens, occupational exposure, and cancer are related.

The type and length of exposure, a person's susceptibility, and other lifestyle choices like smoking or diet all have an impact on the development of occupational cancers. Certain heavy metals like arsenic and cadmium, asbestos, benzene, formaldehyde, diesel exhaust fumes, silica dust, and ionizing radiation (like X-rays) are a few common occupational carcinogens . A comparable cancer risk has been noted for individuals working night shifts; therefore, the most likely hypotheses regarding the causal relationship between shift work and breast cancer are still the changes in the circadian system and the decrease in melatonin production brought on by exposure to light during the night [1].

PURPOSE
The aim of studying carcinogenesis in occupational disease is to understand the mechanisms and factors involved in the development of cancer due to workplace exposures.

OBJECTIVES
1. To identify Occupational Carcinogens.
2. To assess the epidemiological status of occupational cancer globally.
3. To identify and assess the cancer risk and to determine which occupations have a potentially
higher risk of developing cancer.
4. To establish preventive measures for occupational cancers.

METHODOLOGY FOR SELECTING BIBLIOGRAPHIC SOURCES
To achieve the purpose of this work, a search was performed on specialized platforms for relevant articles written in English about the carcinogenesis in occupational diseases that were published in international journals between 2014 and 2024. The final bibliography of the paper included 72 articles, which were selected for this review. The articles selection was selected from the sources: NCBI, Medscape, PubMed, Google Scholar.

BIBLIOGRAPHIC ANALYSIS
1.1 Definition and Classification of Carcinogens
The term "occupational carcinogens" describes exposures at work, especially those involving chemicals that are employed or emitted as intermediate compounds during manufacturing that have been linked to cancer, either conclusively or suspectly .

The International Agency for Research on Cancer (IARC) has classified agents into five groups: group 1 (probably carcinogenic to humans; 120 agents), group 2A (probably carcinogenic to humans; 82 agents), group 2B (possibly carcinogenic to humans;

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311 agents), group 3 (its carcinogenicity to humans cannot be determined; 499 agents), and group 4 (probably not carcinogenic to humans; Based on available data, IARC divides substances into five categories (Table 1; IARC,) [2][3].

Table 1. Carcinogenicity of different substances [2][3]

Group	Definition	Used when
1	Carcinogenic to humans	Sufficient evidence in humans
2A	Probably carcinogenic to humans	Limited evidence in humans, and sufficient evidence in experimental animals
2B	Possibly carcinogenic to humans	Limited evidence in humans, and absence of sufficient evidence in experimental animals, or inadequate evidence in humans or human data nonexistent and sufficient evidence in experimental animals
3	Not classifiable as carcinogenic to humans	Inadequate or unavailable evidence in humans and inadequate or limited evidence in animals
4	Probably not carcinogenic to humans	Evidence suggests a lack of carcinogenicity in humans and in experimental animals

1.2 Common Types of Occupational Carcinogens

The petroleum industry is the one with the highest concentration of common occupational carcinogens, followed by the automotive and pharmaceutical industries, mining and quarrying (particularly copper and aluminum), and the production of metals, asbestos, rubber, and plastic products . Few of the common carcinogens found in the occupational setting are recorded in the following table (Table 2) [4].

Table 2. Common carcinogens in the working environments [4]

	Carcinogen factors to people	The organ it affects	Source or exposition
1	Nickel	Nose, nasal cavities, the bronchi, lungs	Metallurgy, alloys, catalysts
2	Cadmium	Lungs, prostate	Dyes and pigments production
3	Arsenic and compounds	Lungs, skin, liver	Arsenical insecticide production and packaging
4	Chromium (6 valent)	Nasal cavities, the bronchi, lungs	Galvanizing metals, dyes and pigments production
5	Asbestos	Lungs, serous membranes pleura, peritoneum	Insulation, filters, asbestos cement products and asbestos textile products
6	Hematite	Lungs	Miners in iron ore mines
7	Vinyl chloride	Liver	Plastics, monomer
8	Tar, paraffin	Skin, lungs, bladder	Fuels
9	Benzene, toluene, xylene	Leukemia	Organic solvents, fuels, rubber manufacturing
10	Ethylene oxide	Leukemia	Sterilization, chemical intermediator
11	Mineral oils	Skin	Lubricants
12	Formaldehyde	Pharynx, lungs	Foundry, melamine, resin, and health care centers
13	2-Naphthylamine	Bladder	Dyes and pigments production
14	Bis-ether Chloromethylethylethe	Lungs	Chemical semi-finished products and by-products, manufacturing workers using bis (chloromethyl) ether and chloromethyl methyl ether
15	Oil from fossil fuels	Skin	Lubricants
16	Soot	Skin, lungs	Pigments
17	The fog of strong inorganic acids with sulphur	Lungs	Metals
18	Coal tar pitch	Skin, lungs, bladder	Construction material, electrodes
19	Wood dust	Nasal cavity	Wood industry, firewood
20	Benzidine	Bladder	Dyes and pigments production, laboratories
21	4-Aminobiphenyl	Bladder	Rubber manufacture
22	Pitch volatiles; aromatic amines	Lungs, bladder	Aluminum production

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23	Cadmium and cadmium compounds	Respiratory and digestive systems, prostate	Battery manufacture
24	Leather dust; benzene and other solvents	Lymphatic and haemopoietic system (leukemia), nose, paranasal sinuses, bladder	Boot and shoe manufacture and repair
25	Crystalline silica	Lungs	Ceramic and pottery workers
26	Dyes (aromatic amines, aminophenols with hydrogen peroxide); solvents; propellants; aerosols	Bladder, lungs, lymphatic system (non-Hodgkin lymphoma), ovaries	Hairdressers and barbers
27	Ionising radiation	Skin, lymphatic and haemopoietic system (leukemia)	Medical personnel
28	Arsenic compounds	Lungs, skin, lips	Vineyard workers using arsenic insecticides
29	Aromatic amines	Bladder	Synthetic latex production, tyre curing, calendaring operatives (calendaring is a finishing process used on cloth), reclaim rubber, cable makers
30	Diesel engine exhaust; extremely low-frequency magnetic fields	Bladder, stomach, larynx, lymphatic and haemopoietic system (leukaemia), lungs	Filling station attendants,railway workers, bus and truck drivers, operators of excavating machines
31	UV radiation	Skin, lips	Fishermen, sailors, agriculturists

According to Table 2 above, the most frequent occupational carcinogens include dyes, benzine, asbestos, ionizing radiation, diesel engine exhaust, crystalline silica, and UV radiation. Also, most occupational settings where people are exposed to carcinogens include railway workers, bus and truck drivers, hair salons and barbers, rubber manufacturers, and cement sectors associated with asbestos. People who work in synthetic latex production, vineyard workers using arsenic insecticides, medical personnel, fishermen, sailors, and agriculturists are also exposed to workplace carcinogens.

1.3 Epidemiology of Occupational Cancer

According to estimates from the International Labour Organization (ILO), occupational cancer kills 666,000 people worldwide each year—more than double the number of deaths caused by occupational accidents. Within the European Union (EU28), occupational cancer kills 102,500 people annually—twenty times more than occupational accidents.

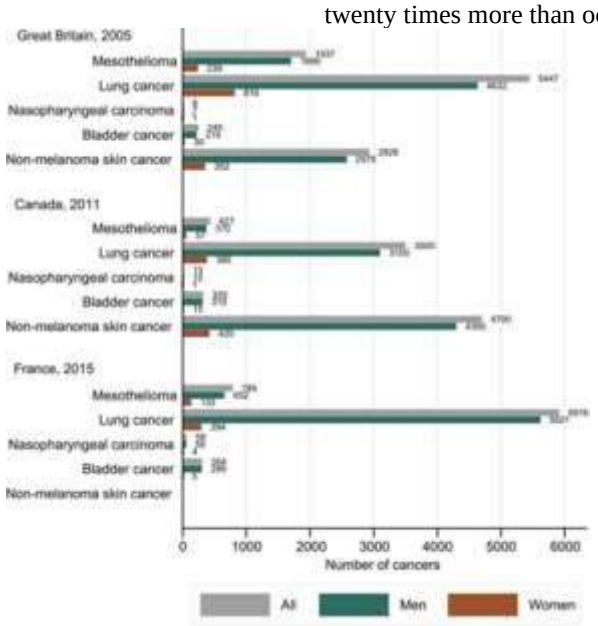


Figure 1. number of cancer cases attributable to occupational exposure at selected cancer sites [5].

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The 10 most significant occupational carcinogens, like asbestos, account for over 85% of all occupational deaths. Work exposures induce malignancies that have a high case fatality rate, such as lung cancer. The estimated total number of cancer deaths worldwide in 2016 attributable to 14 of the Group 1 agents was 349 000 [95% uncertainty interval (UI) 269 000–427 000], or 3.9% (95% UI 3.2–4.6%) of all cancer deaths. Of these, 299 998, or 17.6% (95% UI 13.8–21.3%), of lung cancer deaths were caused by these agents . Figure 2 shows the estimated total number of work-related deaths worldwide per region [6].

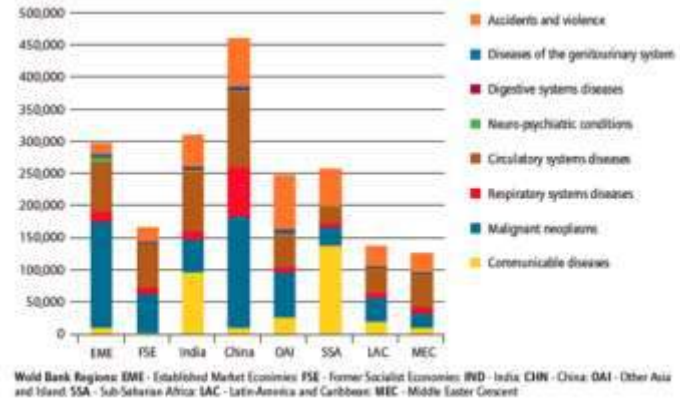


Figure 2. Region-specific estimates of the total number of work-related deaths worldwide [6].

1.4 Risk factors and High-Risk Occupations for Specific Cancers

It has been demonstrated that a variety of occupations and particular chemicals present in workplaces increase the risk of developing different types of cancer. Numerous industrial chemicals, dusts, metals, and combustion products, radiation exposure, entire industries and professions, and behavioral patterns like shift work are among the risk factors for occupational cancer. The risk of developing cancer in various occupations may be slightly elevated due to the things that employees do or are exposed to. Examples of such exposure include working in the sun, silica dust, diesel engine exhaust, asbestos, and other particles [7].

Table 3. High-Risk Occupations for Specific Cancers [8].

Work process / occupations	Cancer type	IARC classification
Asbestos production	Lung	Group 1
Aluminum production	Lung, bladder	Group 1
Auramine production	Bladder	Group 1
Boot and shoe manufacture and repair	Nasal cavity, leukemia	Group 1
Chimney sweeping	Skin, lung	Group 1
Coal gasification	Lung	Group 1
Coal-tar distillation	Skin	Group 1
Coke production	Lung	Group 1
Furniture and cabinet making	Nasal cavity	Group 1
Hematite mining (underground) with exposure to radon	Lung	Group 1
Iron and steel founding	Lung	Group 1
Isopropanol manufacture by the strong-acid process	Nasal cavity	Group 1
Magenta production	Bladder	Group 1
Painter	Lung, bladder (leukemia in offspring with maternal exposure)	Group 1
Paving and roofing with coal tar pitch	Lung	Group 1

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Rubber manufacturing	Leukemia, lymphoma, bladder, lung, and stomach (prostate, esophagus and larynx)	Group 1
Manufacture of art glass, glass containers and pressed ware	Lung, stomach	Group 2A
Carbon electrode manufacture	Lung	Group 2A
Hairdresser or barber	Bladder, lung	Group 2A
Petroleum refining	Leukemia, skin	Group 2A
Shift work	Breast	Group 2A

1.5 Preventive Measures and Control Strategies

Table 4. Overview of preventive measures [9].

Groups	Type of measure	Examples
Chemicals	Avoidance, substitution with harmless agents	Substitution databases and tools
	Technical measures, including substitution with less hazardous agents	Closed system, e.g. airtight metal cleaning plant using perchloroethylene, specific local extraction systems
	Organizational measures	Access system for specifically trained workers
	Personal measures	Respirators with specific filters
Pesticides	Avoidance, substitution with harmless agents	Organic farming
	Technical measures, incl. substitution with less hazardous agents	Integrated pest management, using application procedures and devices that reduce exposure
	Organizational measures	Reducing the number of exposed, avoiding side-exposure of workers who are not applying pesticides, decontamination procedures, proper procedures for storage and cleaning of substances and equipment, maintenance of application devices, machinery and protective equipment
	Personal measures	PPE, protective clothing, hygienic procedures for separating and cleaning contaminated clothing
Pharmaceuticals	General	Best practice examples described in the Commission guideline for the health care sector or NIOSH good practice guide on Managing Hazardous Drug Exposures: Information for Healthcare Settings
Biological factors	Organizational measures	Good hygiene practices, cleaning and hygiene plan, restricted access, black/white areas, spatial separation of polluted and unpolluted areas
	Personal measures	PPE, proper clothing, vaccination
Physical factors	Measures against sedentary work	Avoidance, reduction of sedentary work by dynamic workstations and/or treadmill desks, organization of work to avoid static work, prolonged standing and prolonged sitting, e.g. through breaks and reorganization of work procedures
	Measures against radiation	Closed, insulated systems, cordoning off areas, restricted access, recommended personal protective equipment
Shift work, night work	Technical and organizational	Shift work design according to scientific recommendations and best practice examples, design of schedules, limitation of years worked in shifts, health promotion, organization of rest periods, rest and eating facilities, making available appropriate meals
	Personal measures	Training, instructions regarding eating habits and rest periods
Combination of different risk factors	General	Precautionary approach needed, holistic risk assessment, job-exposure matrices that address all risks, approach by occupations

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DISCUSSIONS

In the context of occupational diseases, carcinogenesis is a complex process that includes the development of cancer because of exposure to carcinogens at work. This process is influenced by various factors, including the type of carcinogen, the duration and level of exposure, and individual susceptibility. Various agents, including chemicals, metals, and radiation, are considered occupational carcinogens and have been associated with the development of multiple cancer forms, including skin, bladder, and lung cancer. To minimize exposure and safeguard the health of employees, preventive measures and regulations must be put in place, which requires an understanding of these carcinogens. Moreover, public health policy and workplace safety standards are greatly influenced by research on the carcinogenesis of occupational diseases. Targeted interventions and control methods can be created by gaining insight into the mechanisms and factors that contribute to the development of cancer related to the workplace. This knowledge is essential for maintaining a safe and healthy workplace, lowering the total incidence of occupational cancer, and protecting employees' health [10].

CONCLUSIONS

The first step in preventing occupational cancer is identifying the carcinogens that are present in the workplace. Several important advantages can be obtained from identifying occupational carcinogens, mainly in the areas of public health and workplace safety. Once these carcinogens have been identified and characterized, preventive measures that can effectively lower the risk of occupational cancer can be established.

The global study of the epidemiological state of occupational cancer has provided valuable insights into the prevalence, distribution, and risk factors of malignancies associated with the workplace.

To better understand the intricate interactions between occupational exposures and the development of cancer, it is important to identify risk factors and high-risk jobs associated with cancers.

To reduce the incidence of occupational cancer, preventive actions against carcinogens in the workplace are important. These measures include avoiding harmful agents, substituting carcinogens with less harmful ones, regulating workplace exposures to carcinogens, providing personal protective equipment, the implementing of no-smoking policies, and the provision of information and training to workers.

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OPPORTUNITIES AND CHALLENGES OF THE DIGITAL WORLD OF MULTIMODAL INTERVENTIONAL BREAST RADIOLOGY (REVIEW)

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ANNOTATION

The article presents the evolution of the introduction of digital technologies into the system of oncological screening, multimodal technologies of interventional radiology, statistical data on the growth of malignant neoplasms of the breast in the world and Russia, shows the advantages of digitalization of radiation diagnostics, interdisciplinary integration with systems biology "omics" technologies, contributing to the development of a new direction " radiogenomics", and also pointed out the existing problems of introducing the latest technologies of interventional radiology, the need to train a multimodal specialist.

KEYWORDS. *multimodal approach , diagnosis, breast cancer , ultrasound*

Relevance. Breast cancer (BC) is the most common oncological pathology in women both in Russia and throughout the world. In 2018, more than 70 thousand new cases of breast cancer were diagnosed in Russia and, despite modern treatment methods, 22.3 thousand Russian women died from the progression of the disease [6, 1 2]. The introduction of mammography screening programs in a number of European countries and the USA played an important role in reducing mortality from breast cancer. Screening, due to the detection of the disease at an early, potentially curable stage, has reduced mortality from breast cancer in countries with a developed screening system by 15-25% [10, 13, 14]. Tumors detected as part of mammographic screening for breast cancer are the most difficult in terms of preoperative differential diagnosis, since they do not have clinical manifestations and are most often represented by early forms of the disease (non-invasive cancer and invasive carcinomas up to 1.0 cm in size) [13].

Mammography (MMG) is the only method for correct screening of breast cancer and the leading method for diagnosing early forms of breast cancer, including the detection of carcinomas in situ and invasive tumors of minimal size. Digital mammography uniquely combines the diagnostic value of analog predecessors and the capabilities of digital technologies, and the use of the BIRADS formalized image assessment system makes it possible to standardize the analysis of the data obtained and provide the radiologist with the correct further tactics for treating patients [1, 9, 1 0].

An undeniable advantage of MMG is the ability to detect microcalcifications, which are often the only radiological sign of early breast cancer. The detection of intermediate and malignant microcalcifications even in the absence of a tumor node suggests the presence of early breast cancer [8, 9]. Unlike MMG, ultrasound diagnostics (US) does not have sufficient resolution for tumors less than 1.0 cm; Ultrasound diagnostic capabilities do not allow visualization of early forms of breast cancer, manifested in the form of accumulation of microcalcifications, local stringy restructuring of the structure, as well as damage to the ducts of the mammary gland [4, 9].

At the end of the 90s, with the advent of the ultrasound elastography method, which is based on the high sensitivity of the shear acoustic properties of tissues to their pathophysiological state, qualitative and quantitative criteria for sonoelastography were developed to diagnose non-palpable formations [4, 7].

Magnetic resonance imaging (MRI) has entered the practice of examination for breast cancer relatively recently. The advantage of this method is the high resolution and contrast of displaying soft tissue elements, non-invasiveness, and the ability to obtain images in any arbitrary plane without mechanical movements. In order to increase the information content of the MRI method, contrast enhancement is used, with which the sensitivity in diagnosing breast cancer is 94%, specificity is 96.7% [7, 8].

Despite the presence in the arsenal of oncologists of such modern methods for diagnosing the disease as MMG, ultrasound and MRI of the mammary glands, the sensitivity of these methods for different biological subtypes of breast cancer has not been sufficiently studied, precise differential diagnostic criteria for preoperative assessment of the invasiveness of the tumor process have not been established, which is very relevant and timely for the development of a modern personalized approach [10, 11, 12]. In addition, the greatest diagnostic difficulties arise when identifying early forms of breast cancer, when the diagnosis is established on the basis of minimal signs of the disease, such as the presence of microcalcifications, changes in the structure of breast tissue and changes inside the ducts. Isolation and systematization of radiological signs characteristic of microcarcinomas will increase the frequency of detection of early forms of the disease at the preclinical stage,

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achieve maximum treatment efficiency with minimal financial investments,

which seems to be a very important task for practical healthcare [8, 9]. Thus, the study of radiological characteristics of early forms of breast cancer, their relationship with clinical and biological characteristics is an urgent problem and requires research on sufficient clinical material.

PURPOSE OF THE STUDY

To show the capabilities of modern digital radiation non-invasive and invasive technologies, as well as the need for interdisciplinary integration and training of multimodal specialists for early detection and determination of the breast cancer phenotype, which increases the efficiency of choosing adequate treatment tactics aimed at increasing the duration and quality of life of patients

MATERIALS AND METHODS

Literary data on the development of digital radiation methods for diagnosing breast diseases, including interventional radiology technologies, are presented. New data is also presented on the direction of "radiogenomics", which was born through the interdisciplinary integration of radiological digital systems, interventional technologies and high-tech systems biology.

RESULTS

The review presents the development of equipment and radiation methods for the early detection of breast diseases, based on technical progress, including the active introduction of digitalization and informatization in medicine. New artificial intelligence models act as a doctor's assistant during screening. The advantages of various options for interventional radiology technologies in cancer screening to improve the accuracy of pathomorphological diagnosis and determine the phenotype of tumors are shown. The latest data are presented on the feasibility of interdisciplinary integration of "computer vision" based on medical imaging features with the capabilities of systems biology in determining the tumor phenotype with a correlation reliability of 71%.

CONCLUSION

The undoubted advantages of digitalization and new opportunities of interventional radiology in identifying the earliest forms of diseases in an interdisciplinary format open up the prospect of highly accurate diagnostics and an adequate choice of organ-saving treatment tactics. The training of a multimodal specialist - radiation diagnostician - diagnostic radiologist and interventional radiologist, proficient in a wide range of radiation diagnostic methods, including invasive interventions, requires correction of organizational forms of work, new educational programs not only in the specialty, but also in the basics of digitalization, which will ensure rational and effective use of modern achievements of science and technology.

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THE DIVERSITY OF EDUCATIONAL STYLES IN IMAM ZARNUJI'S "TEACHING STUDENTS WAYS TO GET SCIENCE

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ANNOTATION

This article presents some stories and examples of the great alloma, Hanafi fiqhi scholar, adib, author of several works Imam Zarnuji, his work "education al-mutaallim", the secrets of obtaining knowledge for students who are in demand for science, their time, thoughts on the reverence of teachers, as well as the relationship between discipleship and mentorship in these and other works.

KEYWORDS: *"Education al-mutaallim", science, Taliban science, patience, maturity, decency, pand-exhortation, teacher-disciple, cultivation of science, modern education, teaching methods.*

Burhonul Islam Zarnuji was one of the scribes of the 6th century AH, mainly concerned with educational issues, and made several books on this matter. Tarojim (biography) does not list any reference to the person's real names. According to major researchers, the man was born in the village of "Zarnuj", located behind the oasis of "Özjand" in Turkestan, which belongs to the Turkish lands . This information is also from evidence that the man was from the Turkestan land.

Imam Zarnuji's" Educul Muta'allim – tariq at-TA'allum " presents important rules and methods regarding educational methods, which are mainly given ideas about what approaches a student should take in the process of obtaining science.[1] This work focuses especially on scientific and spiritual education.

First of all, Zarnujiy considers regularity and patience important in education. He argues that education should continue "from the cradle to the Lahad", i.e. emphasizes that the demand for science should last a lifetime. This idea was expressed in order to encourage the student's passion for science to wake up and constantly increase his knowledge.

The views of the president of the Republic of Uzbekistan Shavkat Mirziyoyev that "raising our children as independent-minded people, possessing modern knowledge and professions, with a strong life position, as truly patriotic people is an issue of urgent importance for us,"[2] also indicate the role of teachers in the comprehensive mature upbringing of the younger and growing generation. Also, the teacher-disciple relationship, mutual respect being good are considered from the foundations of the above thoughts and place great responsibility on the educators.

The author offers a variety of reading techniques in his work. For example, he points out ways to make education effective through proper time management, emphasizing the Times used during study. Morning time and evening are seen as the most effective for reading, as these times are best suited for mental activity.

In addition, the author emphasizes the importance of scientific debates and negotiations. In his opinion, through scientific communication and discussions, the student develops not only knowledge, but also the ability to carefully express his thoughts. Through the examples presented in the work, it encourages students to be fair and true in communication.

Zarnuji also singled out moral values in education. He encourages the importance of compassion, mutual respect and understanding between the teacher and the student. The teacher's compassion and affection for the disciple, in turn, has a positive effect on the educational process and increases the students ' passion for science.

Zarnuji's educational methods show that he takes into account not only the provision of knowledge, but also the personal and mental development of the student. In addition to science, his educational methods aim to educate in a state that includes morality and spirituality. These approaches are also relevant in modern educational methodology .[3]

Imam Zarnuji's" Tahrir MUT'allim - Tariq at-Ta'allum " (ways of students to take up science) is an important instruction on educational methods and reading culture to students and teachers at the time and even today. Through this work, Zarnujiy illuminates the different methods of education and their importance in meeting the specific educational needs of

[1] *Hayitmetov A. Sharq adabiyotining ijodiy metodi tarixidan. – Toshkent: 1970. – B. 237.*
[2] *Mirziyoyev Sh.M. Buyuk kelajagimizni mard va oliyjanob xalqimiz bilan birga quramiz. – Toshkent: O'zbekiston, 2017. – B. 158.*
[3] *Mufid M., Tamam A. M. Islamic Education Theory Al-Zarnuji's Perspective in The Book Ta'lim Al-Muta'allim //Interdiciplinary Journal and Hummanity (INJURITY). – 2024. – T. 3. – №. 1. – C. 9-16.*

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students. The work explains the various forms of educational methods, their advantages and disadvantages, while showing ways to overcome the difficulties faced in the learning process.

As the first and most important method, Zarnujiy emphasizes the dialogue between the teacher and the disciple. He urges the master to treat the Disciple with kindness, compassion, and to teach science with love and interest. This approach helps to increase the motivation of the student and actively participate in the course of the lesson. For example, Zarnujiy encourages teachers to be patient and explain the teaching material in an understandable way.

Secondly, Zarnujiy emphasizes the importance of repetition in education. In his opinion, it is necessary to repeat it many times in order to deeply master a topic. This method increases the ability to keep learning material in mind and strengthens knowledge. For example, he calls on teachers to revise the lesson every time and be prepared to re-discuss the topic with the disciples.

Thirdly, Zarnujiy supports dialogue and debate. He notes the great importance of thought Exchange in the educational process. Through communication and discussion, students develop skills to express their thoughts, solve problems, and create new ideas. Zarnuji recommends the active development of inter-student and Inter-student communication, which serves to increase the effectiveness of the educational environment.

Fourth, Zarnujiy emphasizes the importance of personalizing education. He argues that since each student has specific needs and abilities, the teacher must take a separate approach to each student. This allows students to fully manifest their potential and promotes their self-development. Imam Zarnuji's educational methods are aimed at meeting the diverse academic needs of the students, and these techniques encourage students to be active, independent-minded, and persistent learners. His philosophy of education remains relevant today, as it places more emphasis on encouraging learning than knowledge[4] .

In modern education, rethinking and integrating ancient teaching methods and traditional educational approaches can add new dimensions to the learning process. For example, the teaching methods highlighted in Imam Zarnuji's "Tahrir Muta'allim-Tariqatta'allum" ("the disciples' ways of obtaining science") can still be used today to enrich the educational process.

The work emphasizes that the student is actively involved in the process of obtaining science, requires patience and regular repetition. In modern education, this approach can encourage students to think independently and gain in-depth knowledge. For example, Zarnuji's emphasis on "trying seriously to understand everything well during education" can be applied as a method of active teaching in modern education, which helps students to independently solve complex issues.

Zarnuji's work also emphasizes the atmosphere of kindness, compassion and mutual respect between teachers and students. This is also very important in modern education, as the learning environment has a huge impact on the mental state and motivation of students. The teacher should be not only a cognitive giver to the students, but also a spiritual encouragement to them.

As noted in zarnuji's "secrets of obtaining science", any educational institution requires a deep study of science, its application to life experience and constant repetition. In modern education, this approach can be applied through practical projects, problem situation solutions and interactive methods. This increases students' ability to apply theoretical knowledge in practice.

In addition, the author's idea of bringing science and religious knowledge closer together can also play an important role in modern education. This encourages students to have a broader worldview and ensures that they are brought up in a spirit of respect for different cultures [5].

The integration of ancient educational methods into the modern educational system helps to make the learning process more effective and deeper. Through these techniques, students can develop the skills of independent thinking, logical reasoning, and creative solutions. Zarnuji noted that every student should sincerely seek knowledge and be patient along the way. This is one of the main goals of modern education.

In his works, Imam Zarnuji makes extensive and comprehensive views on the effectiveness of educational methods. His work, "Educul Muta'allim-Tariqatta'allum", provides an in-depth meditation on educational methods and the qualities necessary for the student. Imam Zarnuji, first of all, emphasizes the importance of communication between the teacher and the disciple in the educational process. He believes that the role of the teacher is not only to give knowledge, but also to promote the formation of the disciple as a recipient of knowledge.

Imam Zarnuji's book" teaching students ways to get science " takes into account important factors in assessing the effectiveness of educational methods. He views education not only as a means of learning, but as an important process that leads people to maturation. However, Zarnuji's techniques can present certain challenges as well as modern educational changes. For example, his methods are often traditional and text-centric, which is not consistent with interactive and technological approaches. Also, Zarnuji's educational styles are teacher-centered, which may not be consistent with

[4] *Mufid M., Tamam A. M. Islamic Education Theory Al-Zarnuji's Perspective in The Book Ta'lim Al-Muta'allim //Interdiciplinary Journal and Hummanity (INJURITY). – 2024. – T. 3. – №. 1. – C. 9-16.*

[5] *Bela N., Jannah S. R., Jaenullah J. An Analysis of Book T'alimul Muta'alim on Education Character and It's Relationship with Education Character Programs at Indonesia //Bulletin of Pedagogical Research. – 2022. – T. 3. – №. 1. – C. 10-37.*

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environments that encourage student participation and self-government in contemporary education.

To modernize Zarnuji's educational methods in the modern educational environment, in addition to traditional manuals, it is important to use modern educational resources, including electronic educational materials and multimedia Tools. This increases the adaptation of students to different learning methods and makes the educational process more efficient.

In addition, it is necessary to take into account religious and cultural differences when applying Zarnuji's educational methods based on religious and cultural context in different cultural environments. This increases the ability to apply these techniques globally and ensures that they are also accepted in communities with different religious beliefs.

At the same time, strict discipline and spiritual values in Zarnujiy's teaching should be coordinated with student-centered approaches to modern education. It does not limit students' personal freedom and creative opportunities for expression, but helps them develop spiritually and intellectually.

Now, as for the choice of a teacher, let him choose the most learned, the most pious and the oldest. Just as Abu Hanifa, after a long contemplation and Ta'ammullah alayhi alayhi, chose Hamad ibn Abu Sulayman Rahmatullah. The man said of his mentors: “I met my teacher in an old age, in a state of vigor, halim and patience in all his affairs. I read and grew up in the presence of Hamad ibn Abu Sulayman”. Abu Hanifa said, " I heard from the hakim of Samarkand[6]. He said, “one Taliban has advised me on how knowledge can be obtained. After that, at the request of science, he swore to go to Bukhara. If you go to Bukhara, do not fall in love with the scribes. After living there for two months, think carefully and choose a mentor. If said that if you go to a scholar and start to learn from him, then soon his lessons will not satisfy you, and if you leave him for another, you will not be blessed in your knowledge.[7]”

About the veneration of the master, another scientist said the following. The master said to his disciple, " O disciple! O patient! Honor me, and make your decency, and they will not be admonished.

O man, for you are the world, your Affairs, your end, your future is under my servant, you will achieve it because of me, and you will think about the consequences of your affairs, and they will not give such instructions. Have you offended them, and afflicted them with your insolence, and be patient with your pain, and be patient with your pain. Or, be content with your self-esteem[8] .

As the story goes sent khazrati Khorun ar-Rashid O'g‘ Il to Imam Asmoi khuzur for learning science and etiquette. One day, the master notices that his treasures are abusing. His sons poured water on their feet. Then the khazrat of the Caliph itob (urishib) and reproached Imam Asmai:

– I felt sorry for your house to learn science and decency, so why not pour water with one hand and prescribe you to wash your feet with the other?! - they said[9] . So it turns out that following the teacher's respect, staying for his services, finding love and sustenance in his heart should become every student's khayotiy task. This is one of the main factors in the interest of both himself and others in science. Only when the student approaches this high duty with devotion and sincerity will he achieve success.

In Imam Zarnuji's" Education Muta'allim", the effectiveness of educational methods is expressed through the following main factors: first, he views education not only as a process of learning, but as a path of spiritual maturation. The author argues that through education it gives a person the power to open the doors of divine enlightenment and make it a real person. This process is measured by the deep acquisition of knowledge, the domestication of practice and regular repetition.

Secondly, Zarnujiy considers it important to organize scientific discussions among students. These discussions not only serve to increase the level of knowledge, but also develop students ' thinking and motivate them to think independently. In his opinion, the student should be an active participant in the educational process in search of knowledge, and not just a recipient. The student should also have a high assessment of personal responsibility for studying and learning.

Thirdly, the moral qualities of students and teachers play an important role in improving the effectiveness of educational methods. Zarnujiy believes that the teachers should generously share their knowledge and experience and start the disciples on a full path.

Finally, as Zarnuji points out, it is important to constantly learn and repeat in the path of science. Science is not something to be mastered in one day, but a process that lasts a lifetime. All these factors represent the Deep content of Zarnuji's educational methods and are also of relevant importance in the context of modern pedagogy.

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PROBLEMS OF INCREASING THE INTELLECTUAL CAPACITY OF YOUTHS IN UZBEKISTAN

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ABSTRACT

In the article, the concept of intellectual potential, its importance in the development of the society was revealed on the example of the role of the intellectual potential of young people in the life of the society of Uzbekistan. In recent years, measures to increase the intellectual potential of the country, their legal bases, especially the work aimed at increasing the intellectual potential of young people, have been analyzed. Shortcomings observed in the implementation of policies aimed at increasing the intellectual potential of young people. Opinions on problems and their solutions are put forward.

KEYWORDS: *youth, intellect, intellectual potential, knowledge, innovation, human capital, higher education, society, competition.*

INTRODUCTION

The introduction of the digital industry in the modern world did not neglect the field of education, it made serious changes in its system and structure. In our country, the system of science and higher education is working on the implementation of a set of measures aimed at achieving specific goals related to the development of the digital sphere of higher education. The concept of development of the higher education system of the Republic of Uzbekistan until 2030 [1] within the framework of this development, it was determined that this area of development is a strategically important task of the state, as it significantly increases the country's competitiveness and ensures rapid economic growth. "In order to develop scientific and innovative activities in our country, young and talented personnel are first necessary" [2.173], said President Sh. Mirziyoev. That is why democratic reforms not only created historical opportunities for our nation to express its identity, but also demanded new ways of living and thinking, especially for young people, to take their rightful place in life, to acquire a new spirituality based on a national ideology compatible with universal human values.

In recent years, in the youth policy of our country, measures, especially systematic work aimed at increasing their intellectual potential, have been carried out in 7 directions. 396 thousand young people who need special attention of the state were attached to official leaders, and through individual work with them, 331 thousand were helped to find their place in life. In particular, 94,000 people were employed, 56,000 were trained in professions[3]. The number of types of assistance provided through the "Youth Register" has reached 30, and the period for considering applications has been reduced from 30 days to 5 days. Starting this year, the "Olympiad of Five Initiatives" was held in 4 directions - neighborhood, school, professional education and university system, and a total of 12 million young people were involved. In order to support talents, the first "Creative Park" which operates around the clock was put into use in the Palace of Youth Creativity in Tashkent. 2 million young people were involved in "Zakovat" and other intellectual games. Such works show that the intellectual potential of young people is being systematically improved in our country.

LITERATURE REVIEW

The problem of forming and developing the intellectual potential of young people is a traditional topic of research in the works of many local and foreign scientists. Currently, the scientific category "intellectual potential" is actively used in various fields of social and humanitarian knowledge. The greatest contribution to the study of intellectual potential was made by representatives of local psychology.

It is impossible to understand the essence of a person's intellectual potential without fully understanding the content and structure of intellectual potential. From this point of view, in the study of problems within the scope of the research topic, issues related to logical-psychological foundations, structural elements of intellectual culture, interrelationship with other forms of intellectual processes, and the influence of education on it were systematically analyzed by M.K. Akimova, Researches of prominent representatives of psychology such as A.N. Voronin, Ye.A. Valueva, Ye.V. Dudorova, Z.Kh. Sierralta, N.A. Luzhbina are of great importance. The development of a person's intellectual potential is inextricably linked with changes in science. It should be noted that some philosophical issues related to this aspect of the problem were studied in the scientific works of scientists such as I.A. Bykovskii, N.Yu.Trushkina, A.S.Stepanenko, O.D.Shipunova, D.A.Rostovykh, R.V.Shutov, A.E.Nikitin, N.Yu.Popova.
In our country, researchers such as U.Kerimov, H.Yorkulov, N.Rizaev, O.Okyulov, M.Qalandarova, V.I.Andriyanova did not conduct separate research on intellectual potential, but they focused on artistic-philosophical and legal problems. In the conducted research, they mention the aspects related to its composition. It describes its three elements, i.e. intellectual-pedagogical, social-legal, spiritual-ethical aspects. The first element includes mastering the basics of science, as well as the

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formation of intellectual abilities and skills in a person. The second aspect is the socio-legal factors of intellectual culture, and the third is the role of national and universal factors in intellectual activity, which consists of the dialectical relationship between the object of education and the subject.

RESEARCH METHODOLOGY

If we summarize the level of study of the problem of intellectual potential and the factors of its provision, the mechanisms of increasing the role of knowledge and innovations in modern domestic and foreign literature, the topic of this article has been analyzed in the social sciences in a rather wide range. To solve them, the research used the following methods, including: problematic - chronological - historical significance of intellectual potential, attitude to knowledge in the development of Uzbek society, various forms of scientific activity and methods of their development are focused on determining the origin of the emergence. On the basis of the comparative-historical method, it is possible to emphasize the development and complexity of intellectual potential and its increase, the increasing modern difficulties in increasing human intelligence. The method of concrete-sociological research envisages the determination of the influence of intellectual potential on the interests of the individual, society and the state, the trends and changes related to them, and the logical method allows to determine the exact relations between the existing events and processes. The combined use of these methods in the subject article made it possible to investigate the existing problem more accurately and in depth.

ANALYSIS AND RESULTS

Today, the development of the education system in our country has risen to the highest level of the state's policy, ensuring that young people acquire knowledge and skills in conditions appropriate to the requirements of the time, develop into mature people in all respects, their potential and talent, intellectual A lot of work is being done to realize the worldview, to educate young people with an innovative worldview, to develop feelings of patriotism, selflessness and hard work in their minds. It should be noted that, as in all spheres of the country's life, positive changes are being observed in the field of science and innovative development. The following measures are being implemented to fundamentally reform this sector:

Comprehensive measures aimed at strengthening the infrastructure of scientific research institutions and developing innovative activities in 2017-2021, which provide for the improvement of the activities of scientific research institutions, the strengthening of their material and technical base, and the creation of favorable conditions for the development of innovative activities, were approved;

The Ministry of Innovative Development was established in order to implement a unified state policy aimed at comprehensive development of society and state life in the field of innovative and scientific-technical development in the republic, increasing the intellectual and technological potential of the country;

The strategy of innovative development of the Republic of Uzbekistan in 2019-2021 aimed at making the Republic of Uzbekistan one of the 50 advanced countries of the world according to the Global Innovation Index rating by 2030 was adopted;

The Law "On Innovative Activity" was adopted in the country, which defines the legal basis for the regulation of relations in the field of innovative activity;

Systemic reforms implemented in Uzbekistan eliminated many shortcomings in science and innovation, as a result, according to the Global Innovation Index report, the republic's rating improved by 29 positions and took 93rd place among 131 countries [4].

In Uzbekistan, there are still some obstacles and problems in realizing the intellectual potential of young people and in the effective implementation of the state policy in this regard. Some of them are systemic problems of socio-political, economic and organizational form. For example, as for schools and universities, many tasks, lectures and even practical training have been transferred to remote mode. Digital technologies and their implementation have helped to create a wide and rich environment that provides a variety of educational resources, without restrictions on the content and helps to simplify the process of understanding and mastering the necessary material. This raises the following questions: - overcoming difficulties in self-organization and understanding; - changing traditional education with the help of technology; - the teacher's role in revealing and forming potential human abilities; - identifying problems in acquiring professional skills; - progressiveness, which is "impossible to continue."

Today's modern society is saturated with an unlimited flow of information, which affects the level of intellectual activity of a person. The human potential of a person is a partial thing given to him from birth, and to a greater extent it is the result of continuous development. In turn, the education system plays an important role in human development. Combining these two concepts, we can conclude that the intellectual potential of a person is based on two components: knowledge and information. Today, digital technologies have provided many opportunities to create an effective educational and production process. In this regard, the traditional approach to the educational process was forced to change, there was a need to form new competencies and completely reorganize the educational process. Students and teachers need to fundamentally change their attitude to the methods of cognitive development. Today, the task of professors and teachers is to use a variety of technological resources from the continuous flow of available information to create a clear, simple and comprehensive visually convenient educational platform, which allows to fully concentrate the student's attention and provide maximum knowledge.

Another change in the realization of the intellectual potential of young people is that the role of "passive" forms of education (for example, lectures) is decreasing dramatically, that is, standard concepts and models are no longer used. The

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presentation of this or that material turns into an infographic and helps to completely reconstruct the thinking process, build logic and understand the set goals and objectives. There is a growing demand for interactive methods of presenting information (diagrams, slides, collages, etc.), which contribute to the active work of students. Simply put, educators have to perform demanding and complex jobs that must simultaneously be kept up-to-date by a changing information ecosystem. As President Sh. Mirziyoyev noted, it is necessary to bring to a logical conclusion the large-scale work we are conducting in this field, in particular, the adopted nationwide programs on education. For this purpose, the most important task of the government, relevant ministries and agencies, and the entire education system, our respected teachers and professors, is to provide thorough education to the young generation, to raise them to be physically and spiritually mature people [5.145-146].

Another issue in realizing the intellectual potential of young people is the diminishing role of professors and teachers in increasing intellectual potential. In the current period, the main task of the education system was to improve the qualifications of professors and teachers in the field of digital literacy. Teachers have always been guides in the labyrinth of science, helping to find the right reference point, they have built bridges between students and the wider world of knowledge. Now all this is boldly transferred to the hands of the technological process, so that the main, leading role of teachers is lost, and in fact the student is left to fend for himself. All this affects the level of the motivational mechanism, that is, the student's desire to master more and more new material.

One of the factors that have a negative impact on the intellectual potential of a person is the elimination of long-term direct relationships between a teacher and a student, which gradually destroys the effectiveness of the educational process. leads to hardening. Live interpersonal communication is lost, which leads to the formation of a socially poor psychotype. Digital development is occupying more and more areas of the world economy. Large enterprises strive to improve and restore the intellectual potential of a person in the conditions of digitization and to automate all structural processes, which reduces the need for simple labor actions and increases the demand for more advanced, rational implementation of labor activities. In other words, it requires experts who can do what a machine can't. In this regard, universities are striving to create and produce professional personnel fully suited to this role. Currently, many platforms have been created that allow students to learn the necessary skills remotely for conducting practical and laboratory training. However, if a graduate enters a strategic manufacturing facility, he or she may not be able to handle the installation that he or she has seen online. Many competencies require deep interaction in real-world environments. Working live with different machines and devices will help you better understand the internal mechanism of the machine, get involved in its process and study its every detail more clearly.

Another problem of realizing the intellectual potential of young people is the ineffectiveness of independent education. It can be argued that the new technologies of independent education, first of all, mean increasing the activity of students: the fact obtained by their own efforts has a great cognitive value. In teaching methods, the teacher often puts the student in the position of an object of information transmitted to him from the outside. With this formation of the educational process, the teacher artificially delays the development of the student's cognitive activity and causes great damage to him intellectually and morally.

Realization of the intellectual potential of young people is another problem, and the main factors of the formation of the strategy of effective development of the system in increasing the intellectual potential of the country should be considered as a whole system. This integrity should include the processes from innovation support, science-education-production integration, from the guarantee of copyright to the student's assimilation of new knowledge. In Uzbekistan, striving towards a global educational space is one of the ongoing processes, and in this process, the formation of high intellectual potential in all strata of the population, especially in the youth, is the demand of the time. Because it is necessary to pay attention to the main factors of forming the innovative development strategy of the country as a whole system. In our opinion, such a comprehensive system should be based on the outlook position of every citizen, especially young people, and should be reflected in their lifestyle. Attitude towards youth is the existing, more precise emphasis of the law necessary for world development and development, youth is turning from a person of priority importance to a leading foundation that contributes to its development and implements the development of society. The social qualities of young people, such as intellectual potential, professional skills, intellectual perfection, have a positive effect on the level of development of the entire country. Such trends show that young people are becoming an active subject of society as a separate socio-demographic layer.

Another problem in increasing the intellectual potential of young people. Innovative economy as a stage of capital development implies the level of social relations and the type of sign corresponding to this type of production. Unlike Western countries, which have an economic system based on the socialization of property and the mechanism of management planning and distribution, a social type of society has developed in our country in the recent past, and a specific type of character has been formed, which still prevails.

In the following year, about seventy decisions, decrees and orders of the President of the Republic of Uzbekistan and the Cabinet of Ministers were adopted. This literally started the process of changes and updates in the education system. We can see the focus on youth in all 5 initiatives under the new system[6]. We can assess that these initiatives are directly aimed at increasing the intellectual potential of young people.

By increasing the intellectual potential of the young generation, the priority of the policy of state support for the effective modernization of the priority sectors of the economy, increasing the activity and systematization of the scientific and technical sector, and the production of modern finished products with high added value that are popular in foreign

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markets increasing and raising to a new level, provides an opportunity to achieve stable high growth rates of export of finished products [7]. According to the conducted studies, the following main problems are distinguished when considering the issue of the future development of innovative activities, including: firstly, Uzbekistan has great potential in a number of fundamental science fields, but the mechanism for processing this potential has not been developed; secondly, the level of adoption of innovations by enterprises in the industrial sector remains low, which in turn leads to a low level of demand for advanced technologies by sectors of the economy.

CONCLUSIONS

1. In the world, a number of scientific studies are being conducted to improve the socio-political aspects of increasing the intellectual potential of young people, to determine the axiological attitude to scientific research activities. At the same time, attention is paid to deepening the theoretical foundations of the development of critical and creative thinking of young people, to the formation of scientific and innovative thinking in students based on its priorities and ideas. Currently, 32 percent of our country's population, or 10 million, are young people under the age of 30. The policy aimed at increasing the intellectual potential of young people, under the influence of internal and external factors, can be considered as the period of its most active formation, the period of realization of this potential, the source of change.
2. Individual elements of the human potential system can appear in different conditions of their formation, but potential-elements with certain functional independence do not exist separately. Only through interaction can they lead to a quality jump. In the period of transformational changes in society, the system of socio-cultural interdependence in society is changing and the problem of development prospects gives us constructive sources, factors, reasons for theoretical understanding of what is happening and practical decisions on social policy. It is especially important in the period when driving forces are being sought.
3. The concept of intellectual potential is determined by education and its formation is related to the growth of population education. From our point of view, it is necessary to apply a broader and differentiated approach to the structure of intellectual potential. Its components can be scientific, educational, innovative and cultural potential. If we analyze individual entrepreneurs at the state or regional level, it is appropriate to use the four components listed in the analysis; if we study individual entrepreneurs of the enterprise, then it makes sense to use the scientific and innovative potential; if we analyze and calculate individual entrepreneurs of a scientific institute or university, then components such as education and scientific potential are relevant for calculation.
4. The analysis of the general situation in the world and possible investments allows us to draw the following important conclusion: the only reliable source of stable and large-scale investment growth is the domestic factor, the growth of domestic consumption. In modern conditions, the development of the country's economy can take place primarily due to the expansion of the domestic market. This is the growth of internal demand, which is the main factor of the development of the modern economy, mainly for permanent consumers. Accordingly, this means that the majority of the population (ideally 100%) must have the financial means to purchase such goods and services. In today's Uzbekistan, a minority of the population is capable of this, i.e. no more than 15-20%.
5. In modern society, intellectual capital becomes the basis of socio-economic wealth. It determines the competitiveness of economic systems and serves as the main source for their development. The economy's ability to create and effectively use intellectual capital increasingly determines a nation's economic strength and prosperity. The successful socio-economic development of any country largely depends on the openness of the society to the introduction of various knowledge, ideas and information and the ability of the economy to effectively process them.

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UNLOCKING THE POWER OF PASSIVE VOCABULARY: ENHANCING COMMUNICATION SKILLS

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ABSTRACT

Vocabulary learning always has been a crucial part of language learning especially for ESL learners. Students complain about their ability to use the learned vocabulary in communication due to inadequate utilitization of words and retaining phrases in long-term memory. This study examines empirical approaches to acquisition given vocabulary involving several techniques such as practice through reading, writing, speaking, and word games. Through actively taking part in learning vocabulary students are capable foster their overall language skills and widen their vocabulary more efficiently. By doing so, we suggest learners focus on practice repeatedly, embrace authentic language sources into application and use every chance to use vocabulary in real-life contexts mainly for B1, B2 learners.

KEYWORDS: *ESL learners, inadequate utilization , authentic sources, real-life contexts.*

INTRODUCTION

An essential component of human connection is communication, which enables people to connect, communicate, and exchange ideas. According to Nichols and Rupley (2004), may be characterized as "an integral part of a balanced approach to teaching vocabulary instruction" (p. 55). Vocabulary is one important element that frequently contributes significantly to good communication. Unlocking the potential of passive vocabulary is just as vital as using more active vocabulary, which most people concentrate on growing because these are the words they use on a daily basis while speaking and writing. The term "passive vocabulary" describes terms that people know and comprehend but do not often use in everyday conversation. These terms could have come up when reading, listening, or learning a language, but they have not been completely incorporated into the person's current vocabulary. Nonetheless, people may greatly improve their communication abilities and express themselves more clearly and confidently by utilizing the possibilities of passive vocabulary. Improving understanding and fluency in spoken and written communication is one of the main advantages of building a passive vocabulary. People may grasp and communicate complicated concepts more effectively by learning new words and developing a deeper understanding of the intricacies and complexities of language. This can thus result in more precise and impactful communication, allowing people to express their ideas and feelings more clearly and effectively. Additionally, people may become more flexible and adaptive communicators by realizing the potential of passive vocabulary. "It has long been known that vocabulary knowledge and reading comprehension are closely related" (McNeil, 1992, p. 112). For this very reason, reading is primarily methods of learning vocabulary in contexts. People may more effectively adapt their language to various circumstances, audiences, and goals by being more familiar with a wider variety of words and expressions. This adaptability may be especially helpful in work environments because establishing rapport, sharing knowledge, and accomplishing objectives all depend on efficient communication. Moreover, expanding one's passive vocabulary helps improve cognitive function and one's overall language proficiency. A wide and diverse vocabulary is linked to better levels of intellect, creativity, and critical thinking, according to research. People may hone their language skills, broaden their knowledge, and engage more with their passive vocabulary by actively using it. This will help them become more skilled communicators. Developing one's passive vocabulary may be a worthwhile and satisfying undertaking that has a good effect on communication abilities and general language competency. People may improve their comprehension, fluency, variety, and cognitive capacities by increasing their word knowledge and usage. This will ultimately enable them to communicate more successfully and confidently in both their personal and professional life.

Instructors looking for an efficient teaching approach can start by comprehending and putting into practice what is known about how kids learn and how the brain absorbs, stores, and uses information (Sousa, 1995). Jensen (2005) contends that word-based learning requires attentive, focused attention. If teachers teach language more effectively, classrooms can become vibrant, dynamic learning environments. According to Jensen (2005), "people will come to realize that you had better understand the brain if you wanted to understand human learning" (p. ix).

Students' brains are different from those of past generations, as Sousa (2003) notes. Diverse technologies and diversions including social media, religion, hobbies, and contemporary diets have an impact on kids' ability to think and their neural architecture. Educational scientists have discovered a great deal about the brain and how it works during learning in the last 10 years (Wolfe, 2001). Teachers are now far more aware of how critical it is to pay attention to and make content relevant during the teaching and learning process. They also know more about

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how information is received, stored, and retrieved by the brain. As our understanding of the workings of the brain has grown, knowledgeable educational leaders are now better equipped to assist teachers in adapting their methods of instruction to better support the learning process. There are several problems in learning active vocabulary and I want to mention some of them before starting the article .

One of common issues called "Recall Difficulty" When speaking or writing actively, learners may find it difficult to remember and apply words they understand. It can be difficult to retrieve words from memory and incorporate them into writing or conversation on the spur of the moment. Learners do know the word but cannot remember since they have already become passive vocabulary in their brain.

Contextual Appropriateness: Students may find it difficult to utilize a term correctly in various settings even if they can passively understand its meaning. It might be difficult to grasp the subtleties of word usage and to know when and how to use a term effectively. Especially when students have a number of new words learned and they seem similar in their first language , learners struggle with choosing appropriate words which suits the context.

Lack of Confidence: Students may be reluctant to actively employ new words out of concern that they will pronounce them poorly or sound strange. Their apprehension about making mistakes may prevent them from embracing new words in their conversations. New learners usually try to avoid using these new learned vocabularies and they become passive in the end.

Limited Exposure to Usage: Words that are passively understood are frequently encountered in reading or hearing situations. However, learners may not be exposed to the word's practical usage if they are not actively speaking or writing with it, which makes it more difficult for them to internalize and employ. Practice is necessary to make the shift from passive to active vocabulary. Consistent practice and reinforcement are necessary. To reinforce their learning and usage, learners require opportunities to actively utilize recently learned terms in a variety of contexts.

It might be difficult to include new terminology into writing or speech that flows naturally. It could be challenging for learners to incorporate new words into their speech output without hesitating or pausing. As learners expand their active vocabulary, they may encounter words with varying levels of difficulty or complexity. Balancing the incorporation of new words with maintaining fluency and coherence in communication can be a challenge, especially for learners at different proficiency levels.

Cultural and Sociolinguistic Factors: Understanding the cultural and sociolinguistic contexts in which words are used is essential for effective communication. Learners may face challenges in grasping the cultural connotations or appropriate usage of words in different social contexts.

Active Reading: Examining reading engagement is crucial. According to Baker, Dreher, and Guthrie (2000), students who read regularly for pleasure, interest, and education are deemed engaged readers. According to Page 2, "engagement is the desire to learn new information about a subject, to follow the suspense of a story, and to broaden one's experience through print." According to a nationwide study, 44% of 9-year-old kids read for pleasure every day. By the age of 13, just 21% of people are reading for pleasure (Baker et al., 2000). According to Campbell, Voelkl, and Donahue (1997), just a small percentage of pupils engage in reading on a daily basis.

"Looking at what exceptional teachers do can help illustrate the current state of instructional practice" (Baker, et al., 2000, p. 11). Pressley, Wharton, McDonald, Allington, Block, and Morrow (1998) studied first grade. Five sites' worth of teachers who were recommended by their managers as successful in advancing their students' literacy were either watched or surveyed. These educators were classified as either exceptional or average. Examining teaching strategies, it was discovered that teachers classified as typical weren't bad educators—they were just average. Results showed that these teachers' methods of instruction had a discernible impact on the academic performance of their pupils (Baker, et al.). Expanding one's active vocabulary can present difficulties as learners come across words of varying levels of difficulty or complexity. Striking a balance between integrating new words and maintaining smooth and coherent communication can be challenging, particularly for learners at different proficiency levels.

Taking cultural and sociolinguistic factors into account is crucial for successful communication. Learners may encounter obstacles in grasping the cultural implications or appropriate usage of words in different social contexts. Turning passive vocabulary into active vocabulary through writing can be an effective strategy for language learners. Here is how you can approach it: Keep a Vocabulary Journal: Start by keeping a vocabulary journal where you list new words you encounter during reading or listening activities. Include the word, its definition, and an example sentence or phrase illustrating its usage.

Set Writing Goals: Establish specific writing goals that incorporate the use of new vocabulary. For example, aim to write a certain number of sentences or paragraphs each day or week using recently learned words.

Practice Word Usage: Select a few words from your vocabulary journal and incorporate them into your writing exercises. Focus on using the words in different contexts and sentence structures to deepen your understanding of their meanings and usage.

Write Regularly: Dedicate time to regular writing practice to reinforce the active use of vocabulary. This could include journaling, creative writing exercises, essays, or even writing emails or blog posts in the target language.

Seek Feedback: Share your writing with language partners, tutors, or teachers who can provide feedback on your use of

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vocabulary. Ask them to specifically highlight instances where you've effectively incorporated new words into your writing and offer suggestions for improvement.

Use Writing Prompts: Utilize writing prompts or exercises that encourage the use of specific vocabulary. This can help you practice applying new words in different contexts and scenarios.

Revise and Edit: Review your writing regularly to identify areas where you can improve the use of vocabulary. Look for opportunities to replace common words with more precise or expressive alternatives from your vocabulary journal.

Experiment with Style and Tone: Explore different writing styles and tones to vary your use of vocabulary. Practice writing formal essays, informal blog posts, persuasive arguments, descriptive narratives, and other genres to broaden your vocabulary usage.

Expand Vocabulary Horizontally and Vertically: Horizontally expanding your vocabulary involves learning synonyms, antonyms, and related words to deepen your understanding of a word's usage. Vertically expanding your vocabulary involves learning words that are more complex or nuanced in meaning.

There are several ways to enhance our vocabulary learning skills through writing .
By consistently incorporating new vocabulary into your writing and actively practicing its usage, you can gradually transition passive vocabulary into active vocabulary while simultaneously improving your writing skills in the target language.

Actively participating in conversations with native speakers, language partners, or language exchange groups. Engaging in dialogue provides opportunities to naturally incorporate new vocabulary into your speech.

Participating in speaking-focused language activities such as role-plays, debates, discussions, or storytelling. These activities encourage you to actively use vocabulary in real-life contexts. Create speaking prompts or topics that require the use of specific vocabulary you want to practice. This could involve discussing current events, sharing personal experiences, or expressing opinions on various subjects. Using Vocabulary in Context: Paying attention to the context in which new words are used during conversations.

It is critical to use a variety of strategies that can support the reinforcement of these terms' usage in regular conversation in order to close the vocabulary gap between passive and active. Exposure to the new terms and regular practice are two successful approaches. This can be doing writing exercises, making flashcards for frequent study, or even incorporating them into everyday discussions. Context-based learning is an additional method for integrating passive vocabulary into active learning. One may better grasp how to utilize a term in their own communication by being aware of its meaning and usage in various contexts. Understanding the meaning of these terms in everyday situations may be gained by reading books, articles, or watching films and television series. Actively employing passive vocabulary might also benefit from practice with a tutor or language partner. Confidence and fluency in the use of these terms can be developed by participating in discussions where they are accepted and corrected. Establishing clear objectives for introducing new vocabulary into everyday conversations—through written assignments, speeches, or even postings on social media—is also beneficial.

CONCLUSION

For B1 and B2 ESL learners, the journey of unlocking the power of passive vocabulary is a crucial step towards mastering the English language. While reading serves as a valuable tool for expanding vocabulary, it's equally important to actively incorporate these new words into both speaking and writing practice. In conversations, whether with classmates, teachers, or language exchange partners, strive to incorporate recently learned words and phrases. Don't be afraid to make mistakes; each conversation is an opportunity for growth and improvement. By actively using new vocabulary in real-life situations, you'll reinforce your understanding and develop confidence in your ability to express yourself effectively. Similarly, when writing, challenge yourself to incorporate a variety of vocabulary into your compositions. Whether it's a simple email, a journal entry, or a short story, aim to use newly learned words in context. Pay attention to how they fit into sentences and paragraphs, and practice using them in different grammatical structures. Remember, language learning is a journey, and progress comes with consistent effort and practice. By actively engaging with both passive and active vocabulary in reading, speaking, and writing, you'll gradually build the skills and confidence needed to communicate fluently in English. Keep exploring, keep practicing, and celebrate each milestone along the way!

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SCIENTIFIC ACTIVITY OF ZAFAR AHMAD THANWI AND GENERAL DESCRIPTION OF THE WORK "I'LA AL-SUNAN"

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ABSTRACT

The main purpose of the article is to shed light on the life and scientific activity of Zafar Ahmad Tahonavi (d. 1394/1974), a mature scholar from India, Hanafi scholar, and his books, especially the work "E'la al-Sunan".

Also, the general characteristics of the period in which he lived will be considered, and information will be given about the cultural life that prevailed in the country. In this work, it was found that he gave refutations to groups named "Ahli Hadith". In addition, it contains the positive opinions of Zafar Ahmad Tahonaviy and his works from different countries of the world.

KEYWORDS: *Muhaddith, Faqih, Hadith, Asar, Musnad, Hafiz, Ahkom, Hanafi*.

MAIN PART

In order to get to know the Indian scientist Zafar Ahmad Usmani Tahanawi, we will visit with information about the author's family, education, works and scientific activities. There is not enough information about the scientist and his family. However, despite the fact that the sources give only a few sentences about the author and his family, it is possible to form a general idea about them.

Maulana Zafar Ahmad ibn Latif Usmani Tahanawi was born on 13 Rabi' al-Awwal 1310/1892 in the city of Deoband, one of the centers of knowledge in India. When he was three years old, he was separated from his mother and was taken care of by his grandmother, who was a pious woman[1]. He was the nephew of Ashraf Ali Tahonaviy.

Zafar Ahmad Usmani receives his primary education in Diyoband. From the age of five, he began to learn the recitation of the Holy Qur'an with the famous hafiz of Diyoband. His uncle Ashraf Ali Tahonaviy played an important role in his education. In Thana-Bhawan, he studied the science of tajwid with his uncle, as well as some lessons from Jalaluddin Rumi[2].

We can list the teachers who studied Zafar Ahmad Usmani Tahanawiy as follows:

a) Recitation lesson from famous teachers of Dar al-Ulum madrasa Hafiz Namdar, Hafiz Ghulam Rasulu and Maulana Nazi Ahmed,

b) A lesson in sarf, nahv and literature from Maulana Muhammad Abdullah al-Ganguhi at the Imdad al-ilm madrasa,

s) At the age of seven, he took Persian, Urdu and mathematics lessons from Sheikh Muhammad Yasin.

d) From 1905 to 1908, he read the basic books of hadith science called "Mishkot al-Masobih" and "Kutubi sitta" from Maulana Muhammad Ishaq Bardavani and Maulana Muhammad Rashid Konpuri.

In 1909, he entered Mazohir al-Ulum, located in Saharanpur, where he studied logic, geometry and mathematics. In this madrasa, Maulana Khalil Ahmad Saharanpuri (d. 1346/1927-28)[3] studied hadith and graduated from the madrasa in 1910 at the age of 18 with permission from the sciences of hadith and other intellectual and narrative sciences. He started working as a teacher at this madrasa when he was eighteen years old and taught jurisprudence, jurisprudence, logic and philosophy for seven years. Later, he worked as a teacher at Imdad al-Ulum madrasa, where he was a student. He taught hadith, tafsir and fiqh in this madrasa for many years[4].

He started working in 1917 at Madrasai Irshad al-Ulum located in Garkipuh. In 1925, he completely memorized the Qur'an. In 1930, he began working as a mudarris at Madrasayi Randiyya in Rangoon, Burma. In 1937, he taught hadith, jurisprudence and usuli jurisprudence at Dhaka University. Later, he worked as the head mudarris of Madrasat al-Olia for eight years. Zafar Ahmed Usmani Tahanawi founded al-Jomeatu al-Qur'aniyat al-arabiya (Madrasai Ashraf al-ulum) in Dhaka (Bangladesh). In 1948, he left the University of Dhaka,

[1] *Tahanawi, Zafar Ahmad. Qawaid fi ulum al-hadith. Under the investigation of Abdulfattah Abu Gudda. - Beirut: Dor al-Bashair al-Islamiya, 2018. - P. 9.*

[2] *Baraniy, Doktor Abdurahmon. Ulamau Devband va xodamatuhum fi ilm al-hadis. – Devband: Dor al-ulum, 2011. – B. 182.*

[3] *A commentary on Abu Dawud's al-Sunan is the author of Bazl al-Majhud.*

[4] *Tahanawi, Zafar Ahmad. Qawaid fi ulum al-hadith. Under the investigation of Abdulfattah Abu Gudda. - Beirut: Dor al-Bashair al-Islamiya, 2018. - P. 8.*

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transferred to the Madrasa University, and in 1954 went on a pilgrimage. After returning from Hajj, he worked as a head teacher at Dar al-Ulum al-Islami in Ashrafabad. He became more involved in the teaching of hadith, thus becoming known as Shaykh al-Hadith[5]. Shaykh Abdul Fattah Abu Ghudda came to Zafar Ahmed Usmani Tahanawi and received from him the authorization of the sanad and hadith[6].

Even at a young age, he studied religious and intellectual sciences. Due to his education in many fields, he had the opportunity to use different sciences in one way. Using the activities of scientists of his time and learning from advanced people in various fields, Zafar Ahmad Usmani Tahanawi's scope of thought expanded and his worldview grew. His works, considered the product of this, made him famous in the world of science.

Zafar Ahmed Usmanii has written works on tafsir, Sufism, hadith, fiqh written in Arabic and Urdu languages, among them "E'ala as-sunan" by Zafar Ahmad Usmanii Tahanawi is an important work that defended the Hanafi sect through hadiths. It was written between 1919 and 1938 and published in Karachi in 12 volumes[7].

The work "Muqaddimai El'a al-sunan" consists of three parts, the first part is related to Qawaid fi ulum al-hadith. This part was published under the supervision and interpretation of Abdul Fattah Abu Gudda. The Turkish translation was done by Dr. Ibrahim Janan. The second part is related to Qawaid fi ulum al-fiqh. It was written by Maulana Habib Ahmad Qaranavi. The third part is Abu Hanifa and his companions al-Muhaddisin[8].

The part "Abu Hanifa wa ashabuh al-muhaddisin" is also known as "Inja al-watan anil-izdiroi bi Imam az-zaman". This is a work that answers the objections about Abu Hanifa and covers the praises of Abu Hanifa by the scholars of his time and even those who came after him. This work was published at the end of Ela al-sunan.

"Ahkom al-Qur'an", "Dalil al-Qur'an ala masoil an-nu'man" is called "Dalil al-Qur'an ala mvsail an-nu'man" because many evidences from the Qur'an regarding the Hanafi sect are presented. Later, it will be changed to "Ahkom al-Qur'an", taking into account that it also covers doctrinal, jurisprudential and usul issues taken from the Qur'an. This work was written in a similar style to "Ahkom al-Qur'an" by Jassos (d. 370/981). Ashraf Ali Tahonaviy created a group consisting of four winters for the interpretation of the work. Among the members of the group, Zafar Ahmad will recite from Fatiha to the end of Tawba Surah, Jamil Ahmed Tahonaviy from Yunus Surah to Furqan Surah, Muhammad Shafi' Diyubandi from Shuaro Surah to Hujarat Surah, and Muhammad Idris Kandehlavi from Qaf Surah to the last Surah of the Qur'an. Zafar Ahmad Tahanawi completed the section assigned to him up to the end of Surah Nisa and published this section independently (Karachi 1407/1986). Some time later, the parts completed by Muhammad Shafi'i and Muhammad Idris will be published together in five volumes (1413/1992). Later, Jamil Ahmad's drafts were corrected, and the parts left out by Zafar Ahmad (from Surah Ma'ida to the end of Surah Tawba) and some places left out by Muhammad Idris were filled in by Abdushakur al-Tirmizi, one of Zafar Ahmad's students. These parts were added to the previously published five volumes of Ahkom al-Qur'an as volumes VI-VIII. (VI-VIII, Lahore 1419/1998)[9].

Al-Anwar al-Muhammadiya is an Urdu translation of al-Targhib wat-tarhib.
"Rahmat al-Qudus Tarjumai bakhhat an-nufus" Abu Muhammad Abdullah ibn Sa'd ibn Abu Jamra Al-Andalusi interpreted three hadiths in Bukhari from a mystical point of view, this work is an Urdu translation of the first hundred of these hadiths.

"Fatihat al-Kalam Phil-Kiraati Khalf al-Imam". This work is also written in Urdu, this work verifies that recitation is not necessary when following the imam in different prayers[10].

The work "Al-Fatov al-Imdodiya" consists of fatwas issued by Ashraf Ali Tahanawi in response to questions. This seven-volume work contains fiqh and non-fiqh fatwas. Ashraf Ali Tahonaviy wrote this work called "Imdad al-ahkom fi masail al-halal wal-haram"[11].
"Tardidi Parviziyat". This work is a work that refutes those who deny the hadith.
In addition, "Inkishof al-haqiqat an istikhlof at-tariqat", "Al-Qawl al-madi fi nasb al-Qadi", "Kashf ad-dajo an wajh ar-riba", "Tahzir al-muslimin an muvolat al- mushrikin", "Injo al-watan an izdiroi bi imam az-zaman", "Al-Qawl al-matin fi al-ikhfa bi amin", "Shaqq al-ghayn an haqqi raf' al-yadayn", "Al-Itr al-vardi fi zikr al-masih al-mahdi", "Tardidi parviziyyat", "Al-Istidaq al-hasan ala Ihya as-sunan" are among the works written by Tahanawi with their own characteristics[12].

[5] *Ebubekir Sifil. İ'lâü's Sünen / DİA. – İstanbul: İnsan Yayınları, 2000. – C. XLIV. – S. 67.*

[6] *Tahanawi, Zafar Ahmad. Under the investigation of Qawaid fi ulum al-hadith. Abdulfattah Abu Gudda. - Beirut: Dor al-Bashair al-Islamiya, 2018. - P. 7.*

[7] *More detailed information about this work is given in the second chapter.*

[8] *Halid Zaferullah Davûdî, Ahmet Yıldırım. Eşref Ali Tânevi Hadislerle Tasavvuf. – İstanbul: İnsan Yayınları, 1995. – S. 227.*

[9] *Tahanawi, Zafar Ahmad. Qawaid fi ulum al-hadith. Under the investigation of Abdulfattah Abu Gudda. – Bayrut: Dor al-bashair al-islamiya, 2018. – B. 9.; Ebubekir Sifil. İ'lâü's Sünen / DİA. – İstanbul: İnsan Yayınları, 2000. – C. XLIV. – S. 67- 68.*

[10] *Baraniy, Doktor Abdurahmon. Ulamau Devband va xodamatuhum fi ilm al-hadis. – Devband: Dor al-ulum, 2011. – B. 188.*

[11] *Kavsariy, Muhammad Zohid. Maqolatu al-Kavsariy. – Qohira: Dor as-salam, 2015. – B. 69.*

[12] *Tahanawi, Zafar Ahmad. E'alo as-sunan. Under the investigation of Mohammad Azazi. - Beirut: Dor al-kutub al-ilmiya, 2018. - J. 21. - P. 30.*

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Along with this, there are works that he has translated into Urdu. These are: "Adab al-ubudiyya" by Sha'rani, "al-Bahr al-mavrud", "al-Burhan al-muayyad" by Said Ahmed Rufai, "an-Nizam al-khalis", "Bahjat an-nufus" by Ibn Hajar Asqalani, Munziri's "al-Targib vat-tarhib", Allama Yofi's "Rawd ar-rayyahi" works, Ashraf Ali Tahanawi's one treatise.

Zafar Ahmed Usmani Tahanawi wrote works in many fields. It can be seen from the information given about him and the works he wrote that Zafar Ahmad Tahanawi used a lot of hadiths in presenting religious arguments, and this proves that he is a strong hadith scholar.

Zafar Ahmad Usmani Tahanawi is a person praised by many scholars. When he published the work "Ila al-Sunan", his uncle Ashraf Ali Tahanawi said: "Abu Hanifa had a 1200-year-old claim among Hanafi scholars. Praise be to God, it was fulfilled today." Zahid Kawsari praised Usmani by saying: "I was very surprised when I saw this special work of Maulana Zafar Ahmed Usmani and I envied the talent and skills of this enthusiastic scholar"[13].

He paid great attention to the witnesses and proofs of the issues presented in his works. He carefully studied the previously written rijal, mustalah, usul, fiqh, taharij, hadith commentaries, history and many other sources from beginning to end. If he came across an irregular rule in the works he studied, he identified it and arranged it in a beautiful way. In this way, he made great contributions to science. Kavsari said about him because he discovered neglected rules in some texts: "He supposedly had a lamp in his hand. He directed its rays to the inner parts of books and volumes, and from their invisible depths he found texts that became unique in the eyes of researchers and scientists[14].

Abdulfattah Abu Ghudda says that Osmaning was very patient, had deep thoughts and wrote his works with unique skills.
Despite the age of the scientist and the fact that he suffered from several diseases, he continued to study the science of hadith. This situation continued until December 1974, that is, until the scientist's death. He became closely acquainted with current issues in the ever-changing scientific environment of the Indian subcontinent and expressed his views on the issues related to them. In all his works, Zafar Ahmad Usmani Tahanawi focused on the current problems faced by Muslims and tried to find solutions to them[15]. He also sent letters objecting to some of Abul A'la Mawdudi's fatwas.

Zafar Ahmed Usmani Tahanawii came to Tando Allahyor in 1954 and taught there until the end of his life. He died on 8 December 1974 in this city (Sindh/Pakistan) on the 23rd of Zulqada 1394[16].

The work "E'la as-sunan" written in Arabic was written in 20 years. This precious work, the result of many years and many efforts, is studied through the introduction, the reason for its writing, its period, its purpose, its content and its significance.

Zafar Ahmed Osmani Tahonaviy's work "Ila as-Sunan" written at the request of Ashraf Ali Tahonaviy is a collection of hadiths that support the views of the Hanafi sect. This work was also translated into Turkish and was published by Husayn Kayapinar and Ibrahim Tufakchi in 20 volumes under the name "Hadis bilan Hanafi fiqhi". The marriage section of the work is included in the eighth volume of this translation.

In India, in the middle of the 20th century, a group of scholars called themselves "Ahl al-Hadith" claimed that the Hanafis issued rulings that contradicted the hadiths on several issues. They also refused to imitate the imams of this sect. They begin to transfer their language to Hanafi jurisprudence and Imami Azam. According to their claims: Abu Hanifa opposed the hadiths, his views were based on comparison and opinion, and he did not know many hadiths, and he narrated weak hadiths while being the imams of the sect. Disturbed by these false claims, the great scholars of India devised measures to refute them, writing various works along the way[17].

Ashraf Ali Tahonaviy took a place among those who opposed these opinions. The work "Ila al-Sunan" is a work that simultaneously compiles and interprets the hadiths taken as evidence for the views of the Hanafis. In addition, this work shows that the Hanafi imams were extremely subtle in presenting evidence with the Sunnah. The following sentences of Ashraf Ali Tahanawi to his nephew Zafar Ahmed Usman Tahanawi show the true purpose of the work: "Abu Hanifa had a claim of 1200 years in Hanafi scholars. Praise be to God, it has been fulfilled today[18].

A group called Ahl al-Hadith claimed that the Hanafi school was not based on hadiths and that they preferred qiyas over hadiths. Those who criticized Imam Abu Hanifa. Ashraf Ali Tahanawi opposed this situation and began to compile the hadiths of Abu Hanifa, which he used as evidence in various books and treatises. At first, he began to compile a work called "Ihya as-sunan" by collecting scattered hadiths. But this work was lost before publication. Ashraf Ali Tahonaviy wrote the work "Jome al-asor" for the same purpose. In the work, he gives information about hadiths and shows how they can be used as evidence. He tries to resolve the conflicting situations between the hadiths by adding a work called "Tobe al-asor" to

[13] *Halid Zaferullah Davûdî, Ahmet Yıldırım. Eşref Ali Tânevi Hadislerle Tasavvuf. – İstanbul: İnsan Yayınları, 1995. – S. 224.*
[14] *Tahonaviy, Zafar Ahmad. Qavoid fi ulum al-hadis. Abdulfattoh Abu G'udda tahqiqi ostida. – Bayrut: Dor al-bashair al-islamiya, 2018. – B. 8.*
[15] *Ebubekir Sifil. İ'lâü's Sünen / DİA. – İstanbul: İnsan Yayınları, 2000. – C. XLIV. – S. 67.*
[16] *Halid Zaferullah Davûdî, Ahmet Yıldırım. Eşref Ali Tânevi Hadislerle Tasavvuf. – İstanbul: İnsan Yayınları, 1995. – S. 222.*
[17] *Tahonaviy, Zafar Ahmad. Qavoid fi ulum al-hadis. Abdulfattoh Abu G'udda tahqiqi ostida. – Bayrut: Dor al-bashair al-islamiya, 2018. – B. 7.*
[18] Ebubekir Sifil. İ'lâü's Sünen / DİA. – İstanbul: İnsan Yayınları, 2000. – C. XXII. – S. 78.

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this work. The manuscripts of these two works, which contain only matters of worship, are not as complete as the lost Ihya as-sunan. In order to study Tahanawi hadiths in detail from the point of view of sanad and text, Ahmed Hasan entrusts Sanbahli to conduct research on this topic. Sanbakhli showed the parts he had written to Tahanawi, and Tahanawi, in turn, made corrections where he found it necessary. This situation continues until the Haj section. Later, Ahmad Hasan Sanbakhli made changes in many parts of the work and did not inform Ashraf Ali Tahonavi about this situation. As a result, both the work and the style changed in terms of content and took on a different tone than what Tahonaviy thought. This situation is felt after the publication of the first volume of the work. Hakim al-umma saw unacceptable problems during the review of the work, released Sanbakhli from the job and assigned this task to Zafar Ahmed Usmani Tahanawi. Uthmani gets acquainted with the work and makes the necessary corrections and writes a work called "al-Istidrok al-hasan ala Ihya as-sunan"[19].

Ashraf Ali Tahanawi likes the work done by Zafar Ahmed Usmani and gives his nephew the task he wants. Zafar Ahmed begins with the section of Tahonaviynamaz and ends the fiqh issues in the sixteenth chapter. Taking into account the rights of Tahonaviy Sanbakhli, Ashraf Ali does not give the title "Ihya as-unan" to Zafar Ahmad's work. He names the text part of Zafar Ahmad's work as "E'la as-sunan" and the commentary part as "Isda al-minan".

At the end of the work, the work "Istidrok al-hasan" was published in order to eliminate the shortcomings of the work published under the name "Ihya as-sunan". The remaining part was published under the name "E'alo as-sunan". Publication of the work in the form of several books with different names causes confusion in the minds of readers. In order to correct this situation, Zafar Ahmed will publish this work under the name of "E'la as-sunan". The writing period of the work lasted for 20 years and it was completed after the death of Ashraf Ali Tahonavi[20].

The first eleven volumes of this eighteen-volume work were lithographed in Tahonabihun (1922), and the twelfth to eighteenth volumes were lithographed in Karachi (1965-1967). published in the form of The work consists of twenty-two volumes together with the introduction, index and other indexes[21].

Since the hadiths in the work are compiled using reliable sources, this work is considered a collection of reliable hadiths. Since the hadiths in the work are studied from the point of view of sanad and text, this work serves as a fundamental book for researchers in the field of hadith. Although the structure of this work looks like a hadith book, in fact it covers jurisprudential issues. Therefore, this work is considered a fiqh book. The work presents the views of the Hanafi sect as well as the views of other sects. This feature shows that the work is a book of comparative jurisprudence.

"E'la as-sunan" is organized according to fiqh issues. In addition to the chapter "Kitab al-adab wat-tasawuf", from "Kitab at-taharat" to the chapter "Kitab al-hiyal", a lot of space is given to fiqh issues. The classification of topics is given in the form of worship, treatment and punishment, just like the classification of classical fiqh books. The work has a book, chapter order.

Three prefaces were written to "E'alo as-sunan". The first is related to "Qawaid fi ulum al-hadith". This preface was written by Zafar Ahmad, and it is the first preface to comprehensively study the hadith method based on Hanafi views. This introduction was translated into Turkish by Ibrahim Janan under the title "Yangi Usuli Hadith". The second is related to "Qawaid fiy ulum al-hadith", which was written by Maulana Habib Ahmad Qarani. The third preface, "Abu Hanifa wa ashabuh al-muhaddisin" was written by Zafar Ahmad Tahanawitomani[22].

CONCLUSION

First of all, the place where Zafar Ahmed Tahonavi was born and raised, the scientific and cultural environment there played an important role in his development as such a high scholar.

Secondly, I mentioned above that the teachers of Imam Tahonaviy were also accomplished scholars of their time, that they learned every science from their own experts, and that the students who studied under him also had great scientific potential and matured as teachers. You can also learn from the above information.

Thirdly, Zafar Ahmed Tahonaviy, who devoted his whole life to scientific research, left his works as a symbol of his productive life. He published his work entitled "Ilo as-sunan" for twenty years. The period of publication of the work shows the patience and thoroughness of the author. All parts of the work from head to toe are made with great precision. Ashraf Ali Tahonaviy and Zafar Ahmed Usmanii Tahonaviy's scientific struggle against the group known as "Ahli Hadith" is worthy of praise.

Fourthly, Imam Tahanawi studied in many cities of science in India and became a mature scientist of his time in both narrative and intellectual sciences.

Fifth, in the process of studying and analyzing the scientific heritage of Zafar Ahmed Tahonaviy, he was convinced that

[19] *Halid Zaferullah Davûdî, Ahmet Yıldırım. Eşref Ali Tânevi Hadislerle Tasavvuf. – İstanbul: İnsan Yayınları, 1995. – S. 224.*
[20] *Tahanawi, Zafar Ahmad. Qawaid fi ulum al-hadith. Under the investigation of Abdulfattah Abu Gudda. - Beirut: Dor al-Bashair al-Islamiya, 2018. - P. 9.*
[21] *Tahanawi, Zafar Ahmad. E'alo as-sunan. Under the investigation of Mohammad Azazi. - Beirut: Dor al-kutub al-ilmiya, 2018. - J. 21. - P. 31.*
[22] *Halid Zaferullah Davûdî, Ahmet Yıldırım. Eşref Ali Tânevi Hadislerle Tasavvuf. – İstanbul: İnsan Yayınları, 1995. – S. 226.*

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their rich scientific heritage serves as a very important guide for educating the younger generation today.

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EFFICACY OF CONSTRAINT-INDUCED MOVEMENT THERAPY IN IMPROVING THE LOWER LIMB FUNCTIONS OF CHRONIC STROKE PATIENTS

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ABSTRACT

Background: *A stroke can profoundly affect the functionality of the lower limbs. It can significantly impact an individual's walking ability and balance maintenance. This is often due to a stroke disrupting the brain's control over muscle movements. No existing studies have concentrated on using CIMT to enhance lower limb functions. However, CIMT has demonstrated success in improving the lower limb functions of chronic stroke patients.*

Aim: *The research objective is to analyze the effect of CIMT on enhancing the lower limb functions of chronic stroke patients.*

Methods: *A comprehensive research on Pubmed, Medline, Google Scholar, and Science Direct databases by employing keywords stroke, interventions used in stroke, lower limb functions, and physiotherapy evidence-based database was utilized for quality assessment.*

Results: *This review incorporated 13 studies, proving that constraint-induced movement therapy can enhance lower limb functions in patients suffering from chronic stroke.*

Conclusion: *This review's findings offer ample proof that constraint-induced movement therapy can enhance the functionality of lower limbs in patients recovering from a chronic stroke.*

KEYWORDS: *constraint-induced movement therapy, stroke, evidence-based practice, lower limb functions, evidence-based physiotherapy.*

INTRODUCTION

A stroke is typically defined as a neurological impairment caused by an acute, localized injury to the central nervous system. This injury can be due to a vascular event such as a cerebral infarction, or intracerebral Hemorrhage is a medical term that refers to excessive bleeding, either internally or externally. (ICH), or subarachnoid Hemorrhage is a medical term that refers to excessive bleeding, either internally or externally. (SAH). It stands as one of the foremost reasons for disability and mortality on a global scale. [(1)] Stroke is a significant and escalating global health issue. It is the main reason for physical disability acquired in adulthood worldwide, and it ranks second as a cause of death in middle-to high-income nations. In these countries, the total incidence of ischemic and hemorrhagic stroke has increased over the past decade to 85–94 per 100,000, but it is substantially higher (1151–1216 per 100,000) in individuals aged over 75 years. Furthermore, low-income countries account for 85% of all stroke-related deaths, and Approximately 87% of the disability-adjusted life years experienced can be attributed to stroke-related issues.[(2)]

Considering the recent data revealing that approximately 0.84 out of every 1,000 people face a high risk of stroke, this alarming trend may lead to complications like hemiplegia and hemiparesis. Post-stroke weakness can substantially hinder daily routines and considerably diminish the affected individual's overall well-being.[(3)]

Stroke often leads to a variety of pathological symptoms that result in functional disorders, including disturbances in gait. Consequently, a primary objective of rehabilitation is to restore optimal gait. The abnormal gait observed in stroke patients is influenced by several factors such as asymmetrical stride time and length, reduced speed, poor control of joints and posture, muscle weakness and atypical muscle tone, and irregular muscle activation patterns. Muscle weakness, a prevalent issue after a stroke, often plays a substantial role in causing irregular walking patterns among patients. The power of one's lower limbs is significantly connected to their capacity to walk effectively. Therefore, the goal of stroke rehabilitation is to enhance muscle strength, which in turn improves the patient's walking ability. [(4)]

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Constraint-Induced Movement Therapy (CIMT), is a successful method to boost upper limb functionality after a stroke or related conditions This has resulted in the emergence of LE-CIMT, an enhanced version of the therapy. This therapeutic approach focuses on enhancing the functions of the lower limbs. CIMT and its modified version (mCIMT) are interventions designed for motor disabilities, involving restricted movement in the healthy limb, intensive practice, and behavioral shaping to increase the usage of the affected limb in daily activities. These therapies combat the "learned disuse" phenomenon following a stroke, aiming to enhance the functional use of the impacted upper limb. Research by Ro et al. (2006) demonstrates The beneficial effects of Constraint-Induced Movement Therapy on upper limb motor function and associated neural networks following a stroke. In recent years, mCIMT has been applied to the affected lower limb to counter "learned misuse" and enhance motor function quality.[5]

Constraint-Induced Movement Therapy (CIMT) was initially developed by Edward Taub and his research team, as referenced in their pivotal 1994 study. The main goal of this therapeutic intervention was to counteract the concept of 'learned non-use.' CIMT consists of four essential components: (1) providing daily, intensive therapeutic exercises over a continuous period, (2) employing a 'shaping' technique to offer function-focused, supervised exercises for the involved limb, (3) using Behavioral strategies, also called as a 'transfer package,' to help patients apply the learned skills in their daily activities, and (4) implementing techniques to encourage the use of the impaired limb, such as restraining the non-affected limb during upper extremity CIMT. The works of Morris, Taub, and Mark (2006), and Taub and other researchers in 2006 and 2013, Additionally, it has enhanced our comprehension and fostered the progress of this intervention method.[6]

METHODOLOGY

Study Design

Search Methods and Eligibility Criteria

To gather relevant articles, the search was conducted across Numerous databases, such as PubMed and Google Scholar, which have been used for this purpose., Medline, and Pedro, Based on available studies There is an improvement in lower limb functioning by constraint-induced movement therapy. Keywords used are stroke, lower limb rehabilitation, and constraint-induced movement therapy. Only the studies that focused on enhancing lower limb functionality through constraint-induced movement therapy were included in this research. Any articles not published in English were omitted from the study.

Sample Size

A sample size of 33 articles was searched with the keywords of stroke, lower limb rehabilitation, and constrained-induced movement therapy. Through the application of specific criteria, numerous articles were meticulously screened and narrowed down. Ultimately, 13 articles were selected and thoroughly reviewed for further analysis.

Inclusion Criteria

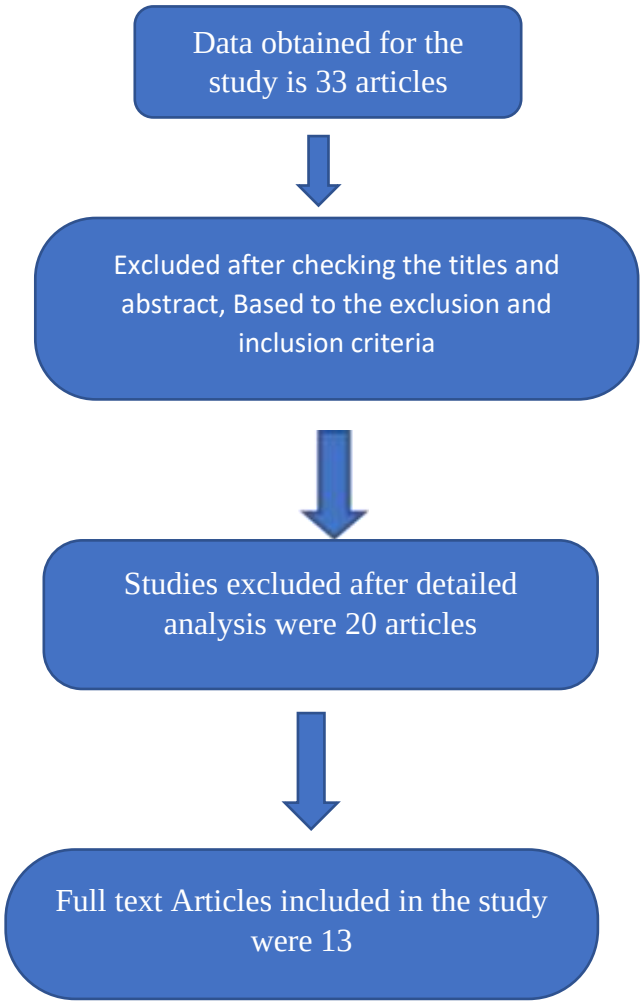
- Articles explaining stroke Rehabilitation were included.
- Articles published in recent years.
- Full-text articles.
- Articles published in English.

Exclusion Criteria

- Articles of past 2014.
- Articles explaining other than stroke were excluded.
- Articles discussed other than constraint-induced movement therapy were excluded.
- Articles not containing relevant discussion were excluded.

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Flow Chart



LITERATURE REVIEW

S.no	Author\ year	Title	Study Method	Study Design	Conclusion
1.	Sakshi Jaitley [7] 2023	Efficacy of constraint-induced movement therapy to improve functional mobility and balance on lower limb subjects with stroke	They conducted a 6-month quasi-experimental study using the convenient sampling approach, with a 4-week intervention period. A total of 17 individuals, both male and female, ranged in age from 45 to 75 years old.	Experimental study	This study stated that a four-week program of Constraint-Induced Movement Therapy (CIMT) for the lower limb has demonstrated significant improvements in functions such as balance and functional mobility.
2.	Ingela Marklund[8] 2023	Lower-extremity constraint-induced movement therapy improved motor function, mobility, and walking after stroke	participants underwent LE-CIMT treatment for 6 hours daily over 2 weeks. The evaluation of functional outcomes was conducted using the following. Fugl-Meyer Assessment (FMA) for the lower extremity, (TUG) test,(10MWT), and (6MWT) before the treatment, immediately after its completion, and at a 3-month follow-up.	Longitudinal cohort study	This study stated that intensive LE-CIMT significantly improved motor function, functional mobility, and walking ability in middle-aged patients during the sub-acute and chronic post-stroke phases.

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3.	Jing Zhang[9] 2023	Influence of constraint-induced movement therapy on improving lower limb outcomes after stroke.	In this research, A thorough search was performed across various databases, including PubMed and Web of Science, to gather relevant research resources. Cochrane Library, Academic Search Premier via EBSCO Host, and Pedro, The study focused on RCT that utilized Constraint-Induced Movement Therapy (CIMT) to enhance lower limb function, comparing them to dosage-matched active control groups.	Meta-analysis review	The study suggests that Constraint-Induced Movement Therapy (CIMT) demonstrates better effectiveness than conventional treatment in enhancing lower limb functions in the short term.
4.	Saleh M. Aloraini [10] 2022	Effects of constraint-induced movement therapy for the lower extremity among Individuals post-stroke	A randomized controlled, single-blinded clinical trial was conducted. Participants were randomized into two groups: the CIMT-LE group and the control. Berg balance scale, the ten-meter walk test, the six-minute walk test, and the Fugl-Meyer assessment of lower extremities were the outcome measures. At baseline, outcome measures were collected.	RCT	This study stated that the CIMT-LE program showed significant clinical enhancement in post-stroke survivors compared to a conventional program with equal intensity. Enhancements were noted in lower limb motor rehabilitation, balance control, and walking speed.
5.	Natália Duarte Pereira[11] 2022	Constraint-induced movement therapy for lower extremity use in ADL in people with chronic hemiparesis: multiple case study	The study involved 12 participants, comprising eight men, with an average age of 55 years. This research utilized the lower extremity (LE-MAL), lower extremity motor function test (LE-MFT), (TUG) test, and spatiotemporal gait parameters as clinical assessment tools to assess the intervention's efficacy.	Quasi-experimental study	This study stated that Lower Extremity Constraint-Induced Movement Therapy (LE-CIMT) is a practical approach to enhance the subjective benefits experienced by individuals with chronic hemiparesis. This therapy demonstrates promising effects on improving the utilization of paretic lower limbs in daily mobility tasks.
6.	Mingze Zhou[12] 2022	Effect of CIMT on lower extremity motor dysfunction in post-stroke patients	They comprehensively found relevant RCT trials for this study and searched eight databases (PubMed, Embase, The Cochrane Library, Web of Science, CBM, CNKI, WAN FANG, and VIP). They assessed The effectiveness of CIMT in tackling post-stroke lower extremity motor problems was evaluated by focusing on the mean difference. The main measure for this assessment was the Fugl-Meyer Assessment Scale on lower limbs (FMA-L). Secondary indicators included the (BBS), (10MWT), gait speed (GS), 6-min walk test (6MWT), functional	A systematic review and meta-analysis	The research study centered on evaluating the efficacy of CIMT in addressing lower limb motor impairments in individuals after a stroke. However, the findings indicated a notable variation among the studies included.

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			ambulation category scale (FAC), (TUGT), Brunnstrom stage of lower limb, weight-bearing, modified Barthel index scale (MBI), functional independence measure (FIM), stroke-specific questionnaire (SSQOL), (WHOQOL), and (NIHSS).		
7.	Jaya Shankar tedla[13] 2022	Effectiveness of constraint-induced Movement Therapy (CIMT) on balance And functional mobility in the stroke Population	This research study, an a comprehensive across various sources and platforms Various reputable databases, including Google Scholar, EBSCO, PubMed, PEDro, Science Direct, Scopus, and Web of Science, were utilized for the comprehensive search. were utilized to conduct an extensive search for relevant information. which evaluated 161 studies. Ultimately, eight (RCTs) were included the assessment of methodological quality was conducted utilizing the PEDro Evaluation approach. The study demonstrated that (CIMT) has a positive impact on post-stroke patients' balance, with varying results compared to alternative interventions like neurodevelopmental treatments.	A systematic review and meta-analysis	This study indicates that treatments utilizing Constraint-Induced Movement Therapy (CIMT) have been found to positively influence the recovery of balance-related motor functions in stroke patients, especially compared to other treatment methods such as neurodevelopmental treatment, modified use therapy, and traditional physical therapy.
8.	Ravi Shankar Reddy[14] 2022	Impact of Constraint-Induced Movement Therapy (CIMT) on Functional Ambulation in stroke patients.	To collect relevant studies, a variety of databases, including EBSCO, PubMed, Pedro, Science Direct, Scopus, MEDLINE, CINAHL, and Web of Science, were employed. For this analysis, the focus was on clinical trials that involved stroke patients across different recovery stages, aged 18 and above, who underwent Lower Extremity Constraint-Induced Movement Therapy (LECIMT). In this review, a total of 10 studies were included and they fulfilled the selection criteria. The impact of LECIMT on outcomes related to gait speed and balance was evaluated using either a random or fixed-effect model.	A Systematic Review and Meta-Analysis	This meta-analysis suggests despite numerous studies pointing to the efficacy of LECIMT in improving lower-limb functions, the enhancements in gait speed and balance did not demonstrate a significant superiority of LECIMT compared to other treatment methods.

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9.	Anwal abdullahi Steven trujen et al [15] 2021	Effects of constraint-induced movement therapy in people with Stroke	To gather relevant data, various databases such as PubMed, Pedro, OT Seeker, and CENTRAL, were searched, covering their entire available timeframes up to February 2021. We focused on lower limb CIMT studies that reported outcomes at both baseline and post-intervention stages. Key aspects like sample size, mean, and standard deviation related to the outcomes of interest, as well as the protocols for both experimental and control groups, were extracted from these studies. A thorough assessment of the methodological rigor of the included studies was conducted using the McMaster Critical Review Form as a comprehensive assessment tool.	a systemic review and meta-analysis	CIMT for lower limbs has shown a positive impact on various aspects such as referring to motor skills, equilibrium, and to perform daily tasks efficiently, gait speed, oxygen uptake, weight-bearing capacity, lower limb kinematics, and overall quality of life. Nonetheless, according to existing research, it demonstrates a notable advantage over control interventions only in enhancing the QOL specifically for stroke patients.
10.	Canadan S, Livanelioglu[16] 2019	Efficacy of modified constraint-induced movement therapy for lower extremity in patients with stroke.	In this study, A cohort of 30 stroke patients was segregated into two distinct sub-groups. and both received neuro-developmental therapy (NDT) as a baseline treatment for four weeks. Following this, the study group underwent motor-cued Constraint-Induced Movement Therapy (mCIMT) for two weeks, while the control group continued with NDT during the experimental phase. The participants' strength was assessed using the Motricity Index, and their (QoL) was evaluated using the Stroke (SS-QoL) and Stroke Impact Scale (SIS) at three-time points: baseline, after four weeks, and after six weeks.	RCT	The study indicates that (mCIMT) It could potentially serve as a beneficial therapeutic approach for individuals experiencing stroke, as it effectively boosts the strength of enhances the well-being and quality of life for individuals with a compromised lower limb.
11.	Sevim Acroz Ayse [17] 2017	Effects of Modified Constraint-induced movement therapy for lower limb on Motor Function in stroke patients.	A 2-week randomized controlled study involving 30 participants divided into mCIMT and NDT groups was conducted. Motor function was assessed using FAC, BBS, 10-Meter Walk Test, gait parameters (cadence and step length ratio), and postural symmetry ratio at pre-treatment and post-treatment (twice).	RCT	This study highlights the potential of CIMT (mCIMT) as a superior treatment option compared to neurodevelopmental therapy (NDT) for enhancing motor function, gait, balance, ambulation, and symmetry in stroke patients. This innovative approach to lower limb rehabilitation holds promise for improving overall patient outcomes.

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12.	Yulian Zhu[18] 2016	Effects of modified constraint-induced movement therapy on the lower extremities in patients with stroke	In this research, 22 stroke patients with hemiplegia, resulting from either cerebral infarction or hemorrhagic cerebrovascular accident, were included. They were randomly allocated to either the modified Constraint-Induced Movement Therapy (m-CIMT) group or the standard therapy group (control group). Both groups participated in training sessions for four weeks. The three-dimensional segmental kinematics method was employed to identify the efficacy of treatment by measuring the displacement of the Centre of Mass (COM) and gait parameters before and after the therapy sessions.	A pilot study	This study stated that modified Constraint-Induced Movement Therapy (m-CIMT) has shown effective results reducing the Centre of Mass (COM) displacement in sagittal and frontal planes, and it enhance various gait parameters. This indicates that m-CIMT intervention could be a practical and efficient approach to improve gait in hemiplegic individuals.
13.	Nan-Hyang Kim[19] 2015	Effect of gait training of induced movement therapy (CIMT) on the balance of stroke patients	In this research study, a total of 20 stroke patients were selected and divided into two groups an experimental group and a control group through a random assignment process. The group under experimentation participated in gait training that included (CIMT). This training was in sessions of 30 min. each, three times a week, over four weeks. Conversely, the control group underwent gait training that did not incorporate CIMT.	RCT	This study stated that Incorporating Constraint-Induced Movement Therapy (CIMT) with gait training can be viewed as a potential treatment method that may potentially improve their balance.

DISCUSSION

Stroke stands as a significant contributor to disability, often resulting in substantial alterations in both independent living and social engagement for approximately half of those affected by hemiparesis or hemiplegia. [20]Saleh M.Aloraini et al 2022 performed An investigation that will assess the efficacy of constraint-induced movement therapy- lower limb (CIMT-LE) on improving balance and walking abilities in Individuals post-stroke. The study was a randomized, single-blinded trial, with participants divided into CIMT-LE and control groups. Key evaluation metrics comprised the Fugl-Meyer assessment, Berg balance scale, ten-meter walk test, and six-minute walk test, conducted at baseline, post-therapy, and after three months. Initially, Upon comparing the 38 subjects, two groups with 19 members each, no differences were noted between them. Both groups demonstrated improvements compared to their initial assessments, but the CIMT-LE group showed clinically significant changes. After three months, these improvements were sustained. Compared to an intensity-matched conventional program, CIMT-LE yielded more substantial progress in lower extremity motor recovery, postural balance, and gait speed among stroke patients. Sakshi Jaitely et al 2023 This Quasi-Experimental research evaluates the efficacy of Constraint-Induced Movement Therapy (CIMT) Concerning the analysis of lower limb functions in people who experienced a stroke. The 4-week CIMT program focused on the lower limb demonstrated Notable enhancements in participants' ability to move and maintain balance in daily activities were observed. The research determined that Constraint-Induced Movement Therapy (CIMT) effectively improves lower limb capabilities, particularly focusing on balance and functional movement. In this study, essential evaluation tools are the BBS Scale, Rivermead Mobility Index, and Barthel Index to assess the results. The results demonstrated substantial positive effects on improving balance and functional mobility. Despite the CIMT program, the Barthel Index did not show significant change observed in stroke patients.

Sevim Acroz et al 2019 performed a study aimed at assessing the effectiveness of constraint-induced movement therapy (mCIMT) targeted at lower limbs, focusing on strength and (QoL) improvements in individuals with stroke. The study included 30 participants, in two groups. Both groups received Neuro-Developmental Therapy (NDT) as a foundational treatment for four weeks. The study group then underwent MCIMT, while the control group continued NDT for two more

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weeks as the experimental treatment. Strength was assessed using the Motricity Index, and QoL was evaluated through the Stroke Specific Quality of Life Scale (SS-QoL) and Stroke Impact Scale (SIS) at three time points: baseline, post 4 weeks, and post 6 weeks. Both groups experienced improvements in strength and QoL during all treatment periods ($p<0.01$). The mCIMT One group exhibited more substantial advancements compared to the other in paretic lower limb strength ($p=0.029$) and various SS-QoL subdomain scores after the mCIMT period ($p<0.05$). The perceived recovery domain of SIS was also higher in the mCIMT group compared to the control group ($p<0.001$). Total changes in strength and QoL were more correlated with improvement during the mCIMT period ($r=0.709$, $p<0.01$ and $r=0.769$, $p<0.01$) than in the baseline period ($r=0.660$, $p<0.01$ and $r=0.505$, $p<0.01$). This study suggests that MCIMT can be an efficient approach for enhancing the situation found in this method. paretic lower extremity strength and health-related QoL in stroke patients. Nan-Hyang Kim et al 2015 performed a study investigating the impact of intensive gait training employing a Constraint-Induced Movement Therapy (CIMT) approach targeting the non-paretic upper limb on stroke patients' balance capabilities. The research involved 20 participants randomly divided into experimental and a control group. The experimental group participated in gait training with CIMT for 30 minutes per session, conducted three times weekly, spanning four weeks. In contrast, the control group received standard gait training alone. The experimental group showcased substantial enhancements in their dynamic balance capabilities, with greater enhancement than the control group. Additionally, the experimental group shows advancements in movement distances towards the affected side. In contrast, the control group did not show any substantial improvements in balance indices following the intervention. In conclusion, integrating gait training with CIMT methods in stroke rehabilitation can be a beneficial treatment option, significantly improving the patients' balance.

CONCLUSION

Numerous research studies have consistently shown that constraint-induced therapy (CIMT) and modified constraint-induced movement therapy (MCIMT) yield substantial improvements in gait, balance, motor functions, and ambulation for chronic stroke patients. It is recommended that therapists consider incorporating either CIT or MCIMT in treatment plans for stroke patients.

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MANUAL THERAPY FOR PATELLOFEMORAL PAIN SYNDROME REVIEW OF LITERATURE

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ABSTRACT

Background: *patellofemoral pain syndrome, a prevalent knee issue with multiple contributing factors, benefits from a multifaceted approach to treatment, including physiotherapy manual techniques. Despite these methods, Some individuals might have functional issues even after undergoing other medical treatments. focusing on the possibility of manual techniques being more effective in managing patellofemoral pain syndrome.*

Purpose: *This review manual physiotherapy approach in addressing patellofemoral pain, particularly in reducing pain levels and improving overall functionality for affected individuals.*

Methods: *A thorough, computer-based search was conducted to collect pertinent studies, ensuring a comprehensive scope for this review on the topic. Various databases were explored, including Some of the key databases for medical and healthcare research including Midline, Embase, CINAHL, Sports Discus, and the Cochrane Library. The search focused on publications from 2012 to 2023, aiming to include the most recent literature in the analysis.*

Results: *Among the all studies, 15 articles' outcomes show that physiotherapy manual techniques are more effective in treating patients with PFPS.*

Conclusion*: Research has demonstrated that manual physiotherapy methods can effectively alleviate pain and improve functionality for individuals suffering from patellofemoral pain, both in the immediate and long-term phases. In light of these findings, medical professionals, including physical therapists, are advised to incorporate these hands-on techniques into their dealing with this specific issue.*

KEYWORDS: *Exercise, manual techniques, and patellofemoral pain syndrome.*

INTRODUCTION

Patellofemoral pain syndrome is a prevalent knee issue, affecting a wide range of individuals. Estimates suggest that its occurrence falls between 8% and 40%, with females experiencing it more frequently than males.1,2 PFPS routinely affects adolescents, young adults, and the athletic population.2–5 Suffering generally presents to sports physicians and physical therapists with peri- patellar pain aggravated by activities stressing the patellofemoral joint, such as squatting, prolonged sitting, stair climbing, and running. Although the precise cause of PFPS remains unclear, it is generally attributed to a combination of factors involving biomechanics, muscle imbalances, and overuse. factors contributing to PFPS are thought to include: proximal and distal muscle imbalance and weakness, overuse, soft tissue tightness, and poor lower limb alignment, such as increased Q angle and poor foot biomechanics. Sometimes dynamic valgus is also noticed in patellofemoral pain syndrome and it is due to weak hip abductor muscles abnormal rear foot version with pes pronates valgus, vastus medialis and vastus lateralis disbalance, Hamstring tightness, and iliotibial band tightness. (1.5)

Patellofemoral Syndrome (PFS), commonly known as "runner's knee," is a prevalent knee issue characterized by discomfort around or beneath the patella. It is one of the leading causes of knee pain, often presenting as generalized anterior knee discomfort during activities that strain the patellofemoral joint. Despite extensive research, there is no consensus on the exact cause of PFS. Several factors are believed to contribute, including trauma, overuse, patellar malalignment, muscular imbalance, and, to a lesser extent, psychological factors such as mental health, fear, anxiety, and depression. This painful condition

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predominantly affects young, physically active individuals and has a higher prevalence in women compared to men.

Patellofemoral pain, or PFPS, is believed to stem from the patella's irregular movement within the trochlear groove. Various contributing factors, such as lower limb misalignment, muscular imbalances or weakness, reduced flexibility, excessive patellar mobility, incorrect running techniques, and overuse, can lead to this discomfort. PFPS is a prevalent overuse injury in physically active adults, with studies indicating that it affects 19-30% of female runners and 13- 25% of male runners.[2.3.4)]

a frequent reason for anterior knee pain in outpatient settings, affecting adolescents and adults below 60 years old in the United States, with an incidence of 3% to 6%. Characterized by knee discomfort around the anterior region, it aggravates during weight-bearing activities involving knee flexion. Pain from PFPS tends to worsen in prolonged sitting or while descending stairs. A patient's squatting-induced pain is the most sensitive diagnostic indicator. Examining gait, posture, and footwear can help identify contributing factors. While X-rays of the knee are not essential for diagnosing PFPS, they can rule out other conditions, such as osteoarthritis, patellar fractures, and osteochondritis.

Need of study

Nowadays more peoples suffer from knee pain (patellofemoral pain syndrome) and some are compressing their lives with pain and someone trying to overcome the pain. But no one is happy with the pain, l to overcome that sadness or to get rid of the PFPS manual physiotherapy plays a major and key role.

METHODOLOGY

Inclusive criteria

- Articles explaining patellofemoral pain rehabilitation were included.
- Articles published in recent years.
- Full-text articles.
- Articles published in English

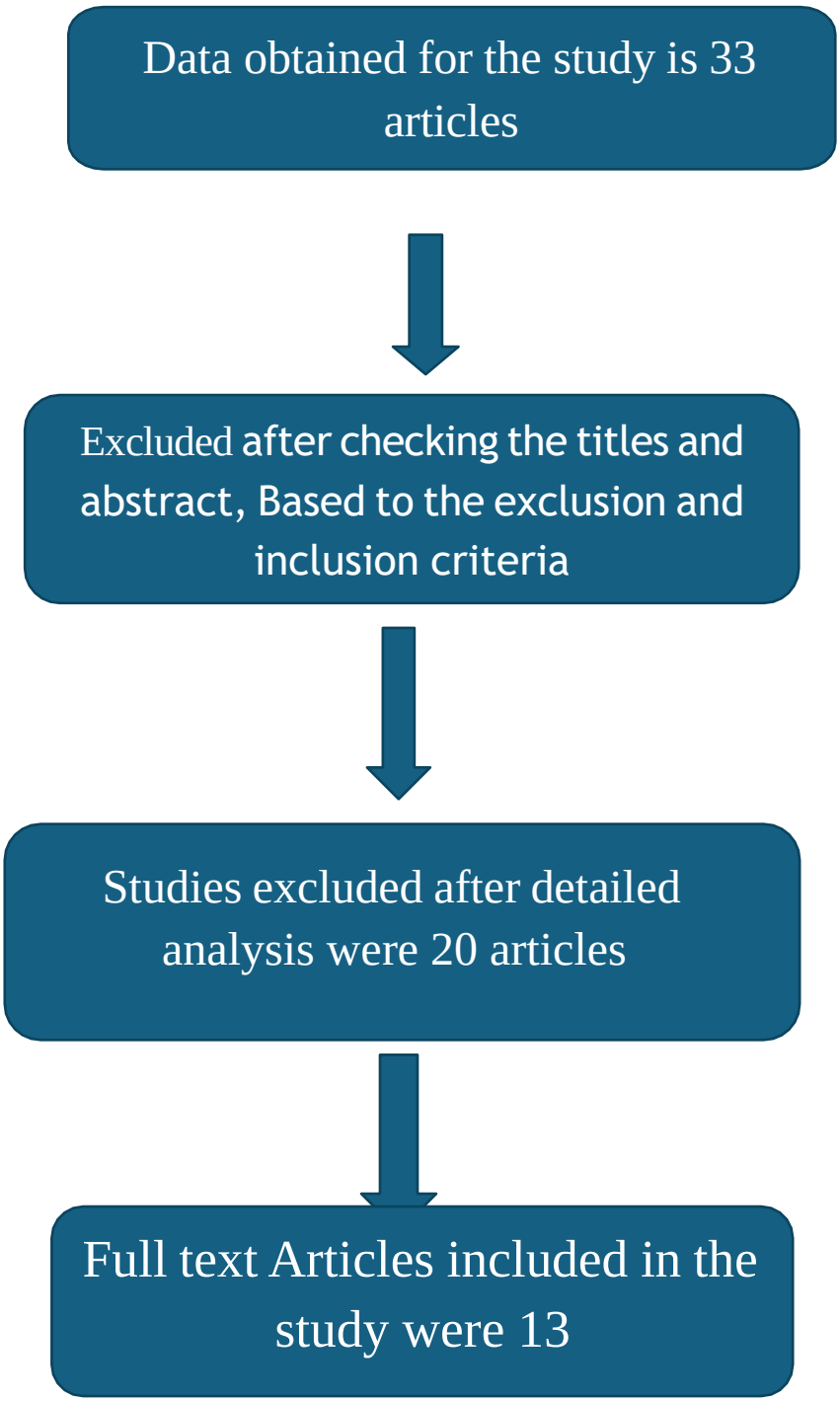
Exclusive criteria

These studies, each focusing on different approaches to managing Patellofemoral Pain Syndrome (PFS):

1. Combined Interventions: Researchers examine combining multiple treatments, such as exercise and manual therapy, in managing PFS.
2. Other Adjunctive Interventions: In this category, researchers explore additional treatments like therapies for managing PFS.
3. Individual Therapy Techniques: Studies in this area focus on the effectiveness of single treatment methods, such as specific exercises, massage, or other targeted therapies, in alleviating PFS symptoms.

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Flow Chart



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REVIEW OF LITERATURE

S.no	Title of the study	Name of the author and year	Types of the study	Mode of the study	Results
1	Physiotherapeutic interventions on quadriceps muscle architecture in patellofemoral pain syndrome	Vinaya Kumar, et al. 2023	Experimental and Questioners	Electrical neuromuscular stimulation and Quadriceps strengthening	Quadriceps strengthening plays a key role management of PFPS individuals.
2	Talonavicular joint mobilization and foot core strengthening in patellofemoral pain syndrome: a single- blind, three-armed randomized controlled trial.	Hyun- Joong Kim et al.2022	Noval approach	Foot Core Muscle Strengthening and Talonavicular Mobilization: These two techniques aim to improve foot and lower limb function by focusing on specific muscle groups and joints. Foot core muscle strengthening exercises help enhance the stability and strength of the intrinsic muscles in the foot, while talonavicular mobilization is a technique used to increase the mobility and flexibility of the Talonavicular joint, which plays a crucial role in maintaining proper foot alignment and overall biomechanics. Both methods can be incorporated into a comprehensive treatment plan to address various foot-related issues, including pain and discomfort.	In (PFPS), a combined approach utilizing Talonavicular Joint Mobilization (TNJM) and Foot Core Muscle Strengthening (FCMS) has demonstrated greater efficacy in alleviating pain and enhancing overall functional abilities. This integrated treatment strategy addresses both lower limb biomechanics and the specific muscles and joints involved in PFPS, ultimately leading to improved patient outcomes and better quality of life.
3	Comparison of mobilization with movement and Mulligan knee taping on patellofemoral pain syndrome	Mubarra Rehman et al 2021.	RTC	MWM with Mulligan taping	The study involved 34 participants, with 17 individuals (50%) in each of the two groups. The demographics included 6 males (17.6%) and 28 females (82.4%), with an average age of 31.17

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					years and a standard deviation of 7.22 years. In Group A, significant improvements in pain management were observed ($p < 0.0001$). Meanwhile, Group B experienced notable enhancements in hamstring flexibility ($p < 0.0001$). Both groups demonstrated substantial changes ($p < 0.0001$) in all outcome variables after the intervention.
4	Effectiveness of local exercise therapy versus spinal manual therapy in patients' patellofemoral pain syndrome medium- term follow-up results of a randomized controlled trial	Aldo Scafoglieri et al.2021	RTC	Spinal manual therapy for PFPS individuals	In a 6-week intervention study comparing Spinal Manipulative Therapy (SMT) and Local Patients who underwent exercise therapy (LET) reported noticeably better pain reduction. and functional improvements in both groups. The difference in maximum pain reduction between the two groups was 23.4 mm (95% CI: 9.3, 37.6; effect size (ES): 1.04). For the Australian Knee Pain Scale (AKPS), the difference was -12.4 (95% CI: -20.2, -4.7; ES: 1.00). At the 6- week follow- up, patients still showed notable improvements, with a difference in maximum pain of 18.7 mm (95% CI: 1.4, 36.0; ES: 0.68) for SMT and a difference of -11.5 (95% CI: -19.9, -3.3; ES: -0.87) for LET in AKPS scores. Both treatment approaches provided meaningful

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					benefits, highlighting the importance of tailoring interventions to individual patients' needs.
5	Effects of whole-body vibration with exercise therapy versus exercise therapy alone on flexibility, vertical jump height, agility and pain in athletes with patellofemoral pain:a randomized clinical trial	Ebrahim Rasti et al. 2020	RTC	Whole-Body Vibration Exercise Therapy: Enhancing Vertical Jump Performance	After the interventions, both groups saw notable advancements in variables related to vertical jump height, flexibility, agility, and pain intensity ($p < 0.05$). Notably, the Whole-Body Vibration (WBV) combined with exercise group showed a significantly more substantial improvement in flexibility ($p < 0.001$). However, when comparing vertical jump height, agility, and pain intensity, the WBV + methods effectively improved overall. WBV and exercise might be more effective in enhancing flexibility.
6	Functional joint mobilizations for patellofemoral pain syndrome: a clinical suggestion	Dhinu J. Jayaseelan, DPT, OCS, et.al.2020	Clinical suggestion	Joint mobilizations	In combination with other interventions, joint mobilization has demonstrated notable success in alleviating pain and enhancing Studies have demonstrated that an integrated approach involving Manual Therapy (MT) and conventional Physical therapy can make a big difference. functional outcomes for patients experiencing Patellofemoral Pain Syndrome (PFPS). It has been discovered that this technique produces moderate to large effect sizes, indicating its effectiveness in addressing the condition. indicating its effectiveness in

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					addressing the symptoms and improving the overall quality of life for those affected by PFPS.
7	Evidence-based treatment options for common knee injuries in runners	Simeon Mellinger et al. 2019	experimental	Manual techniques (joint mobilizations soft tissue mobilization, manual stretching,	Pain reduction with manual techniques.
8	2018 Consensus statement on exercise therapy and physical interventions (orthosis taping and manual therapy) to treat patellofemoral pain: recommendation form 5th international patellofemoral pain.	Collins NJ, et al. 2018	consensus	Exercise refers to a range of practices aimed at improving physical health, mobility, and overall well- being. These interventions often involve targeted exercises, manual techniques, and other methods designed to address specific issues, such as pain, muscle imbalances, or functional limitations. By incorporating it into a comprehensive treatment plan, individuals can experience enhanced strength, flexibility, and reduced discomfort, ultimately leading to improved quality of life.	Exercise therapy stands out as the preferred intervention when addressing Patellofemoral Pain Syndrome (PFPS). This non-invasive approach focuses on strengthening the muscles surrounding the knee joint, improving flexibility, and promoting proper biomechanics. By targeting the underlying causes of PFPS, exercise therapy helps alleviate pain and discomfort while restoring normal joint function and enhancing overall mobility. This makes it a popular choice among healthcare professionals and patients seeking effective, long- term solutions for managing PFPS.
9	Effectiveness of manual therapy combined with physical therapy in treatment of patellofemoral pain syndrome: a systematic review	Gemma Victoria Espí-López et al.2017	Systematic review	Manual therapy with physical therapy	Five high- quality Randomized Controlled Trials (RCTs), with a Jadad score of 3 or higher, were chosen for analysis. Manual Therapy (MT) with conventional Physical Therapy can effectively reduce pain and improve functional abilities in individuals suffering from Patellofemoral Syndrome (PFPS). This integrated approach addresses various aspects of the condition,

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					leading to better overall outcomes for patients. The results particularly emphasize the importance of addressing the full kinetic chain during treatment and focusing on strengthening muscle regions for optimal outcomes.
10	a systematic review of the effect of taping techniques on patellofemoral pain syndrome	Logan CA et.al.2017	Systematic review	Tapping techniques	This systematic review supports knee taping only as an adjunct to traditional exercise for PFPS; however, it do not support taping in isolation.
11	TIBIOFEMORAL JOINT MOBILIZATION IN THE SUCCESSFUL MANAGEMENT OF PATELLOFEMORAL PAIN SYNDROME: A CASE REPORT	Justin M Lantz et al.2016	Case report	Tibiofemoral joint mobilizations along with some manual techniques.	Therapeutic exercise,11-16 bracing,17,18 taping,19,20
12	Effectiveness of therapeutic physical exercises in the treatment of patellofemoral syndrome: a systematic review	Pablo Alba-Martín, et al.2015	experimental	Proprioceptive Neuromuscular Facilitation (PNF) involves Exercises that focus on stretching and strengthening the muscles responsible for external rotation and abduction of the hip. These exercises aim to improve muscle function, flexibility, and overall stability for better overall physical performance and injury prevention.	The findings of ten clinical trials of moderate to high quality were evaluated physical exercise as conservative management patellofemoral pain syndrome.
13	Exercise, education manual therapy and taping compared to education for patellofemoral osteoarthritis: a blinded randomized clinical trial osteoarthritis cartilage.	K M Crossley et al. 2015	RTC	Exercise education, manual therapy, and tapping	In this study, 81 participants (representing 88% of the sample) completed the 3-month follow-up, and the using an intention-to- treat approach. at the study's onset. A

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					comprehensive program involving exercise, education, manual therapy, and taping resulted in more participants (20/44) from the experimental group reporting significant improvement (5/48). This translates to a number needed to treat of 3 (95% confidence interval 2 to 5). The experimental group also experienced a notable reduction in pain levels (-15.2 mm, 95% CI -27.0 to -3.4). However, no significant effects were observed on daily activities (5.8; 95% CI -0.6 to 12.1). At the 9-month mark, no substantial differences were found in self-reported improvement, pain reduction (-10.5 mm, 95% CI -22.7 to 1.8), or daily activities (3.0, 95% CI -3.7 to 9.7).
14	Early intervention for adolescents with patellofemoral pain syndrome –a pragmatic cluster randomized controlled trial	Rathleff MS et.al.2012	questionnaire	The multimodal physiotherapy consists of patellofemoral soft tissue mobilization, stretching hip and knee, patellar taping, neuromuscular training foot, knee, and hip, and quadriceps strength training for the knee and hip exercises.	Physiotherapy helps in reduce pain and also make disable to functionally independent.
15	Effectiveness of different and stretching physiotherapy on pain and movement in patellofemoral pain	Moyano FR, et.al.2012	Experimental	The study involved three treatment groups: Proprioceptive Neuromuscular Facilitation (PNF)	The study involved 74 participants who were assigned to one of three groups: Proprioceptive

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	syndrome: a randomized controlled trial.			combined with aerobic exercise, a traditional stretching group, and a control treatment. four months, all participants received interventions under the guidance and supervision of a qualified physiotherapist.	Neuromuscular Facilitation (PNF) combined with stretching, traditional stretching, and a control group. After a four-month intervention, both the PNF and classic stretching groups exhibited significant improvements in all assessed variables ($p < 0.001$). Comparing the mean Kujala knee score changes among the groups at the four-month mark, the difference was -24.05 (95% confidence interval: -30.19, -17.90) for the classic stretching group, -39.03 (95% Confidence interval: -42.5, -35.5) for the PNF group, and -0.238 (95% confidence interval: -1.2, 0.726) for the control group, with the PNF group showing the most significant improvement ($p \leq 0.001$), while the control group showed no significant changes ($p = 0.621$).

DISCUSSION

In this comprehensive review, various studies evaluated diverse manual techniques in managing Patellofemoral Pain Syndrome (PFPS). The manual techniques employed in the selected studies encompassed a range of approaches, such as manipulation, mobilization, strengthening and stretching exercises for the muscles surrounding the knee joint, Proprioceptive Neuromuscular Facilitation (PNF) techniques, and tapping techniques, among others.

Patellofemoral Pain Syndrome (PFPS) often results from imbalances in the forces governing, particularly when the joint experiences excessive stress. [(11)] Manual techniques, as mentioned earlier, contribute to a more effective recovery from PFPS by addressing these imbalances and alleviating the associated discomfort. The comprehensive findings of this review indicate that manual therapy (MT) or physical therapy interventions can help reduce pain and increase range of motion and increase strength.

PFJ joint congruency increases with knee flexion, and mobility subsequently decreases, mobilizing the individual's PFJ in the angle or position of symptom provocation or joint restriction may allow for enhanced PFJ load dispersion and decreased pain. identification and improvement in an individual's primary symptomatic movement (ie their comparable sign) are associated with an improved outcome at discharge. This means patellofemoral joint mobilizations are more effective in PFPS Individuals.

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Some of the authors explained that along with the local manual techniques, spinal manipulations, and foot intervention (talonavicular joint mobilizations) play a major role reduction of pain and functional improvement. because sometimes PFPS is common due to sacroiliac dysfunction and flat foot. Sometimes weakness of the quadriceps leads to PFPS, so the strength and flexibility of those muscles do not hit the knee joint. The above review suggests that strengthening and stretching exercises to the quadriceps also help in the reduction of pain in PFPS. (8,11,13)

The manual technique known as tapping serves as a supportive complement to other interventions in addressing and managing Patellofemoral Pain Syndrome (PFPS) cases. One author also concluded in his review study that Mulligan mobilization with movement also helps This method of tapping aids in alleviating pain and improving overall knee function in patients experiencing Patellofemoral Pain Syndrome (PFPS). (14)

In this review literature, one limitation is that no single manual techniques give better results in individuals with PFPS, a combination of manual techniques plays or gives the best result.

CONCLUSION

Manual physiotherapy techniques have been found to provide pain relief and enhance function, both in the short and long term, for patients experiencing patellofemoral pain. Consequently, healthcare professionals, such as physical therapists, are encouraged to integrate these manual techniques into this condition.

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FORMULATION AND EVALUATION OF NASAL INSITU-GEL OF ELETRIPTAN FOR THE TREATMENT OF MIGRAINE

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ABSTRACT

Nasal in situ gel based formulations are those which upon administration get converted into gel by various mechanism like pH , Temperature & other factor. Eletriptan is BCS class 1 drug with lesser aqueous solubility which is used for Migrane. Existing market formulation include tablet for the same with less than 50 percentage bioavailability because of cytochrome induction and first pass metabolism. Mainly cause for failure of the formulation to achieve desired bioavailability and therapeutic action is because of first pass metabolism and cytochrome induction which can be avoided by nasal delivery. Polaxomer 407 and Carbopol 934 used to formulate the nasal in situ gel of Eletriptan by cold method of preparation. While polyethylene glycol400 increase the solubility of drug in polaxomer along with increasing the permeation through nasal membrane. Hence by formulating nasal in situ gel of Eletriptan we can avoid FTM and get brain targeted drug delivery for the migrane.

KEYWORDS: *Nasal in-situ gel, Eletriptan, Migraine, cytochrome induction, first pass metabolism, brain targeted drug delivery.*

INTRODUCTION [1,2,3]

Migraine is a nervous system disorder that causes severe headache, brain dysfunction, aura, and sometimes neurological symptoms. to contribute to its development. 3. A new class of selective serotonin (5-hydroxytryptamine [5-HT]) receptor agonists called triptans can activate 5-HT1B and 5-HT1D (5-HT1B/1D) receptors in many people with migraine. It has been shown to improve quality of life. Migraine symptoms are throbbing pain on one side of the brain and moderate to severe headaches.

Many patients also report light and sound sensitivity, dizziness and nausea. Approximately one in five men and one in five women suffer from migraines, making them painful. They usually begin after the person reaches adulthood. It has a range of anti-inflammatory effects on brain chemistry and neuronal activity in all migraine sufferers. These actions affect blood flow to the brain. Migraine is characterized by throbbing pain that usually affects one side of the brain more than the other. You may also experience symptoms

Gel is the space between the liquid and solid phase. The component consists of a three-dimensional central network of molecules that carries the liquid phase. In Situ Gel Delivery Systems In situ gelation is the process of forming a gel at the site of action after formulation when activated at the site of action. The semi-solid muco-adhesive ring is produced by the in situ gel effect, which is essentially the liquid of the medicinal product. This allows the drug to be administered in solution or liquid form

Drugs that are not safe to take orally are usually given intranasally in low doses and quickly mix into the bloodstream. Most drugs enter the body through the membranous water in the nasal mucosa. Therefore, the drug molecule is absorbed even if it is small and in solution. As the molecular size increases, nasal absorption decreases. Nasal mucociliary clearance is one of the less important parameters for nasal delivery. This greatly reduces the time it takes for the medication to be absorbed. Mucoadhesive formulations are designed to increase the time the formulation is in contact with the nasal mucosa.

PREFORMULATION STUDIES OF DRUG (ELETRIPTAN)

Sr. No	Parameters	Result
1.	**Organoleptic Properties** i. Color ii. Odor iii. Nature	 Colorless Odorless Amorphous
2.	**Solubility** i. Water ii. PEG 400 iii. Ethanol	 Partially soluble Soluble Insoluble
3.	Melting point	168-170°C
4.	FTIR	

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5.	**UV Spectrophotometer (Calibration curve)** i. **Water** ii. **pH Buffer 6.8** iii. **Ethanol**	**Absorbance maxima** **221nm** **223nm** **222nm**

Table No. 1 Preformulation studies of drug (Eletriptan)

FTIR OF A DRUG

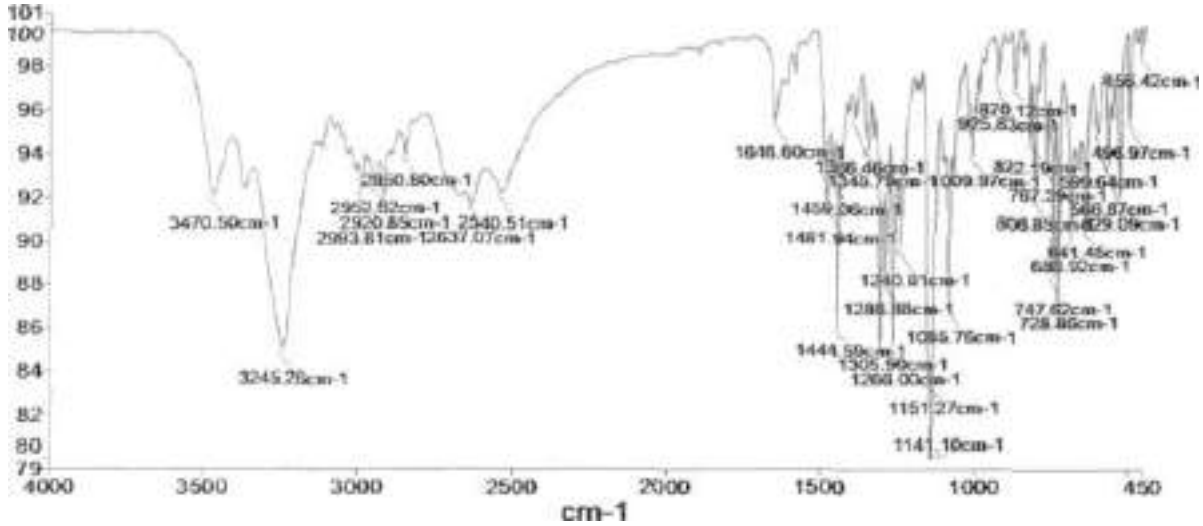


Figure No.1 FTIR of a drug

CALIBRATION CURVE OF A DRUG

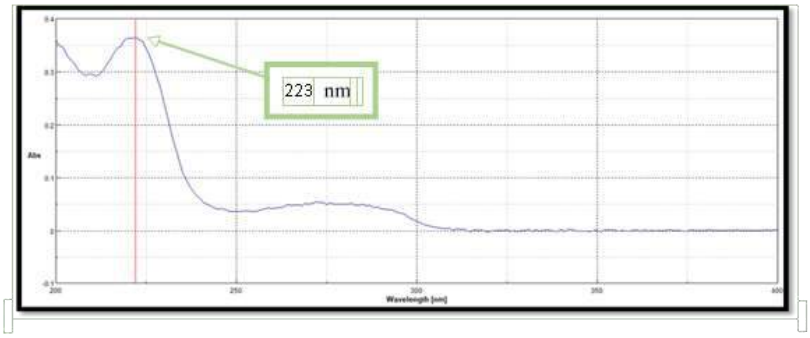


Figure No.2 Wavelength of Drug in ethanol

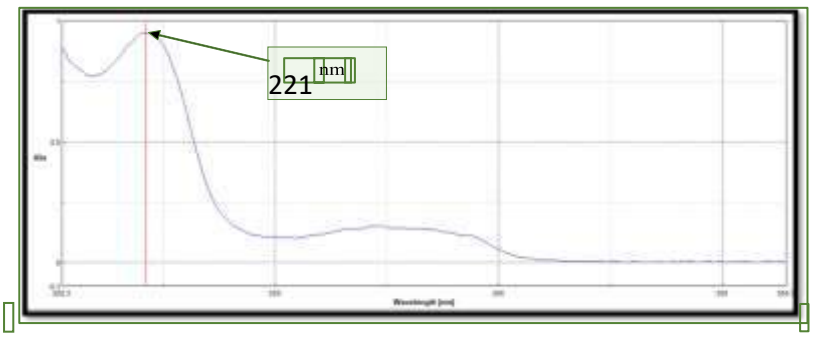


Figure No.3 Wavelength of Drug in water

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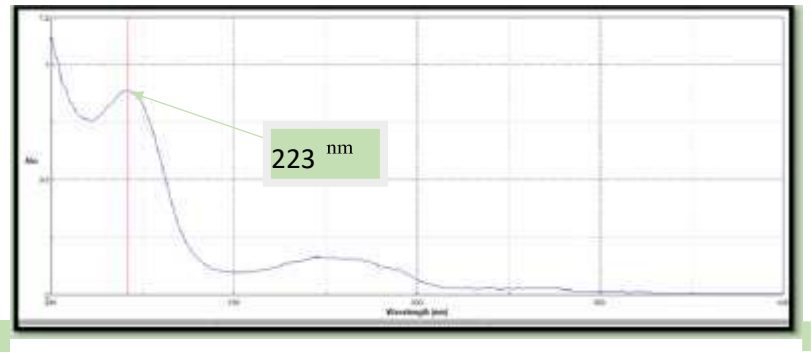


Figure No.4 Wavelength of Drug in PBS6.8

MATERIAL AND METHOD

Reagents required : Eletriptan, Polaxomer 407, Carbopol 934P, PEG 400, Benzyl alkolium chloride.

Instrumentation required : Weighing Balance, Hot plate, Mechanical Stirrer, Magnetic Stirrer, pH Meter, Incubator.

PROCEDURE [22]

The purpose of drug in situ gel formation is to provide a solution to the patient's identity as water drops that gel immediately after temperature changes when applied to the nasal mucosa. Preliminary experiments were performed to determine the temperature of the thermosensitive polymer (Polaxomer 407) at different concentrations of 15% and 25% w/v. It was found that at low polymer concentrations (15-16% w/v) phase change did not occur until the temperature reached 40°C. At a concentration of 17% (w/v), viscosity was found to increase from 38°C onwards. However, phase change occurs at 40°C. However, gelation occurs when the polymer concentration is increased from 18% to 25% (w/v).

The temperature decreases with increasing polymer pressure. 18% to 22% (w/v) of poloxamers were found at temperatures suitable for nasal use. Therefore, concentrations in the first group of eletriptan nasal in situ gel were found. Since the maximum drug concentration that could be added to clarify the in situ gel was 0.2% (w/v), the content of the starting drug was adjusted based on the solubility data. Since PEG 400 and PEG 6000 are more soluble, heavy weight (15 wt% each) was also included in the formulation. According to the data, three different amounts of polymer (0.1%, 0.3% and 0.5% w/v) were added to the samples. development.The final formulation also contained benzyl alcohol chloride, a known preservative, to prevent microbial development.

FORMULATION DEVELOPMENT OF NASAL INSITU-GEL [22]

INGREDIENT	FORMULATION						
	AA	AB	AE	AF	AG	AH	AI
Eletriptan	0.2	0.2	0.2	0.2	0.2	**0.2**	0.2
PEG 400	3	3	3	3	3	**3**	3
Polaxomer 407	16	16	-	18	18	**18**	-
Carbopol 934	0.1	0.3	0.1	0.3	0.5	**0.1**	0.3
HPMCK4M	-	-	0.4	-	-	**-**	0.4
Benzyl Alkonium Chloride	0.05	0.05	0.05	0.05	0.05	**0.05**	0.05
Distilled Water	Upto 10	Upto 10	Upto 10	Upto 10	Upto 10	**Upto 10**	Upto 10

Table No.2 Formulation developments of nasal insitu gel

EVALUATION PARAMETER OF FORMULATION [25,26,27]

1. **Sharpness**
   Sharpness can be evaluated visually on a black and white background.
2. **Viscosity**
   Viscosity and rheological properties of polymeric formulations can be measured in solution or in gels formed from tissue products media using a variety of viscometers such as Brookfield, cone and plate viscometers. Patient compliance should be taken into account in the viscosity of the formulations.
3. **Contents of the medicine**
   Place one milliliter of the preparation in the measuring bottle, adjust to ten milliliters, and then dilute with ten milliliters of distilled water. Then dilute 1 ml of this solution again with 10 ml of pure water. Finally, the absorbance of the solution at a specific wavelength is measured using UV-visible spectroscopy.
4. **Gelling ability**
   You can use the remote control to measure this parameter. Under the action of the gelling agent, a certain amount of gel in the form of sol is formed in the beaker. It is important to push the probe slowly into the gel because the beaker containing the gel will rise at a noticeable rate. The depth at which the probe is immersed at the bottom of the gel can be used to calculate the change in probe loading.

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5. **Gel time and pH of sol-gel transition**
   Sol-gel transition pits must be available for in situ gel formation systems. Gel time is the time it takes for the gel test to first detect gelation.
6. **Examination of Drug-Polymer Interactions Using Fourier Transform Infrared (FTIR) Spectroscopy Interaction and Thermal Analysis**
   The KBr technique can be used to measure the types of interactions that occur during gelation. The percentage of water in the hydrogel can be determined using a thermogravimetric analysis (TGA) of the formation of the polymer layer. Use differential scanning calorimetry (DSC) to examine whether temperature changes when comparing pure components used for gelation.
7. **Isotonicity Evaluation:**
   An important aspect of nasal and eye formulations is isotonicity. Maintain isotonicity to prevent tissue damage. Isotonicity testing showed that all nasal formulations had good release, gelling properties and appropriate dispersion. Mix with a few drops of blood, examine under a microscope at 45x magnification, and compare with commercial standards.
8. **Sterility Test**
   Sterility test complies with IP 1996 rules. To detect fungal growth, the sample must be treated in thioglycolic acid liquid between 300-350 °C for at least the same period.
9. **In vitro drug release**
   Plastic dialysis cells were used to study drug release from in situ drugs for oral or ocular administration. The transmitter and receiver are the two half cells that make up the battery. The two halves of the cell are separated by a cellulose membrane. The left form of the formulation is placed in the feeding chamber. After that, the finished cells were placed in the oven and shaken horizontally. Occasionally, the receptor may be removed entirely and replaced with new media. Analytical receptor media is used to study the release of drugs from these receptors. Then, water at the appropriate temperature is placed in the shaking bath. Remove and examine active samples.
10. **Stability Test**
    The optimized milk was subjected to a 1-month stability study at 27°C / 80% RH.

RESULT AND DISCUSSION

Sr No.	Evaluation Parameters	Result
1.	Clarity	Clear
2.	Viscosity	Sol-245 Gel-980
3.	Drug content	Absorbance at 227nm
4.	Gelling Capacity	
5.	Gelation Time and pH	5.20sec and 7.12
6.	FTIR	Compatible
7.	Isotonicity	Isotonic solution
8.	Sterility Testing	No growth of microorganisms
9.	In-Vitro drug release	Within 8 hr 94% of drug in released

Table No. 3 Result and Discussion of nasal in-situ gel

CONCLUSION

The aim of this study was to develop and evaluate Eletriptan nasal gel, a polymer-filled nasal gel for the treatment of migraine. The bioavailability and first pass metabolism of elatriptan are low. Once administered, it is not subject to first pass metabolism or cytochrome enzymatic cleavage. It can be concluded that nasal administration of eletriptan is beneficial in terms of increasing bioavailability and providing faster therapeutic results with less drug. Nasal inhalation may increase bioavailability. FTIR analysis was performed and no chemical or physical interaction was found between the drug and the additive. Once administered, the drug turns into a gel and acts directly on the brain without first going through metabolism, increasing bioavailability and allowing for a rapid onset of lower doses. It also increases patient compliance. They are also portable and wearable. They are very easy to manage. For this reason, nasal in situ gels are very popular in the pharmaceutical industry.

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PERSPECTIVES OF SPECIAL EDUCATION TEACHERS ON OVERCOMING CHALLENGES IN MAINSTREAMING PRACTICES: A QUALITATIVE STUDY

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ABSTRACT

This qualitative study delves into the perspectives of special education teachers on overcoming challenges in mainstreaming practices within inclusive educational settings. Seven special education teachers at Isulan Sped Central School participated in semi-structured interviews to provide detailed narratives, insights, and strategies related to mainstreaming practices. The research aims to elucidate the experiences, barriers, and recommendations of educators directly involved in inclusive education, shedding light on their efforts to navigate the complexities of mainstreaming and support diverse learners effectively. By exploring the unique challenges faced by special education teachers and their strategies for promoting inclusivity, this study seeks to contribute valuable insights to the discourse on inclusive education and teacher support in the field of special education.

KEYWORDS: *Mainstream Education, Inclusive Education, Perspective, Challenges, Students with Special Needs.*

1. INTRODUCTION

Understanding the perspectives of special education teachers is essential in addressing the challenges and barriers associated with mainstreaming practices for students with disabilities. In the field of education, the experiences and insights of educators play a pivotal role in shaping inclusive environments and determining effective strategies for supporting diverse learners. A qualitative study focusing on the "Perspectives of Special Education Teachers on Overcoming Challenges in Mainstreaming Practices" offers a valuable opportunity to delve into the lived experiences and professional perspectives of teachers working towards inclusive education. By exploring the unique challenges special education teachers face and their strategies for navigating mainstreaming practices, this research aims to contribute to the ongoing discourse surrounding inclusive education and teacher support.

According to Johnson and Smith (2019), special education teachers are at the forefront of inclusive education efforts, facing multifaceted challenges in mainstreaming practices. In their qualitative study, "Inclusion in Action: Exploring Special Education Teachers' Perspectives on Mainstreaming," Johnson and Smith highlight the complexities of inclusive practices and the critical role of special education teachers in promoting student success in diverse learning environments. The study underscores the need for tailored professional development, collaborative initiatives, and institutional support to empower special education teachers in overcoming barriers to effective mainstreaming.

Brown, L., & Williams, E. (2018). "Voices of Inclusion: Special Education Teachers' Experiences in Mainstream Classrooms." In their qualitative research, Brown and Williams delve into the firsthand experiences of special education teachers working in mainstream classrooms. The study explores the challenges encountered by teachers in adapting to inclusive practices, the strategies they employ to support students with disabilities, and the impact of collaboration with general education colleagues on the effectiveness of mainstreaming initiatives. By amplifying the voices of special education teachers, Brown and Williams offer valuable insights into the dynamics of mainstreaming practices and the essential role of educators in fostering inclusive learning environments.

Lopez, A., & Nguyen, T. (2017). "Breaking Barriers: Special Education Teachers' Perceptions of Inclusion Support." Lopez and Nguyen's study delves into the perceptions of special education teachers regarding the support structures available to facilitate successful inclusion of students with disabilities in mainstream settings. Through qualitative interviews and thematic analysis, the researchers uncover the perceived barriers to effective mainstreaming, the types of support deemed most beneficial by teachers, and the recommendations for improving inclusive practices. By addressing the nuanced perspectives of special education teachers, Lopez and Nguyen contribute valuable insights to the ongoing dialogue surrounding inclusive education and teacher empowerment.

Parents caring for children with special needs must employ diverse coping strategies, such as problem-focused and

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emotional-focused mechanisms (Nurhidayah et al., 2022). Healthcare professionals play a vital role in offering customized support to parents of children with special needs, particularly in challenging situations where significant assistance is necessary (Lai et al., 2015). Additionally, focusing on parents' resilience is critical to aiding them in handling the challenges of caring for their children with special needs (Dey et al., 2019).

Inclusive education plays a crucial role in enhancing educational access for students with special needs. Beyond mere physical access to school premises, inclusive education entails providing equitable opportunities for students with special needs to fully participate in all aspects of learning, supported for their success (Artiles, A. J., & Dyson, A. 2005). This involves offering appropriate resources like assistive technology, modified curriculum, and accessible facilities to foster an inclusive learning environment. By eliminating barriers that hinder students with special needs from accessing quality education, inclusive education ensures that every child has an equal entitlement to an educational journey that nurtures their talents and capabilities (Barton, L. 2003).

The characteristics of individuals with special needs vary significantly based on each student's specific type and level of need. For instance, students with learning disorders like dyslexia may struggle with reading, spelling, or processing information orally and in writing, necessitating instructional methods that are more visual or kinesthetic (Malcom, S. M. 2013). Conversely, students with autism spectrum disorder may display distinct traits in social interaction, communication, and sometimes unpredictable behavior, requiring a stable and structured learning environment with a consistent approach. Students with physical limitations may need accommodations in the physical environment such as wheelchair access, adjustable desks, or assistive technology to fully engage in classroom activities. Educators must acknowledge these individual differences and be prepared to adjust their teaching methods to ensure all students receive the necessary support for educational success (Kaczorowski et al., 2023).

The purpose of this study is to gain insights into the experiences and perspectives of special education teachers regarding the barriers they face in mainstreaming practices. This research can contribute to the existing knowledge on inclusive education by providing valuable insights into the perspectives of special education teachers, which can inform the development of effective support systems and strategies to promote inclusive practices in schools.

1.1 Statement of the Problem

To comprehensively examine and understand special education teachers' experiences, viewpoints, and strategies in addressing the obstacles and complexities associated with mainstreaming practices for students with disabilities. Through a qualitative research approach, this study aims to:

1. Explore the unique challenges faced by special education teachers in integrating students with disabilities into mainstream classrooms.
2. Identify and analyze specific barriers hindering the successful implementation of mainstreaming practices as perceived by educators in the special education field.
3. Investigate the strategies, interventions, and support mechanisms special education teachers utilize to overcome obstacles and create inclusive learning environments for students with disabilities.

Theoretical Lens

In the realm of special education teachers grappling with the complexities of mainstreaming practices, Lazarus and Folkman's (1984) Stress and Coping Theory provides a framework for comprehending how these professionals interpret and navigate stressors within their professional capacities. The theory underscores that stress is not solely dictated by external factors but is intricately influenced by cognitive evaluations and coping mechanisms. Challenges such as difficulties in reading, behavioral issues, and resource constraints encountered by special education teachers in the study can evoke stress responses. By delving into how educators assess these challenges and implement coping strategies, the research can illuminate the cognitive processes and adaptive methodologies utilized by teachers to manage stress and advance inclusive educational approaches.

2. METHODS

This study utilized a qualitative methodology, specifically employing phenomenology as the guiding framework. Phenomenology is a research approach that focuses on exploring the lived experiences of individuals within a social phenomenon (Creswell, 2019). By conducting in-depth interviews with seven special education teachers, the researchers aimed to uncover the intricate details and subjective meanings associated with the challenges and insights related to mainstream education. The qualitative nature of the interviews facilitated a comprehensive understanding of the distinct perspectives held by each participant (Moustakas, 2020).

In the exploration of the challenges encountered by teachers handling learners with special needs in mainstream education, this study follows Clark and Braune's (2019) comprehensive data analysis steps. The analysis process commences with data familiarization, followed by the generation of initial codes, organization of these codes into themes, iterative review and refinement of themes, and, ultimately, the definition and naming of the identified themes. This systematic approach ensures a meticulous examination of teachers' experiences, capturing the subtle nuances in their narratives regarding teaching children with special needs. By adhering to this rigorous methodology, the study aims to provide valuable insights into the coping mechanisms and resilience demonstrated by teachers in addressing the distinctive demands of teaching children with special needs within the mainstream educational setting.

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In conducting this study, ethical considerations are paramount and are guided by the principles outlined in the Belmont Report (1979), specifically respect for persons, beneficence, and justice. To uphold respect for persons, informed consent will be diligently obtained from each participating special education teacher, ensuring a clear understanding of the study's purpose, risks, and benefits. The principle of beneficence underscores the commitment to maximizing benefits and minimizing harm, focusing on the study's positive impact on understanding the challenges faced by teachers supporting students with special needs in mainstream education. Justice will be upheld through the avoidance of exploitation, maintenance of confidentiality, and fair participant selection processes. This study adheres to rigorous ethical standards, prioritizing the well-being, rights, and dignity of the participating teachers in alignment with ethical research practices.

RESULTS AND DISCUSSION

Challenges Faced in Mainstreaming

"As a teacher, one of the primary challenges I encounter when integrating students with disabilities into mainstream classrooms is addressing difficulties in reading, including issues with decoding, blending sounds, and pronunciation. Additionally, these students often require more time and effort to complete tasks, struggle with behavior problems, and may experience absenteeism, all of which impact their academic progress and classroom participation."

"As a teacher, these challenges have a profound impact on my teaching practices and interactions with students with diverse learning needs. The feelings of frustration that arise from navigating these obstacles can be overwhelming, affecting my ability to effectively manage the classroom environment. The time delays in providing additional support and accommodations to students with disabilities often disrupt the flow of lessons, leading to challenges in maintaining the pace of instruction for the entire class. The increased effort required to assist students with diverse learning needs can be physically and emotionally taxing, highlighting the importance of self-care and support mechanisms for teachers. Prioritizing and focusing on the individualized needs of students with special needs becomes a crucial aspect of my teaching approach, emphasizing the importance of inclusivity and tailored support in promoting student success."

"As a teacher, I have encountered various instances where effectively including students with disabilities in mainstream educational settings posed significant challenges. One such challenge involves the need to simplify lesson content to enhance accessibility and ensure easy comprehension for all students, particularly those with learning disabilities. For example, while syllabication and decoding tasks may be straightforward for regular students, learners with disabilities often require additional attention, follow-up, and remediation to grasp and retain the competencies. Additionally, addressing absenteeism among students with disabilities further complicates their academic progress and participation in classroom learning activities. The limited availability of resources and materials tailored to accommodate diverse learning needs also presents obstacles in creating an inclusive educational environment that meets the unique requirements of students with disabilities."

The statements provided by the teacher highlight the complex challenges faced when integrating students with disabilities into mainstream classrooms. One of the primary difficulties is addressing reading issues, such as decoding, blending sounds, and pronunciation, which require additional time and effort from both the teacher and the students. These challenges are further compounded by behavior problems, absenteeism, and the need for tailored support, impacting academic progress and classroom dynamics.

The emotional and physical toll of navigating these obstacles can be overwhelming for educators, affecting their ability to effectively manage the classroom environment and maintain the pace of instruction for all students. Simplifying lesson content to enhance accessibility for students with disabilities is crucial but often requires additional attention, follow-up, and remediation to ensure comprehension and retention. Addressing absenteeism and the limited availability of resources tailored to diverse needs further complicate the inclusive educational approach, emphasizing the importance of individualized support and inclusivity to promote student success.

Barriers to Successful Implementation

In my experience as a teacher, several key barriers hinder the successful implementation of mainstreaming practices for students with disabilities. These barriers include limited school activities tailored to accommodate diverse learning needs, time constraints that make individualized attention challenging, and the pressure to submit immediate reports while addressing student needs. Additionally, the lack of necessary resources, including supplies and support from the school, compromises the effectiveness of mainstreaming practices. Budget constraints further exacerbate the situation, impacting the availability of assistive technology and specialized materials. Moreover, a lack of focus on the program and its objectives within the school community creates additional challenges in creating an inclusive and supportive environment for students with disabilities.

As a teacher, these barriers directly impact my ability to effectively support students with disabilities in mainstream classrooms. The challenges of limited resources, time constraints, and a lack of specialized facilities hinder my efforts to meet individual student goals and ensure their progress and improvement. The absence of proper teacher training in special education further complicates my approach to addressing diverse learning needs. Additionally, the delay in lessons and the focus on accommodating students with disabilities disrupt the learning experience for all students, impacting their performance and ability to meet educational standards within the designated timeframe. These barriers pose significant obstacles to creating

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an inclusive and supportive classroom environment that fosters academic success for all students.

As a teacher, I encounter various challenges in promoting inclusive education due to administrative policies, resource limitations, and prevailing attitudes towards inclusion. Attending training sessions and seminars, as well as engaging in professional development related to Special Needs Education (SNE), are crucial for enhancing my expertise in supporting students with diverse needs. Collaborating with stakeholders and seeking parental support are vital steps in implementing inclusive practices effectively. However, resource constraints often obstruct the execution of proposed SNE programs and initiatives, impacting the level of support that can be provided to students. Additionally, negative attitudes towards inclusion within the educational community can hinder the progress and acceptance of inclusive education practices. It is imperative to address these barriers through comprehensive strategies that prioritize adequate resources, supportive policies, and a positive shift in attitudes towards inclusive education to create an optimal learning environment for all students.

The statements provided collectively emphasize the multifaceted challenges faced by teachers in promoting inclusive education for students with disabilities in mainstream classrooms. Limited school activities, time constraints, and the pressure to submit immediate reports pose significant hurdles in providing individualized attention and support. Moreover, the lack of necessary resources, including specialized facilities and supportive materials, due to budget constraints, undermines the effectiveness of mainstreaming practices. These barriers directly impact teachers' abilities to support students with disabilities, hindering their progress and creating disruptions in the classroom. Additionally, administrative policies, resource limitations, and negative attitudes towards inclusion further complicate the implementation of inclusive education. Adequate training, collaboration with stakeholders, parental support, and a shift in attitudes are essential to overcome these barriers and create an inclusive and supportive learning environment that fosters academic success for all students.

Strategies and Support Mechanisms

In my experience as a teacher, several strategies and interventions have been effective in creating an inclusive learning environment for students with disabilities in mainstream classrooms. Utilizing Differentiated Instruction to tailor teaching methods to individual learning styles and needs has proven beneficial in accommodating diverse learners. Providing tutorials and remediation sessions offers additional support and reinforcement for students requiring extra assistance. Incorporating repetition for mastery helps solidify key concepts, while implementing a one-on-one approach allows for personalized guidance and attention. Extending time for learners with Special Needs Education (SNED) ensures that they have sufficient opportunities to engage with the material at their own pace. Ensuring resources are readily available, such as assistive technology and specialized materials, is essential in facilitating effective learning experiences for students with disabilities in inclusive settings.

Collaboration with colleagues, support staff, and families is essential in addressing the diverse needs of students and cultivating an inclusive classroom environment. Building a support system with colleagues allows for sharing ideas, strategies, and resources to better meet the needs of all students. Engaging with parents and fostering open communication and involvement in their child's education is crucial to understanding and addressing the individual needs of students. Seeking support from school administrators and stakeholders ensures alignment with school policies and resources for implementing inclusive practices effectively. By working collaboratively with these key stakeholders, we can create a supportive and inclusive learning environment that promotes the success and well-being of all students, including those with diverse needs.

In my experience, several support mechanisms, resources, and professional development opportunities have been instrumental in overcoming obstacles and promoting inclusivity in mainstreaming practices. Attending seminars and enrolling in post-graduate studies have provided valuable insights and strategies for supporting students with disabilities. Developing patience, resourcefulness, and a mindset of compassion towards children with special needs has been crucial in creating an inclusive environment. Supporting school programs dedicated to inclusivity and maintaining an attitude of continuous learning help in adapting and becoming more effective in teaching students with disabilities. Embracing new ideas and approaches through professional development opportunities has enhanced my ability to overcome challenges and foster a welcoming and inclusive classroom for all learners.

The statements provided reflect a comprehensive approach to promoting inclusivity and supporting students with disabilities in mainstream classrooms. Effective strategies such as Differentiated Instruction, personalized approaches, and extended time for learners with Special Needs Education have been highlighted for creating an inclusive learning environment. Collaboration with colleagues, families, and support staff is underscored as essential for addressing diverse needs and fostering inclusivity. Moreover, the importance of attending seminars, engaging in professional development, and embracing a mindset of patience and compassion is emphasized in overcoming obstacles and promoting inclusivity. These collective experiences and strategies exemplify a holistic and collaborative approach to creating an inclusive and supportive educational environment for all students, including those with disabilities.

CONCLUSION

The collective experiences and insights shared by special education teachers shed light on the unique challenges, specific barriers, and effective strategies encountered in integrating

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students with disabilities into mainstream classrooms. The exploration of challenges, including difficulties in reading, behavior issues, absenteeism, and resource limitations, underscores the complexities and nuances involved in promoting inclusive education. These challenges necessitate proactive measures and collaborative efforts to ensure the academic and social success of all students. Additionally, the identification and analysis of barriers such as limited resources, time constraints, and negative attitudes towards inclusion underscore the systemic challenges that impact the successful implementation of mainstreaming practices. These barriers highlight the importance of addressing structural constraints, fostering inclusive policies, and promoting a positive school culture that supports diversity and equity. The investigation into strategies, interventions, and support mechanisms employed by teachers, such as Differentiated Instruction, collaboration with stakeholders, and continuous professional development, illustrates the proactive approaches taken to overcome obstacles and create inclusive learning environments that cater to the diverse needs of students with disabilities. By embracing a holistic and collaborative approach, educators can navigate challenges, overcome barriers, and foster inclusive educational settings that prioritize the well-being and academic success of all learners, ensuring equitable access to quality education for students with disabilities.

Acknowledgments
The authors wish to express sincere gratitude to the teacher-respondents' of this research from the Department of Education.

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THE EMPLOYABILITY OF CRIMINOLOGY GRADUATES FROM ACADEMIC YEAR 2019 TO 2023: A TRACER STUDY

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ABSTRACT

This tracer study aimed to assess the employment rate and status, as well as self-rated perceptions of work attitude, educational quality, and skills development among Bachelor of Science in Criminology (BSC) graduates of Kapalong College of Agriculture, Sciences and Technology (KCAST) from academic years 2019 to 2023. The study utilized a descriptive research method to gather information on the traceability of BSC graduates. A complete enumeration random sampling method was employed, with a total population of 171 graduates (81 males and 90 females). Findings revealed that most graduates were single and aged between 20-30, with batch 2023 producing the highest number of graduates. A small percentage pursued vocational courses or further studies. The employment rate stood at 35%, with a majority employed as regular or job order employees. Graduates reported a relevant college degree to their present work, with a significant portion earning monthly incomes ranging from 11,000 to 30,000. The majority took 0-8 months to secure employment post-graduation. Additionally, a notable proportion worked in degree related jobs. The study found high levels of work ethic, educational quality provision, and skills and abilities development among BSC graduates. These findings contribute to KCAST's commitment to providing quality education and enhancing graduates' employability, aligning with its institutional goals and social responsibilities.

KEYWORDS: *tracer study, criminology, employability, davao del norte, philippines*

INTRODUCTION

In order to keep curriculum relevant and give graduates specific advantages, graduate tracer, also known as tracer studies, are used to improve the marketability of educational programs. Sufficient understanding of the career prospects of graduates from training programs might aid in the development of policies aimed at addressing social issues like unemployment. Graduates of all courses in particular must gain a sense of competence in their field of interest and cultivate the courage to pursue new opportunities and jobs, particularly in light of growing rivalry among coworkers. One type of empirical research that can suitably offer useful data for assessing the outcomes of the instruction and training of a particular higher education institution is the graduate tracer study (Woya, 2019).

The necessity for conducting tracer studies has been identified globally, and in particular at Medan State University of Indonesia, in order to ascertain the competences that alumni possess with regard to their application to the workplace and to ascertain the supervisor's appraisal for graduates who are now employed. The study's findings clarified that graduates' positions and involvement in the workforce, as well as their abilities, are in line with what the workforce requires (Hasibuan et al., 2022). Also, universities are supporting initiatives to raise the general caliber of their offerings, including the profiles of its alumni. One measure of the quality of a graduate's profile is now their absorptivity in industries or consumers. The purpose of the tracer research was to collect information from graduates on the suitability of their acquired knowledge and abilities for their respective jobs (Romadlon & Arifin, 2021).

Also, in order to define themselves as centers of excellence and centers for developing degree programs, Higher Education Institutes (HEIs) in the Philippines are required by the Commission on Higher Education (CHED) to carry out tracer studies. The Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), Inc., for example, has documented standards, one of which is the graduate profile. The results of a tracer study might be used to reassess the variables influencing and adding to graduates' job status. The majority of graduates, according to the literature currently in publication, found employment locally, especially in the public sector (Cuadra et al., 2019). Thus, this present study proposes to trace the

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graduates of criminology department for the academic years 2019 to 2023 including information as to their employability.
Furthermore, in order to ascertain the employability status of 2019 criminology graduates who were working in various agencies in accordance with law enforcement and public safety procedures, as well as other related and unrelated fields, the Nueva Ecija University of Science and Technology (NEUST) carried out a tracer study. The research employed the descriptive approach to gather data from the 117 College graduates who also served as study respondents. Data were gathered by interviews and a survey questionnaire, and frequency counts and percentages were employed for analysis (Aydinan, 2019).

Moreover, the goal of St. Paul University Surigao's College of Criminal Justice Education was to track and ascertain the job status of its graduates in the field of criminology between 2013 and 2020. The study's respondents, seventy-one (71) criminology graduates, were specifically chosen. Online tools like email and chat were used to collect data, among others. A few parametric tests as well as descriptive statistical methods were used to assess the data. Results indicated that 43 of the 71 respondents were successful in finding employment connected to the course they completed (Cosmiano et al., 2023).

This tracer study was therefore carried out under this premise in order to ascertain the employment rate and status of the graduate students as well as their self-rated assessment of their work ethic, the institution's quality of education, and the growth of their skills and abilities as Bachelor of Science in Criminology graduates. This is the institution's way of responding to its ideals and social responsibilities by creating a curriculum that will guarantee students' employment after graduation and bolstering and expanding its ongoing provision of high-quality education.

OBJECTIVES OF THE STUDY

The primary purpose of this study was to:

1. Describe the demographic profiles of the graduate-respondents in terms of:
   1.1. sex when grouped per academic year;
   1.2. civil status;
   1.3. age;
   1.4. year graduated; and
   1.5. educational attainment and development.
2. Describe the employment profile and features of the graduate-respondents in terms of:
   2.1. employment rate;
   2.2. employment status;
   2.3. level of income;
   2.4. period of seeking the first job after college;
   2.5. relevance of college degree to the present job; and
   2.6. job mismatching.
3. Describe the level of the graduate-respondents self-rated evaluation with their attitude to work?
4. Determine the level of the graduate-respondents self-rated evaluation with the quality education provision of the institution?
5. Determine the level of the graduate-respondents self-rated evaluation with the skills and abilities obtained in the institution and its usability with their present occupation?

METHODS

Design

This study utilized the descriptive research method. In order to provide adequate and reliable information for the evaluation of the study, the descriptive method of research was used by the researcher to facilitate the gathering of information on the traceability of Bachelor of Science in Criminology graduates of Kapalong College of Agriculture Sciences and Technology for the A.Y. 2019–2023. Descriptive studies examine the features of the population, pinpoint issues that arise inside a group, an organization, or a population, or they examine differences in traits or customs among institutions or even nations (Siedlecki, 2020). Also, studies of status are the focus of descriptive research, which is extensively employed in the behavioral sciences, nutrition, education, and epidemiology. Its usefulness stems from the idea that observation, analysis, and description may be used to solve issues and improve methods. Surveys, which can take the form of phone surveys, personal interviews, questionnaires, or normative surveys, are the most often used approach in descriptive research (Koh & Owen, 2000). Lastly, descriptive research is a research methodology that aims to provide an accurate description of the phenomena under study. The term "existing phenomena" distinguishes descriptive research from experiment research, which observes both the phenomena under study and the phenomena after a specific period of treatment. The phenomena under study in descriptive research are already known. The researcher's task is to gather the available data by using instruments like tests, questionnaires, interviews, or even simple observation. The primary objective of descriptive research is to provide an organized description of the phenomena under study (Atmowardoyo, 2018).

Population and Sample

The population and sample of this tracer study were the graduates of Bachelor of Science in Criminology in Kapalong College of Agriculture, Sciences and Technology from academic year 2019 up until academic year 2023. Hence, the study used complete enumeration random sampling since the very purpose of the study is to track and trace graduates in terms of their employment status and rate. To be specific, in year 2019, there were 55 graduates of which there were 22 males and 33 females; in year 2020, there were 3 males and 1 female; in year 2022, there were 27 males and 18 females; in year 2023, there were 29 males and 38 females which made a total of 171 graduates. Thus, the total population and sample of this study were 81 males and 90 females for a total of 171 Criminology graduates.

Research Instrument

The study employed the research instrument from Escandallo's (2024) tracer study, "A Tracer Study on the Elementary Education

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Graduates from Academic Year 2015 To 2019: Employment in Focus." The survey questionnaire's internal consistency is excellent, as indicated by its Cronbach alpha of 0.955.

Data Collection Procedure

Gathering data to help the researcher answer research questions is one of the primary steps of a research project. The process of gathering information with the goal of learning more about the study topic is known as data collection (Taherdoost, 2021). In order to collect the necessary data for the study, the researcher mostly followed these responsible actions.

First, since the institution's graduate students pursuing a Bachelor of Science in Criminology made up the population and sample for the study, the researcher requested information from the college registrar regarding the total number of graduates from the academic years 2019 to 2023 so that precise and accurate data could be taken into account and given priority.

Second, after collecting the total number of graduates, the researcher used the Escandallo (2024) survey tracer questionnaire to ascertain each criminology education graduate's employment rate, employment status, educational attainment and development, work attitude, and quality of education provided.

Third, the researcher started monitoring the graduates using Google Forms, looking at things like employment rate and status, educational achievement and development, work attitude, and access to quality of education.

Fourth, after the graduate students had completed answering the questionnaire, the researcher gathered it and began tallying in order to be ready for data treatment and analysis.

Lastly, the data was examined and assessed by the institution's authorized statistician and given in tabular and graphical form to facilitate a clearer and more comprehensive comprehension of the results.

Data Analysis

In order to get the average score for the data analysis, the mean was utilized to gauge the graduates' attitude toward their jobs, their assessment of the quality of the education they received, and their development of various skills and talents.

RESULTS AND DISCUSSION

Demographic Characteristics of BSC Graduates

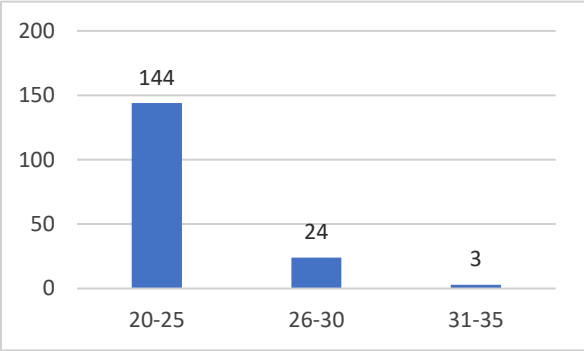
The primary objective of this tracer research is to describe the demographic features of criminology graduates from academic years 2019 to 2023. The demographic factors include sex, age, year of graduation, and educational achievement and development.

Sex. The total number of Bachelor of Science in Criminology graduates from the academic years 2018–2019 through 2022–2023 is displayed in the figure. Of the 55 graduates of the 2019 class, 22 are male, or 40% of the total, and the remaining 33 are female, or 60%. Of the four graduates of batch 2021, three, or 75%, are male and the remaining one, or 25%, is a female. Of the 45 graduates of class 2022, 27 are male, representing 60% of the total, while the remaining 18 are female, or 40%. Of the 67 graduates of batch 2023, 29 are male, or 44% of the total, and the remaining 38 are female, or 56%.



Civil Status. The civil status of the graduates of the Bachelor of Science in Criminology program from the academic years 2018–2019 to 2022–2023 is displayed in the figure. According to data, there are 91% of graduate students—157—who are single, and 9%—or 15—who are married. Additionally, widowed and separated are possibilities on the survey form, although as of right now, none of the graduates have this civil status.

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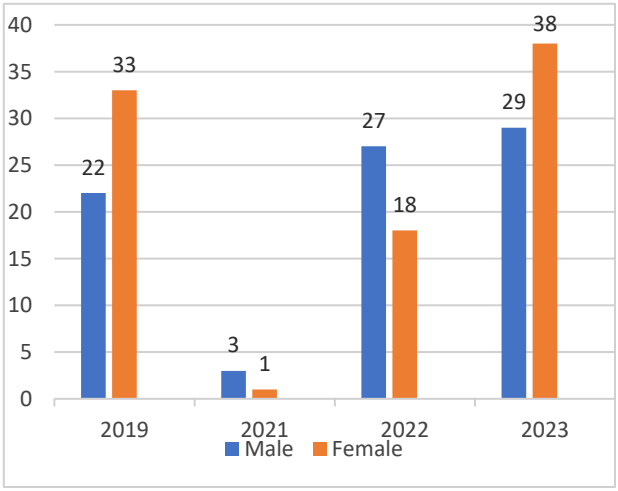


Age. The age distribution of Bachelor of Science in Criminology graduates from the 2018–2019 academic year to the 2022–2023 academic year is displayed in the figure. 144 graduates, whose ages range from 20 to 25, 24 graduates, whose ages range from 26 to 30, and 3 graduates, whose ages range from 31 to 35, are among the 172 graduates who completed the online survey administered using Google Forms

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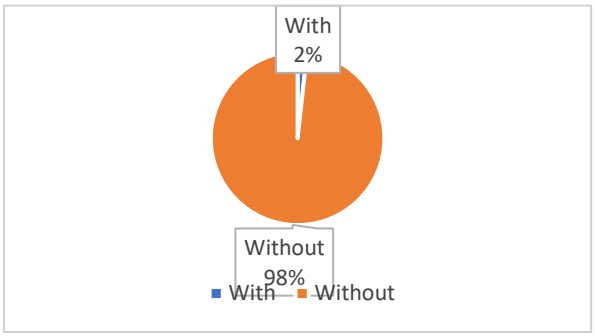


Year Graduated. The total number of Bachelor of Science in Criminology graduates from the academic years 2018–2019 through 2022–2023 is displayed in the figure. There were 55 graduates for the year 2019, of whom 33 were female and 22 were male. There were four graduates in 2020; three of them were male and one was a female. There were 45 graduates in 2022, consisting of 18 females and 27 males. Finally, out of the 68 graduates in 2023, 29 of them were male and 38 of them were female.

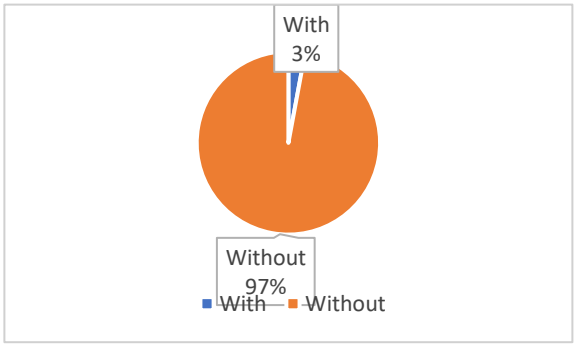


Educational Attainment and Development. This figure represents the total number of graduates with a Bachelor of Science in Criminology from the academic years 2018–2019 to 2022–2023 who obtained a national certificate and/or vocational education. According to the survey, 2% of graduates obtained a vocational education, while 98% of graduates did not obtain any vocational education. The vocational education programs included in this figure are Computer Hardware Service, Computer Literacy, Electrical Installation and Maintenance, and Security Service.

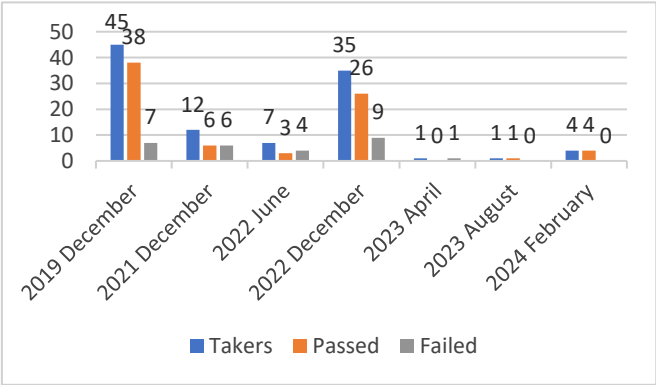
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The total number of Bachelor of Science in Criminology graduates who pursued postgraduate degrees or studies during the academic years of 2018–2019 and 2022–2023 is displayed in the figure. According to the survey, 97% of graduates decide not to pursue higher education, while only 3% of graduates have completed postgraduate coursework or received a degree. Additionally, the study revealed that the sole degree earned by graduates was a Master of Science in Criminal Justice, for which they were enrolled at PHINMA and University of Mindanao and received money from their jobs and scholarships.



The statistic shows the total number of 2018-2019 and 2022–2023 Bachelor of Science in Criminology graduates who took and passed the Criminologists Licensure Examination. The statistics indicates that 38 out of 45 participants in the December 2019 CLE passed, with just 7 failing. 6 of the 12 test takers in December 2021 passed, and the remaining 6 failed. 3 of the 7 people that took the exam in June 2022 passed it, while 4 failed. Afterwards, 26 of the 35 graduates who sat the test in December 2022 passed it, while 9 failed. One graduate took the CLE test in April 2023 but failed it. The exam was then taken and passed by one graduate in August 2023. Lastly, in February 2024 CLE, 4 graduates took and passed the examination.



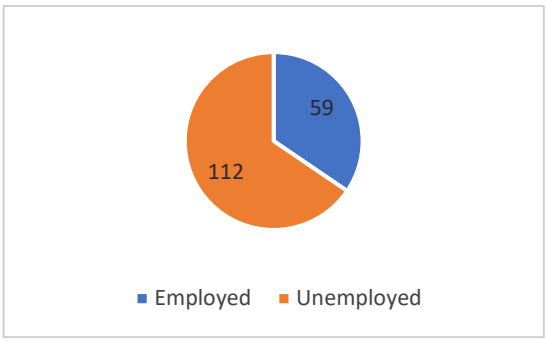
Employment Profile and Features of BSC Graduates

Determining the employment profile and features of the Bachelor of Science in Criminology from the academic years 2018–2019 to 2022–2023 is the second research objective of this tracer study. This includes the following: employment rate, employment status, income level, time spent looking for first job after college, relevance of college degree to current job, and job mismatching.

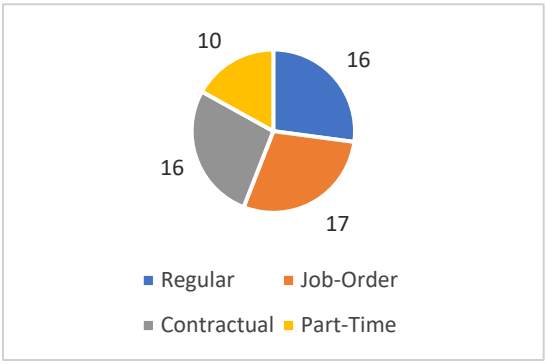
Employment Rate. The employment rate for Bachelor of Science in Criminology from the 2018–2019 academic year to the 2022–2023 academic year is displayed in the figure. Out of the 172 graduate students that replied favorably to the online survey, 112 (or 65%) were unemployed, while 59 (or 35%) worked in

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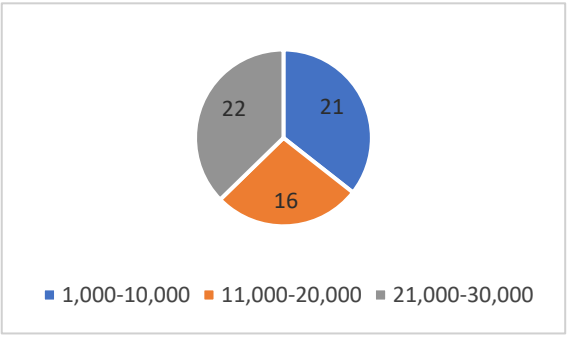
government agencies, academia, law enforcement, or non-degree related fields.



Employment Status. The job status of Bachelor of Science in Criminology graduates from the academic year 2018–2019 to 2022–2023 is displayed in the figure. The survey's results revealed that, of the 59 graduate students who answered on this particular topic, 16 work as regular employees, 16 have contracts, another 17 are employed in job orders, and the other 10 work part-time.

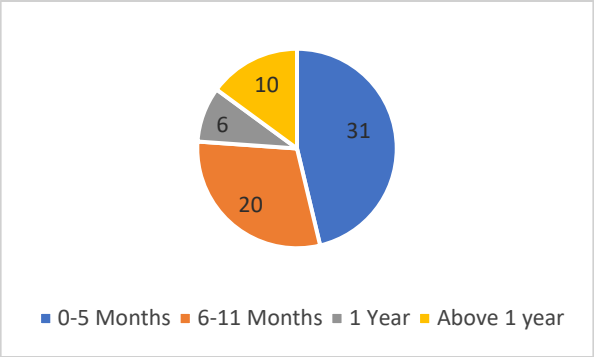


Level of Income. The monthly salary for a Bachelor of Science in Criminology from the 2018–2019 academic year to the 2022–2023 academic year is displayed in the figure. The survey's results revealed that, out of the 59 graduate students who answered in this regard, 21 (or 36%) made between ₱1,000 and ₱10,000 per month, followed by 16 (27%), who made between ₱11,000 and ₱20,000 per month, and 22 (37%), who made between ₱21,000 and ₱30,000 per month.

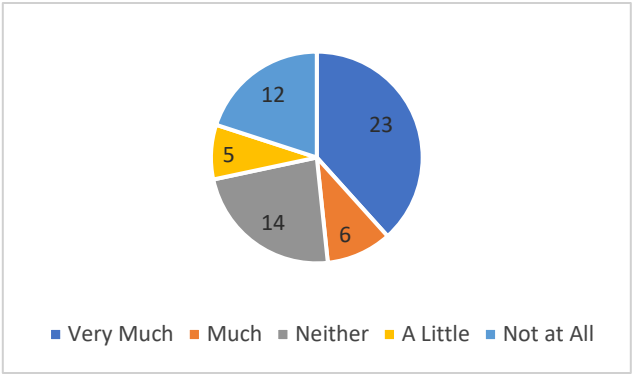


Period Seeking of Job After College. The range of job searching after completing a Bachelor of Science in Criminology from the academic year 2018–2019 to 2022–2023 is depicted in the figure. The survey's results revealed that, out of the 59 graduate students who answered in this category, 31 (or 46%) found their first job in just 0–5 months, while another 20 (30%) were able to obtain employment in 6–11 months. The remaining 6 or 9% are able to obtain employment within a year, and the remaining 10 or 15% do so after a year has passed.

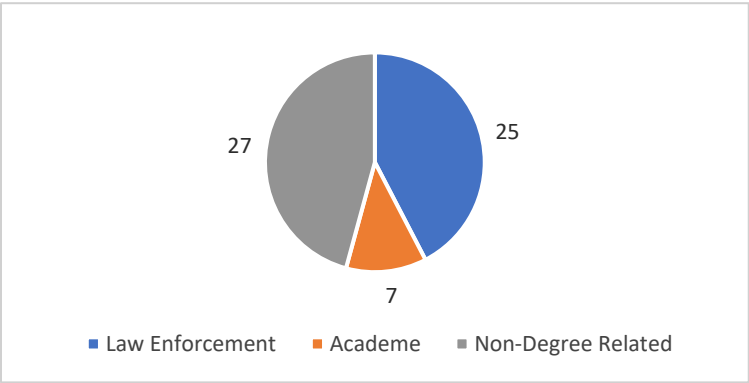
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Relevance of College Degree to the Present Job. The assessment of the Bachelor of Science in Criminology students from the academic years 2018–2019 to 2022–2023 about the relevance of their degree to their current position is displayed in the figure. According to the survey's results, out of the 59 graduate students who answered on this topic, 23 or 39% selected extremely relevant, 6 or 10% selected much relevant, and 14 or 23% selected neither. The remaining 5 or 8% selected some information that was important, while the final 12 or 20% selected none at all.

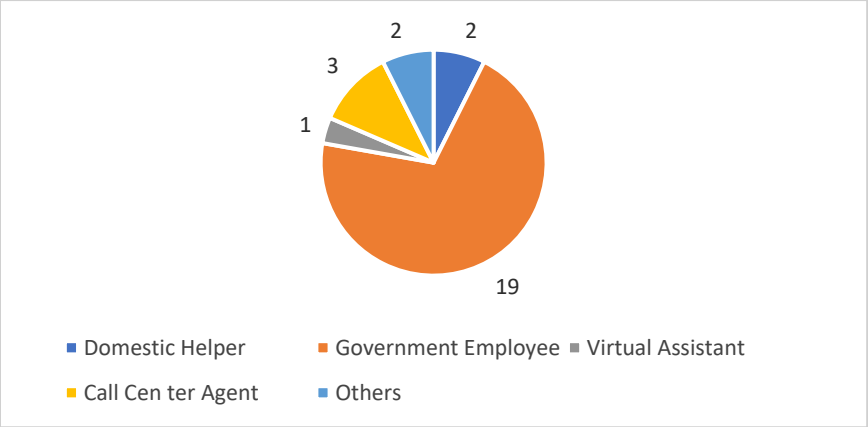


Job Mismatching. The chart shows the mismatch in employment or alignment of jobs for the Bachelor of Science in Criminology from the 2018–2019 academic year to the 2022–2023 academic year. Out of the 59 graduate students who responded to the survey, 25 or 42% are employed by law enforcement, either as traffic or security officers or as members of the PNP, AFP, BFP, NBI, or other law enforcement organizations. On the other hand, seven to twelve percent more people are employed in academia, specifically in Higher Education Institutions (HEIs). Lastly, the next chart illustrates those 27 graduate students, or 46% of the total, are working in occupations unrelated to their degrees.



The non-degree related job specifications for the Bachelor of Science in Criminology from the academic year 2018–2019 to 2022–2023 are displayed in the figure. The survey's findings revealed that, of the 27 graduate students in non-degree-related employment shown in the figure, 19—or 70%—work for the government in capacities including PSA, DOLE, and other local government units. The remaining three, or 11%, are employed by the BPO sector. A virtual assistant makes up the remaining 1 or 4%, domestic assistants make up the remaining 2 or 8%, and business makes up the remaining 2 or 7%.

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Level of the Bachelor of Science in Criminology Graduates Attitude to Work

The degree of work ethic of Bachelor of Science in Criminology graduates is displayed in Table 1, where they achieved an overall mean score of 4.25, which is considered to be extremely high. Given that the respondents firmly agree with each of the sub-questions that make up attitude to work, this descriptive meaning and equivalent implies that the degree of the BSC graduates' attitude to work is always manifested.

The first sub-question in the table, "I am very interested, happy, and satisfied with my work and it is very important for me," had the lowest mean score of 4.05 out of the ten, with a descriptive equivalent that was similarly high. This indicates that the BSC graduates frequently exhibit the said item and/or construct in their work or workplace. On the other hand, items seven and nine, which state, "I have a good relationship with my colleagues and co-employees" and "I performed my task and job with excellence and outstanding quality", had the highest mean score of 4.38. This indicates that the BSC graduates consistently demonstrate the aforementioned items and/or constructs in their work or workplace.

Table 1.
Level of the Bachelor of Science in Criminology Graduates Attitude to Work

Attitude To Work		Mean	Description
1	I am very interested, happy and satisfied with my work and it is very important for me.	4.05	High
2	I like the kind of job and work I am doing.	4.18	High
3	I accepted assignments and tasks given to me at work without complaints.	4.11	High
4	I arrived on time to prepare my work and extend working hours if necessary.	4.23	Very High
5	I can work better and functional under different working environment and situations.	4.28	Very High
6	I participated in all activities and events inside my workplace.	4.27	Very High
7	I have a good relationship with my colleagues and co-employees.	4.38	Very High
8	I submitted necessary documents and papers on time and beat deadlines.	4.35	Very High
9	I performed my task and job with excellence and outstanding quality.	4.38	Very High
10	I seek assistance and help from others whenever I have clarifications and queries.	4.35	Very High
OVERALL		4.25	Very High

Level of the Bachelor of Science in Criminology Graduates Quality Education Provisions

Table 2 displays the quality of education provided to Bachelor of Science in Criminology graduates. These graduates received an overall mean score of 4.19, which is considered high. Since the respondents frequently agree to all of the indicated sub-questions under quality education provision, this descriptive meaning and equivalent implies that the degree of the BSC graduates' quality education provision is frequently expressed.

From the ten sub-questions, items number six and seven stating - quality of different courses offered in the program that develops

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the total sum of the student skills and level of optimum interaction and contact with my fellow students through different in-campus activities obtained the lowest mean score of 4.07 with a descriptive equivalent as high which means that the said items and/or constructs is often manifested by the BSC graduates as they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST). Further, the item which obtained the highest mean score of 4.39 is item number one stating - availability of course materials and different learning resources needed for our studies which is described as very high which means that the said item and/or construct is always manifested by the BSC graduates as they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST).

Table 2.
Level of the Bachelor of Science in Criminology Graduates Quality Education Provisions

Quality Education Provisions		Mean	Description
1	Availability of course materials and different learning resources needed for our studies.	4.39	Very High
2	Quality of course contents from courses offered as well as the teaching and learning process.	4.21	Very High
3	Conduciveness of the learning environment and atmosphere.	4.29	Very High
4	Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.25	Very High
5	Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.23	Very High
6	Quality of different courses offered in the program that develops the total sum of the student skills.	4.07	High
7	Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.07	High
8	Well-trained and self-renewing Faculty members and staffs.	4.14	High
9	Different trainings, seminars and workshops that prepare students for employment.	4.12	High
10	Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.09	High
OVERALL		4.19	High

Level of the Bachelor of Science in Criminology Graduates Skills and Abilities Development

Shown in Table 3 is the level of the Bachelor of Science in Criminology graduates' skills and abilities development which obtained and earned an overall mean score of 4.17 described as high. This descriptive meaning and equivalent entails that the level of the BSC graduates' skills and abilities development is often manifested since the respondents often agree to all of the identified sub-questions under skills and abilities development.

From the fifteen sub-questions, item number seven stating - communication and interpersonal skills obtained the lowest mean score of 4.06 with a descriptive equivalent as high which means that the said item and/or construct is often manifested by the BSC graduates after they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST). Further, the item which obtained the highest mean score of 4.43 is item number five stating - time management and decision-making skills which is described as very high which means that the said item and/or construct is always manifested by the BSC graduates after they studied in Kapalong College of Agriculture, Sciences and Technology (KCAST)

Table 3.
Level of the Bachelor of Science in Criminology Graduates Skills and Abilities Development

Skills and Abilities Development		Mean	Description
1	Organizational and leadership skill.	4.17	High
2	Problem solving and critical thinking skills.	4.18	High
3	Ability to work independently as well as teamwork and team play.	4.23	Very High
4	Creative thinking and creativity, initiative and taking a risk if necessary.	4.31	Very High
5	Time Management and decision-making skills.	4.43	Very High
6	Writing competence and skills including technical writing.	4.08	High
7	Communication and interpersonal skills.	4.06	High
8	Computer and ICT Skills	4.12	High

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9	Technical and Entrepreneurial Skills	4.08	High
10	Ability to work under pressure.	4.08	High
11	Keen understanding of human behavior and psychology.	4.05	High
12	Ability to Follow the legal, ethical, and moral standards of society.	4.24	Very High
13	Ability to demonstrate Forensic Laboratory Examination	4.10	High
14	Analytical and Investigative skills.	4.17	High
15	Ability to maintain confidentiality of sensitive information data.	4.27	Very High
OVERALL		4.17	High

DISCUSSION

Below is the summary of findings based on the gathered data conducted through online survey using google forms, the conclusions drawn and the recommendations.

Demographic profile of the BSC Graduates

The study's primary research objective was to determine the demographic profile of criminology graduates from batches 2019 to 2023. The survey results revealed that the majority of graduates were women, yet more men worked in law enforcement. Furthermore, the majority of the population was unmarried, with ages ranging from 20 to 30, with just three of them being 31 or older.

Further, in higher education, women outnumber males on average and have greater success rates. An examination of the literature revealed that institutional, external, and gender variations in learner attributes might all contribute to these discrepancies (Severiens & Dam, 2011).

Yet, for a considerable amount of time, feminist researchers have maintained that patriarchy has an impact on both the way men and women conduct their lives and the way society is structured. The representation of men and women in the legal, correctional, and law enforcement fields, as well as the organizational cultures and structures of these fields, are thought to differ (Batton & Wright, 2018).

Moreover, Neupane et al. (2022) states that due to population aging, the labor force is getting older worldwide. The overall labor force is reduced as a result of older people' declining employment and fewer younger workers joining the job market at the same time.

Lastly, if there are needs relating to the family, women are more likely to enter the workforce. Therefore, age, gender, and marital status are demographic characteristics that may have an impact on unemployment (Shakur et al., 2020).

Educational Attainment and Development

This tracer study also describes the educational attainment of Criminology graduates. According to the survey results, only a few of the graduates earned and obtained a vocational educational degree and/or National Certificate Level II, which includes a national certificate in computer and security servicing. In addition, a few alumni went on to get a Master of Science in Criminal Justice. Also, 75% of the graduates who took the Criminologist Licensure Examination passed.

In relation to this, Cooper et al. (2018), investigated determinants of plans to pursue graduate education in criminology, criminal justice, or a closely related discipline, their study uses data from 388 junior and senior criminal justice majors. The findings of the logistic regression show that the following groups of students are more likely to report graduate school intentions: women, students who feel more pressure to go to graduate school, students who don't dislike reading, writing, or statistics, and students who think there is more intolerance for diversity.

Moreover, Barreda (2022) state that to be granted complete permission to practice criminology, a graduate with a baccalaureate degree in the field must pass the Professional Regulation Commission of the Philippines' Licensure Examination in order to be recognized as a Licensed Criminologist. Republic Act No. 11131, which is titled "the law creating the Board of Criminology," requires this. Higher education institutions' teaching and learning must be up to the standards set by the profession in order to satisfy this expectation. As an indicator of the caliber of teaching and learning produced by higher education institutions, the passing percentage on the board test ought to be greater than the national passing rate.

Employment Profile and Features of BSC Graduates

Based on the result of the survey of this tracer study, 35% of the graduates are already employed and some of them are working in the law enforcement, few are in teaching profession, also, some are working in the government, as call center agents and domestic helper. Also, most of them are in regular status and job order status to which earning 1000 to 30,000 per month.

In relation to this, a graduate in criminology may work as a prison officer, drug enforcement agent, fireman, or port police officer in addition to being a police officer. Others could work as department store security officers, private investigators, criminology instructors, traffic enforcers in the area, hotel and resort internal security, or security consultants. Despite all of these options, some criminology graduates may find themselves employed in fields unrelated to their field of study that still shape, prepare, and improve their skills (Ruiz, et al., 2020).

Moreover, although criminal justice is a popular undergraduate college major, many graduates pursue other careers for reasons that are not fully understood. McMahon (2022) wants to identify

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the reasons why some undergraduate criminal justice students are no longer interested in policing as a career choice.

Lastly, in the study of Refugia (2021) suggests that graduates of criminology degrees chose permanent employment in a manner akin to that of graduates from other disciplines. Acceptable benefits of permanent work include paid time off, insurance, retirement benefits, chances for professional growth and promotion, a sense of stability, and job security.

Level of the Bachelor of Science in Criminology Graduates Attitude to Work

The level of the Bachelor of Science in Criminology graduates with their attitude to work was described as very high. This descriptive meaning and equivalent entails that the level of the BSC graduates' attitude to work is always manifested since the respondents strongly agree to all of the identified sub-questions under attitude to work.

In addition, whatever disposition or work attitude of criminology graduates' exhibit in completing their assignments will invariably reflect on the college from which they graduated. Graduates are thought to have a big role in enhancing the college's or university's reputation. Thus, the employer's appraisal of the graduates acts as a feedback system so that the university may create new plans for enhancing the qualities of its graduates (Ayeo-Eo & Doquilla, 2021).

Also, according to Mina and Aydinan's (2019) study, trainers rated the attitudes of BS in Criminology students toward their jobs. An extraordinary average weighted mean of 3.32 was obtained by the pupils. Additionally, students received great ratings for their enthusiasm in carrying out their duties, punctuality, reliability, and trustworthy behavior—particularly when it came to completing their given tasks satisfactorily and exhibiting a helpful attitude at work. During their instruction, students who were obedient to their teachers developed a strong character by learning to comply with the expectations and needs of their immediate superiors.

Level of the Science in Criminology Graduates Quality Education Provisions

The level of the Bachelor of Science in Criminology graduates with quality education provisions was described as high. This descriptive meaning and equivalent entails that the level of the BSC graduates' quality education provision is often manifested since the respondents often agree to all the identified sub-questions under quality education provision.

Furthermore, the goals of the CHED Memorandum Order No. 21 Series of 2005, on Policies and Standards for Bachelor of Science in Criminology, are to prepare students for careers in crime prevention, law enforcement, scientific crime detection, and correctional administration; and foster the values of leadership, integrity, accountability, and responsibility while serving their fellow citizens, community, and country (Pacatang, 2016).

Also, in the study of Habiatan (2019), findings demonstrated that Isabela State University Cabagan's Bachelor of Criminology program complies with the minimal requirements set out by the Commission on Higher Education. The following issues surfaced in the respondents' assessment of the program's shortcomings: inadequate lab spaces, furnishings, and equipment; scant teaching resources; scant research undertaken; inadequate buildings, spaces, furnishings, and tables; and scant library holdings.

Level of the Bachelor of Criminology Graduate Graduates Skills and Abilities Development

The level of the Bachelor of Science in Criminology graduates with the skills and abilities development was described as high. This descriptive meaning and equivalent necessitate that the level of the BSC graduates' skills and abilities development is often manifested.

Regarding this, the Ruiz et al., (2020) study disclosed the technical skills needed for employment among criminology graduates. The majority are adept at both dismantling and reassembling weapons. Additionally, they knew how to gather, store, and manage evidence. The area where knowledge of question formulation in respect to performing polygraph examinations was found to be the least proficient. This was to be expected, as the majority of criminologists were not afforded the chance to become specialists in criminalistics, namely in polygraphy and investigation. Even people who have worked with the Philippine National Police can attest to this.

Also, according to the study, of Libradilla et al. (2023) states that criminology internships significantly contribute to the improvement of interns' knowledge and skill sets. These results emphasize the value of hands-on training in the criminology intern's growth as it gives students a chance to put their academic knowledge to use in practical settings. The knowledge and skills development of criminology interns is greatly influenced by the internship program, self-efficacy, and experiential learning. This is evident in the development of the interns' professional skills, theoretical knowledge application, and personal skills.

Lastly, regardless of position or level, it is beneficial for crime scene examiners and field forensic practitioners to have advanced cognitive and leadership skills. Police investigations and crime prevention heavily rely on tasks like processing crime scenes, analyzing evidence in mobile laboratories, or mapping serial crimes using forensic intelligence (Kelty et al., 2017).

Summary of Findings

After the conduct of the survey which successfully responded to most of the respondents, the following are the summary of findings: the institution, Kapalong College of Agriculture, Sciences and Technology produced a total of 171 graduates which composed of 81 males and 90 females. In terms of civil status, the survey showed that 91% of the graduates is single and 9% is married. Talking about age, most of the total population of the

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graduates ages 20-30 of which there are only 3 graduates whose age is 31 above. Further, batch 2023 has the greatest number of graduates of 67 students and batch 2020 has the least number of graduates of 4. Lastly, there are 2% of the graduates obtained a vocational course or National Certificate and only 3% of the graduate proceed to further studies.

In addition, when it comes to the employment rate, 35% of the graduates are employed and 65% are unemployed. Also, survey showed that many of the graduates who responded in the survey are regular employee while others are working as job order. Further, most of the graduates have a monthly income of 11,000 to 30,000 and there are only few who earned at least 31,000 above monthly and most of them took 0-3 and 4-8 months to land a job after college to which most graduates agreed that their college degree is very much relevant with their present as it obtained a total of 68.4%. Lastly, there is 38.2% of the graduates who responded with the survey who work as nonteaching.

Lastly, survey showed that level of attitude of work of the BSC graduates is very high, the level of the quality education provision of the institution is high and the level of the skills and abilities development is also high.

CONCLUSION

After conducting a thorough survey, the following conclusions have been reached, first the employment rate among BSC graduates from the batches spanning 2019 to 2023 stands at 35%, indicating that a significant portion of graduates possess the skills and qualifications necessary to secure employment. Notably, a considerable number of graduates have been able to secure job orders or full-time positions, highlighting their readiness for the workforce.

Also, the relevance of the college degree to graduates' employment underscores the quality of education provided by the institution. This correlation suggests that the courses and disciplines offered by the institution effectively prepare graduates for their respective fields, affirming the institution's commitment to delivering quality education.

Additionally, the survey revealed the following insights, graduates demonstrate a high level of work attitude, as evidenced by their strong agreement with the performance of tasks and responsibilities efficiently and effectively. This positive attitude towards work reflects favorably on the institution's ability to instill a strong work ethic among its students.

Moreover, the quality of education provided by the institution is rated as good, indicating that KCAST offers a robust educational experience characterized by diverse training opportunities, seminars, ample learning resources, and competent faculty and staff members. These factors contribute to a rich and conducive learning environment for students.

In addition, the development of graduates' skills and abilities is assessed as high, indicating that KCAST effectively nurtures and enhances the diverse interests, skills, and abilities of its students throughout their academic journey. This highlights the institution's success in fostering holistic growth and development among its graduates.

Overall, the findings affirm KCAST's commitment to providing quality education, fostering a positive work ethic, and nurturing the skills and abilities of its students, ultimately preparing them for successful careers in their chosen fields.

RECOMMENDATIONS

Based on the comprehensive findings and conclusions drawn from the study, several recommendations are proposed. First, establishing a dedicated Graduate Employability Coordinator within the school can significantly enhance employment prospects for graduates. This coordinator would be responsible for tracking and monitoring graduates' employment status, as well as organizing online forums to disseminate information about job vacancies and career opportunities. By fostering stronger connections between graduates and potential employers, the school can better support its alumni in securing meaningful employment.

Also, addressing the issue of graduates working in non-degree related jobs requires proactive measures. The school should offer a variety of training sessions, seminars, and workshops tailored to the interests and career aspirations of its students. By equipping students with relevant skills and knowledge, particularly in the realm of law enforcement, the school can inspire greater motivation and enthusiasm among graduates to pursue careers aligned with their academic backgrounds.

Moreover, strengthening the development of multidisciplinary research expertise is crucial for enhancing the academic preparedness of graduates. Given the low mean score attributed to expertise in multidisciplinary research, the institution should prioritize the improvement of thesis writing programs for BSC graduates. By enhancing their proficiency in research methodologies and thesis crafting, graduates will be better equipped to contribute effectively to their respective fields of work, thereby bolstering their overall professional competence.

Furthermore, accelerating the transition from graduation to employment necessitates forging closer partnerships with local industries and community stakeholders. By expanding collaboration with industry partners and community linkages, the institution can facilitate smoother transitions for graduates into the workforce. Through these strategic partnerships, graduates can gain access to a broader range of job opportunities, thereby reducing the time it takes to secure employment post-graduation.

In summary, these recommendations aim to optimize the employability and career prospects of graduates by fostering stronger connections with potential employers, enhancing

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relevant skill development initiatives, improving research competencies, and expanding collaborative networks within the local community and industry sectors. By implementing these proactive measures, the institution can better fulfill its commitment to preparing graduates for successful and fulfilling careers.

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CHRISTOPHER MARLOWE'S DOCTOR FAUSTUS AS A MORALITY PLAY

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Christopher Marlowe was the greatest of Shakespeare's predecessors. He may be regarded as the true founder of English drama. Though he was born and brought up in very poor family.he was able to get good education. Marlowe was the greatest of a group of young writers generally called " University wits" Before his untimely death at the age of twenty-nine he had founded English romantic tragedy, had written one of the greatest poetical dreams in the English language. One of the best psychological grandeur with doctor Faustus. For this great symbolic tragedy deals with a theme which is not only of the author's inner experience but of the very stuff which nourished the renaissance spirit. The pride of intellect by which both the Faustus of Marlowe and the Lucifer of Milton feel was the subtlest and most dangerous temptation of the age.

Marlowe was able to give his audience an impression of greatness; he made them tremble with enthusiasm. His success was immediate but even when his plays had come to seem extravagant, they remained popular. His characters are too large to be realistic or convincing; and yet they have the breath of life in them. Marlowe is regarded as a pioneer and arable. He raised the standard of revolt against the convention of writing plays in rhyme and against the "clown age'' of popular comedy. The place and the value of Christopher Marlowe as a leader among English poets would be almost impossible for historical criticism to overestimate. He first and he alone guided Shakespeare into the right way. He is the greatest discoverer, the most daring and inspired pioneer, in all our poetic literature. Before him there was neither genuine blank verse nor a genuine tragedy in our language. After his arrival the way was prepared, the paths were made straight for Shakespeare.

The old Legend that a man could obtain supernatural power by selling his soul to the devil found in climax in the 16th century in a person of Doctor Faustus who really in the first half of that century. This man was a wandering scholar notorious as a necromancer, braggart and super- quack, who abandoning the disinterested pursuit of knowledge, in favor of its worldly exploitation and attaining some temporary success, ultimately met disaster Marlowe raises the character of Doctor Faustus to a higher level than is touched by his character in the original and the serious scenes of the play seem to some extent to be a sublimation of the vulgar sensationalism of the original. The serious and the comic scenes together form a curiously incongruous alternation. Marlowe makes excellent use of a religious convention which is undoubtedly Christian. What Marlowe creates out of the story of Faustus is a medieval mortality play with a late Renaissance temper.

FAUSTUS AS A MORALITY PLAY

Doctor Faustus marks the culmination of the English Morality tradition. As a morality it vindicates humility, faith and obedience to the law of god. Indeed, an eminent critic has described this play as the most obvious Christian document in all Elizabethan drama. It preaches the basic Christian values and should therefore be regarded as morality play.

The basic beliefs of Christianity are inherent in every line of Doctor Faustus and the Doctrine of damnation pervades it. The devil and hell are omnipresent in this play and are tarrying realities, Faustus makes a bargain with the devil and for the sake of Earthly learning, earthly power, earthly satisfaction goes down to horrible and everlasting prediction. The "Hero" is depicted as a wretched creature who for lower value give-up higher ones. Thus the drama is morality play in which heaven struggles with hell for the soul of a renaissance. Everyman loses the battle on account of his psychological and moral weaknesses.

It would be Incorrect to treat Faustus as the noble victim of tyrannical deity. On the contrary god is exceedingly good in his gifts to the hero until the latter becomes the victim of his own in satiable desires and even then god is willing to forgive of the repents. But Faustus intentionally refuses all aid and so goes down to damnation. There is no ambiguity at all in the play on this main issue. Marlowe establishes the moral values of the play by various means; by the Chorus, by Faustus's own recognition, by the good angel, by the old man, by the action itself and even Mephistopheles. As an example of the pervasive Christian view point, we also witness the deterioration and the coarsening of Faustus's character and his indulgence in cheap, sadistic fun.

The straggle between Faustus's uncontrolled appetites and the powers of haven continues the good angel and the evil angel

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reappear the former urging him to give up magic, and the latter encouraging him to "go forward in that famous art"

Faustus consciously and deliberately sets his will against gods. But he is in this state Mephistopheles summons a few devils who offer him sensual satisfaction in order to distract his mind from spiritual concern. Repeatedly God Angel confirms Faustus's feeling by saying; "Faustus repent; yet god will pity thee" but overwhelmed by the will power he says, "My heart is hardened, I cannot repent. This must be taken as an egocentric conclusion.

Hell Strives against Heaven and despair strives against repentance, but as soon as Mephistopheles threatens to tear Faustus's flesh for disobedience. Then the weak-willed voluptuary quickly surrenders. There are some silent protests against the official Christianity of play. On the whole we can conclude that, if a person yields to a temptation, it would mean a failure of his willpower. But Faustus's self damnation is not due to a failure of his will power but to an assertion of his willpower the foundation of Marlowe's Philosophical position is that man has certain over-riding desires whose realization is denied by any form of servitude, and that the scheme of things as laid down by the god, who demands servitude.

4.

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BHARATHI KIRCHNER'S FICTION: FACTORS THAT INFLUENCE THE WRITING STYLE AND THE CHOICE OF SUBJECTS

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Bharti Kirchner reflects in her novels both Indian Culture and also a great deal of multiculturalism which is experienced by the Indian immigrants not only in foreign countries but also in India as well.

Kirchner has published four critically acclaimed novels; Shiva dancing, Darjeeling, Sharmila's book and her latest pastries;A Novel of desserts and discoveries. The title of the novel, 'Shiva dancing ' symbolises the great celestial dance of creation that will go on forever .It also means that the voyage of life does not stop and is uncontrollable.Kirchner use of myth Shiva is quite subtle. It is not just inferred by the title or alluded by oblique reference; it is interpretative that the novelist manipulates her characters to make speeches about Shiva.
In the novel 'Shiva dancing 'the sevenyear old Meena Kumari was about to marry her best friend Vishnu Ratan according to the ancient custom of Child marriage,Number Seven her people always believed as an auspicious number. Meena Kumari was to marry on her Seventh birthday and the groom also was named after friend god Vishnu whose number is Seven (7)

"Fresh literary terrain.....Shiva dancing is a past travel guide, a past socio political study of contemporary India and even past cook book".

Kidnapped from her homeland,young Meena is unable to find her way home and is soon adopted by an American couple, Meena as time feels a desire to return to her village and find the man chosen for her by her Father to be her husband. Meena compares herself with Sita but she promptly realises that," This is modernday America unlike Sita." Further reference to the mythical Sita is the incident of Meena's condemnation for abandoning her Child-husband, Vishnu when she was in fact kidnapped by bandits.Therefore,Kirchner's use of an ancient bat popular myth has a clear feminist indication underlining the injustice meted out to Indian Women, Bharthi Kirchner is very much aware of the position of Women in India. Shealso delineates the difference between modern American girl and traditional Indian mentality.

Shiva dancing can also be implied and intereprerted that the Shiva is the God the destroyer,the one who creates a cycle of birth and death which symbolizes construction and destroction eventually the constructor, the destroyer and the re-constructor of Meena's life by dancing,Meena's life is destroyed when she is kidnapped recreated when she is adopted ,destroyed when her adoptive mother dies, and again recreated when she returns to India and concludes her predicament.

The story unveils numerous parallel lines as it traces the separate lives of Meena Kumari in America and Vishnu Chauhan in India. It places before us two separate cultures the western and eastern and it also employs the overriding motifs of the dance of 'Shiva' which is performed in gaiety and triumph. Social consciousness comprise of customs, traditions, rituals etc. Meena who always been longing for her root to find her husband Vishnu, her culture, tradition gets excited to know that Vishnu is a journalist and well know reporter in Calcutta.
After an email reunion with Vishnu her Childhood husband Meena-family decides to make a trip to India to rekindle her Indianness and find her old Village .She faces intense humiliation from Vishnu's family in particular and the entire Village ingénues she compares her situation with that of goddess 'Sita',she says, I feel humiliates like her [Sita] I just want to disappear.

Kirchner's another novel, 'Goddess of Fire set up in the seventeenth century India. One of the most reprehensible customs of old India is the practice of Sati. The novel speaks about Moorti a widow who silently opposed the practice of Sati but was forced by her relatives.The novel also speaks about the rescue of Moorti by a Britisher.Moorti turned out as Maria and worked for the benefit of her Home town. She gets a job through job charnock and within a very short period of time she proved and saved her

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job. Further the relationship between Maria and job turned out to be one of the intimate ones. Job her rescuer renames her Maria, the author brings to the notice of the reader that Moorti as Maria has some misgivings of losing her identity,especially Anglicizing her name. The story takes a turn when Maria goes back to her Village and becomes a witness to see the horrific situations of her family members. The resultant of her rejection towards the natural order of Sati made her parents to lose their lives and her brothers to be virtual slaves.

The novel makes a strong statement about the prejudices and turmoil between English and Indians. While giving readers a detailed glimpse into the more exotic India the author says as a nation and the people of the nation must come to terms with tumultuous changes set a flame by English traders.

The works of South Asian Women writers follow this pattern and the novels are increasingly introspective, open ended and questioning. Issues are no longer black and white answers are neither stereotypical nor easy to find. Menare no longer seen as enemies to women kind . Female protagonists are seen to be in search of self fulfilment, order, meaning and security amidst the confusions and uncertainties of their new conditions.

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BHARTI KIRSTNER AND AMULYA MALLADI; AUTHENTIC ARTICULATIONS OF THE PROBLEMS OF NON - RESIDENT INDIANS IN THEIR FICTION

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Literature is a work of art blended with an aesthetic and artistic creation specifically in the written form. There are indeed many different kinds of Literature around the globe, but Indian English Literature has its special qualities that make it stand out to readers. Indian English Literature is an amalgamation of various themes such as socio-historical, multi cultural and multilingual objectives. Amulya Malladi is an Indian women diasporic writer she brings the concept of Cultural dilemmas in her work. This paper investigates Amulya's second fiction The Mango season and highlights the societal complications Cultural confusions faced by the protagonist Priya Rao. Due to religious and Cultural differences, the protagonist suffers a lot to decide between her love for her family and her primarily the result of two living experiences that develop in one's own Country and in the host land. The Mango season is very naturalistic in its depiction of Cultural confusions and societal norms faced by the pro agonist.

2 Who is well educated and graduated in the west while her Parents are down rooted in the Orient Culture?

The modern diasporic Indian writers can be grouped into two distort classes, the first class comprises of those who have spent a part of their life in India and have carried the baggage of their native land to a foreign land .The other class comprises of those who have been bred up since Childhood from outside India. Both the groups have produced an enviable corpus of English Literature. These diasporic writers live on the margins of two countries and create Cultural theories.

The Indian diasporic writers particularly Malladi and Bharti Krichner stay abroad and write about Indian Culture and ethos, have engraved for themselves a place in Indian English Literature. They have explored this inters feeling of immigrant sensibility through their fiction with the help of different aspects of life. In the post, Indians were intellectually fed on the thoughts of dickers, scot and the like. Today people all over the world are being nourished by the writers of the diaspora namely Amulya Malladi , Chitra Banerjee, Bharthi Kirchner and others such writers have brought about Indian life and Culture to the world outside Malladi and Kirchner explore the experience of being caught between two cultures with cultural conflicts , displacement and dilemmas . As a women writer, she views gender from a women's point of view and thus extends the boundaries of women experience from different perspective and dimensions.

The novels of these two writers mainly focus on the themes like family tension , the changing possibilities of memory and the elusive nature of mind , the misunderstandings between two generations , the conflict between modernity and traditional values and the changing status of women from traditional roles to conflicting women characters . The major issues reflected in her works are related to women their self actualization, Psychological transformation, problem of identity cultural displacement, issues of gender and culture.

Culture is the context in which a person lives, thinks and feel. It is a collective identity of which everyone is an integral part; displacement is a key term in post colonial theory which applies to all migrant situations. It refers both to physical displacement and a sense of being socially and culturally "out of place". Immigrants unknowingly imbibe the host cultural when cultural displacements occur such cultural displacement can be seen in The Mango season by Amulya and Bharthi kirchner's Goddess of fire, cultural displacement is a shift or dislocation of a home cultural when an immigrant faces an inevitable situation and gradually accepts the host cultural, Cultural displacement can be experienced by an immigrant who is transferred from the native country to any foreign country.

The love and affection among individuals and trust towards each other is a basic phenomenon of human beings. Man and society are always inter-connected to spread the value of relationship in society. Without the existence of human beings society has no meaning. Thus human relationship is the main juncture of the society to uphold their emotions.Especially Anglicizing her name. The story takes a turn when Maria goes back to her Village and becomes a witness to see the horrific situations of her family

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The workers of south Asian women writers follow this pattern and the novels are increasingly introspective, open ended and questioning. Issues are no longer black and white, answers are neither stereotypical nor easy to find. Men are no longer seen as enemies to women kind. Female protagonists are seen to be in search of self fulfilment order meaning and security amidst the confusions and uncertainties of their new conditions.

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CERVICAL DEGENERATIVE MYELOPATHY, PANORAMIC REVIEW

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SUMMARY

Introduction: *cervical degenerative myelopathy (DCM) is a general term that entails multiple etiologies. DCM is a group of pathological entities that originate compression of the cervical spinal cord, where spasticity, hyperreflexia, pathological reflexes, loss of manual dexterity, among others, are found.*
Objective: *to detail the current information related to cervical degenerative myelopathy, epidemiology, clinical presentation, role of complementary examinations, pathophysiology, pathogenesis and treatment.*
Methodology: *a total of 32 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 21 bibliographies were used because the other articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish, Portuguese and English were: cervical degenerative myelopathy, cervical spondylotic myelopathy, cervical pain, ossification of the yellow ligament and degenerative disc disease.*
Results: *cervical myelopathy occurs in almost all individuals with canal stenosis greater than 60%. Spinal cord injury (SCI) is a devastating disorder that influences remarkable neurological morbidity and significant wear and tear on quality of life. The incidence and prevalence of SCI in North America is between 4.1 and 60.5 per 100,000, robust epidemiological data is difficult to obtain because of the multifactorial etiology of the disease process.*
Conclusions: *cervical degenerative myelopathy involves multiple etiologies, all these entities together represent the most common reason for degenerative and non-traumatic alteration of the spinal cord in adult individuals. Degenerative disorders are more common at C5 and C6 or C6 and C7, because of the increased mobility in these sections. It is difficult to obtain solid epidemiological*

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data because of the multifactorial etiology of the disease process. The symptoms and signs presented by the pathology are varied, so an adequate physical examination and a good clinical history should be taken. The pathology can significantly alter neurological function and lead to disability, so early recognition and treatment can prevent further deterioration of affected individuals. Surgical decompression is almost universally indicated with the intention of preventing progression and achieving maximum recovery potential.

KEY WORDS: *myelopathy, cervical, degenerative, pain, spinal, neuralgia.*

INTRODUCTION

Cervical degenerative myelopathy (DCM) is an umbrella term that carries multiple etiologies, among them are cervical spondylotic myelopathy (CSM), ossification of the yellow ligament (OLF), ossification of the posterior longitudinal ligament (OPLL), and degenerative disc disease (DDD). All these entities together represent the most common reason for degenerative and non-traumatic spinal cord impairment in adult individuals(1-3).

The German Herbert von Luschka is credited with the discovery of the changes in the development of the anatomical structures of the cervical spine. Cervical degenerative myelopathy (DCM) is a group of pathological entities that cause compression of the cervical spinal cord, resulting in a clinical syndrome with spasticity, hyperreflexia, pathological reflexes, loss of manual dexterity, gait disturbances and sphincter dysfunction. Some individuals are more likely to form myelopathy in the cervical spine as a result of congenital cervical canal stenosis. Degenerative changes are more common at C5 and C6 or C6 and C7, because of increased mobility in these sections. There are also other factors that contribute to spinal canal stenosis such as hypertrophy of the yellow ligament, listhesis, osteophytosis and facet hypertrophy. Cervical myelopathy occurs in almost all individuals with canal stenosis greater than 60%, considering the sagittal disc space to be less than 6 mm. The pathology has an insidious onset, progressing gradually with reduced function. If the affected person does not receive treatment, it can lead to significant paralysis and loss of function. The level of neurological impairment can be measured using the modified Japanese Association Scale (mJOA) or the Nurick grade. Treatment sometimes requires anterior or posterior decompression surgery of the stenosed surface and sometimes fusion(1,4).

METHODOLOGY

A total of 32 articles were analyzed in this review, including review and original articles, as well as cases and clinical trials, of which 21 bibliographies were used because the information collected was not important enough to be included in this study. The sources of information were Cochrane, PubMed and Google Scholar; the terms used to search for information in Spanish, Portuguese and English were: cervical degenerative myelopathy, cervical spondylotic myelopathy, cervical pain, ossification of the yellow ligament and degenerative disc disease.

The choice of bibliography exposes elements related to cervical degenerative myelopathy, epidemiology, clinical presentation, role of complementary examinations, pathophysiology, pathogenesis and treatment.

DEVELOPMENT

Epidemiology

The incidence and prevalence of DCM in North America is between 4.1 and 60.5 per 100,000, solid epidemiological data are difficult to obtain because of the multifactorial etiology of the disease process. There are authors who estimate that degenerative diseases of the spine are among 59% of non-traumatic spinal cord injuries in Japan, 54% in the United States, 31% in Europe, 22% in Australia and 30% in Africa. It is further stated that the area incidence per million was 76 in North America, 26 in Europe and 6 in Australia. Although these data are not limited to cervical spinal cord impairment and several individuals with minor symptoms were excluded from multiple studies included in the review, it could be inferred that since DCM is one of the most common origins of non-traumatic cervical spinal cord injury, it is a major drawback for the North American population(1-3).

A clinical trial comparing magnetic resonance imaging (MRI) data from asymptomatic individuals showed that about 25% of individuals under 40 years of age had radiological findings compatible with cervical spondylosis. The incidence of these findings was approximately 60% among individuals older than forty years(5,6).

Clinical Presentation

Spinal cord injury (SCI) is a devastating disorder that results in marked neurological morbidity and significant impairment of quality of life.

The presentation of the affected individual presents with a wide range of symptoms ranging from barely perceptible dysfunction, through numbness or loss of motor dexterity, to severe dysfunction, such as tetraparesis and sphincteric impairment. It should be noted that paresthesias in the limbs are usually the first sign and because they are mild, they are often not recorded by affected individuals and health personnel(7).

The following clinical signs and symptoms may generally be present in individuals with DCM:

- Motor deficits.
- Numbness of the hands.
- Hoffmann's sign.
- Tenar atrophy.
- Ankle clonus.
- Inverted brachioradialis reflex.
- Hyperreflexia.
- Babinski's sign.
- Spasticity.
- Romberg's sign.
- Lhermitte's phenomenon.
- Impaired gait.

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- Incontinence.
- Clumsy hands.
- Weakness.
- Paresthesias(1).

The myelopathic signs in the physical examination present different sensibility and specificity: hyperreflexia comprising between 72 and 43 percent, showing the biceps as the most sensitive and the brachioradialis the most specific, Hoffmann's sign comprising between 59 and 84 percent, brachioradialis reflex comprising between 51 and 81 percent, clonus comprising between 13 and 100 percent and Babinski comprising between 13 and 100 percent(8).

Role of Complementary Tests

The diagnosis of cervical degenerative myelopathy is complex. Somatosensory evoked potentials (SSEP) and motor evoked potentials (MEP) are usually used to find objective evidence of functional abnormalities of the spinal cord(5).

Evaluation of cervical degenerative myelopathy usually includes plain radiographs. Lateral views allow assessment of spinal canal narrowing, disc height, presence of ossification of the posterior longitudinal ligament (OPLL), cervical sagittal alignment and subluxation. In individuals with cervical degenerative myelopathy, increased C2-C7 Cobb angles, superior C7 slopes, inferior C7 slopes and superior T1 slopes are usually shown(5,9).

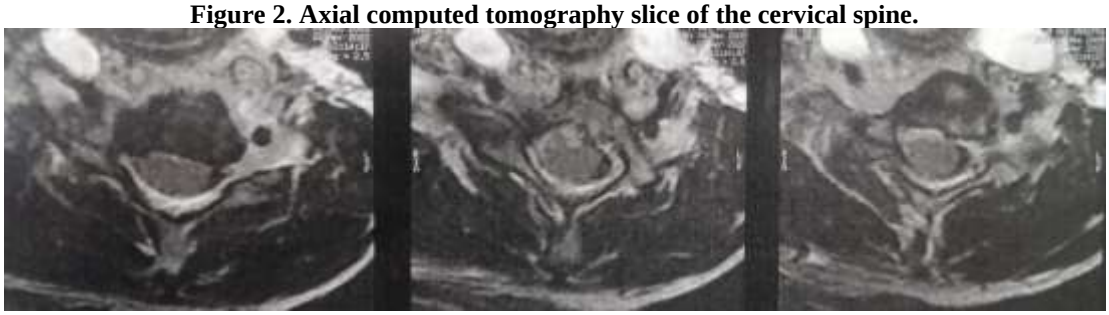
Figure 1. Lateral radiograph of cervical spine, showing severe cervical spine deformity.



Source: The Authors.

A study showing the correlation between preoperative computed tomography (CT) myelograms and clinical outcomes following the surgical procedure showed that individuals with greater spinal cord cross-sectional area at the degree of maximum compression had better outcomes. Other studies show that kinematic CT scans have limited potential to demonstrate myelopathy or correlate findings with clinical outcomes of DCM. Research projects based on tomography play a fundamental role in the diagnosis of diseases such as OPLL (10,11).

Figure 2. Axial computed tomography slice of the cervical spine.



Source: The Authors.

MRI can provide direct evidence of spinal cord compression, playing an important role in the choice of appropriate treatment, as well as predicting outcomes. Magnetic resonance imaging allows the observation of soft tissue structures such as intervertebral discs, showing early signs of degeneration, as well as spinal ligaments and other structures that are not easily visualized. At the moment there is no certainty as to whether there is a direct relationship between the amount of degeneration and changes in the cord signal independent of canal stenosis. MRI scans can find modifications in the signal intensity of the vertebral plaques. When related to disc degeneration, they are named Modic endplate changes (MEC).

There are 3 subtypes described in the literature according to MRI. Some bibliographies showed that type 2 modifications were the most common, mostly at C5-6 and C6-7 levels.

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However, SCMs are a dynamic phenomenon. Other studies show that the natural history of cervical degenerative myelopathy in 426 individuals with neck pain and the prevalence of cervical degenerative myelopathy type 1 increased from 7.4% to 8.2% after 2.5 years of follow-up. Likewise, the prevalence of type 2 increased from 14.5% to 22.3%. In addition, 12 segments with type 1 converted to type 2 during follow-up and no conversions from type 2 to type 1 were seen. MRI also gives the possibility to assess spinal canal stenosis(5,12,13).

Pathophysiology and Pathogenesis

Typically, degeneration of the cervical spine occurs over time as a result of structural loading, repetitive microtrauma and age-related modifications in the physiology of the bones, muscles and intervertebral discs. The degenerative process usually begins with disc wear, which acts to distribute pressure forces evenly across the vertebral plates and facet joints. Because of the decrease in proteoglycans and water, the discs lose their elastic and supporting capacity, beginning to create unequal pressure forces on adjacent vertebrae, triggering the formation of osteophytes. In addition, the vertebrae progressively lose their height and gradually widen. The completion of these processes converges in the form of spinal canal stenosis leading to chronic compression of the spinal cord and subsequent development of myelopathy. Thus, individuals with a narrow spinal canal or a large spinal cord or imbalance between the canal and the spinal cord are at increased risk of developing DCM over the course of their years. In addition to static injury, these significant morphologic changes can lead to increased mobility or both stable and unstable spondylolisthesis. Being unstable, increased range of motion may result in dynamic injury and repetitive minor trauma. From a pathophysiological point of view, spinal cord injury over time modifies the blood-spinal cord barrier, causing neuroinflammation, ischemia and apoptosis, which together allow demyelination, astrogliosis and axonal degeneration. This will later end with the manifestation of symptomatic myelopathy with its characteristic clinical findings(14-17).

Compression of the spinal cord by degenerative changes may also result from enlargement and ossification of the ligaments of the spinal canal, especially the posterior longitudinal ligament (PLL) and the yellow ligament (LF). Ligamentous enlargement may occur as a result of bulging of the disc into the canal resulting in enlargement of the PLL, which may progress to reactive ossification of the PLL, or loss of disc height, which usually results in buckling and infrequently ossification of the LF and compression of the spinal cord from the posterior aspect. In addition, genetic factors have been implicated in the formation of ossification of these spinal ligaments, so it is possible that these individuals do not have clear degenerative findings. Affected individuals from East Asia have been shown to be uniquely compromised by OPLL.

In the pathogenesis of the disease, 3 main factors can be observed: static, dynamic and histopathological.

Static Factors

These are structural elements of the spine that cause the narrowing of the spinal canal. The degenerative cascade of DCM commonly begins with deterioration of the intervertebral disc that gradually collapses and protrudes into the spinal canal, reducing its caliber. The reduction in disc height causes the spine to shorten and exhibit abnormal biomechanics. The yellow ligament can also cause posterior spinal cord compression by thickening and proliferation. The ossification of the posterior longitudinal ligament can lead to cervical degenerative myelopathy by direct compression of the spinal cord anteriorly. All these alterations cause stiffness of the cervical structures involved. To compensate for the reduction of motion at the affected sites, the adjacent regions of the spine become hypermobile.

Dynamic Factors.

Abnormal repetition of cervical spine motion during flexion and extension causes irritation and compression of the spinal cord. Flexion can compress the spinal cord anteriorly against osteophytes and intervertebral discs. Hyperextension may result in narrowing of the spinal cord between the posterior edges of the vertebral body anteriorly and the hypertrophied yellow ligament posteriorly.

Histopathological Factors.

Mechanical compression of the spinal cord leads to vascular modifications causing ischemia and inflammation. Chronic compression of the spinal cord can result in cell loss, degeneration of the posterior columns, anterior horn cells and endothelial damage due to dysfunction of the blood-brain barrier of the affected spinal cord, generating continuous functional deterioration(7).

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Figure 3. Surgical procedure for symptom improvement in cervical spine.



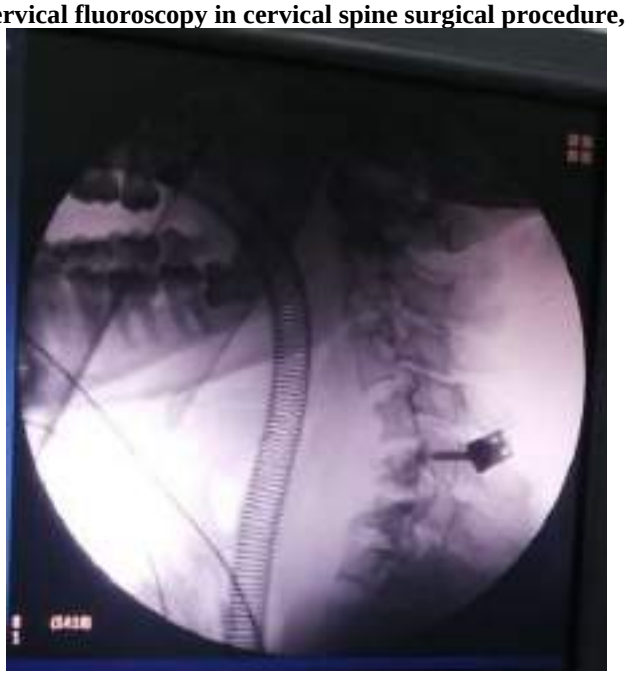
Source: The Authors.

Treatment

Cervical degenerative myelopathy is most often considered a surgical problem, with 20-62% of individuals worsening between 3 and 6 years of follow-up when management is expectant. In addition, in individuals who have asymptomatic cord compression, the incidence of symptomatic myelopathy formation is about 8% per year and almost 23% at 4 years of follow-up. A published article also shows improvement in all age groups treated surgically, with significant recovery within 1 week and 6 months after surgery. Surgical decompression is almost universally indicated with the intention of preventing progression and achieving maximum recovery potential.

Surgical approaches to decompress the spinal cord can be done by eliminating the causative compressive pathology, expanding the spinal canal through removal or manipulation of the posterior lamina of the vertebrae. Anterior approaches are preferred in individuals with cervical kyphosis and in individuals with large anterior pathology, while posterior approaches are indicated when you have multilevel cervical compression or OPLL. The literature suggests that adjunctive pharmacologic treatment may be used, addressing glutamate-induced excitotoxicity with riluzole, accompanied by surgical decompression. Conservative treatment may be indicated when it is the choice of the affected individual or if surgical risk is unacceptable. Conservative treatment options include structured and careful physiotherapy, the use of a soft collar, massage therapy, analgesics and antineuralgic drugs, however there is limited evidence regarding efficacy(7,14,18-21).

Figure 4. Cervical fluoroscopy in cervical spine surgical procedure, first stage.



Source: The Authors.

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Figure 5. Cervical fluoroscopy in cervical spine surgical procedure, second stage.



Source: The Authors.

CONCLUSIONS

Cervical degenerative myelopathy involves multiple etiologies, all these entities together represent the most common reason for degenerative and non-traumatic alteration of the spinal cord in adult individuals. Degenerative disorders are more common at C5 and C6 or C6 and C7, because of the increased mobility in these sections. It is difficult to obtain solid epidemiological data because of the multifactorial etiology of the disease process. The symptoms and signs presented by the pathology are varied, so an adequate physical examination and a good clinical history should be taken. The pathology can significantly alter neurological function and lead to disability, so early recognition and treatment can prevent further deterioration of affected individuals. Surgical decompression is almost universally indicated with the intention of preventing progression and achieving maximum recovery potential.

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ENABLING BREASTFEEDING AT WORKPLACE: BALANCING WORK AND MOTHERHOOD FOR CHILD-WELLBEING

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ABSTRACT

Breastfeeding during the initial phase of an infant's life is crucial for supplying all the necessary nutrients that are specially tailored to meet the needs of a growing baby. It is an ideal meal for an Infant. But in the multi-tasker role of a woman as a mother and a professional, it always be a tough challenge to feed the child during the working hours in her busy schedule. Due to this, the child gets neglected and it also hampers the growth and development of the child. The challenge of balancing breastfeeding with work responsibilities is a significant concern for many working women. Without adequate support, resources, and awareness, it can be extremely challenging for women to continue breastfeeding while maintaining their employment. On the other hand, effective workplace accommodations, facilities, awareness, and support can promote breastfeeding and also help to maintain their employment. By prioritizing breastfeeding we can enhance maternal and infant health outcomes, reduce healthcare costs, and contribute to the well-being of future generations. In addition to these challenges, hence some solutions to tackle this challenge and support breastfeeding in the workplace are mentioned intern it can also lead to enhanced productivity, growth, and efficiency for employers.

KEYWORDS – *breastfeeding, lactation, maternal health, infant health*

INTRODUCTION

Breastfeeding, in the initial phase of an Infants life, supplies all the necessary nutrients to the body which are exclusively needed for the growth and development of the child. A child alone on breastmilk in the initial 6 months of life usually has high IQ levels, timely onset of milestones and it also saves the child from various diseases and infections by building immunity. It is an ideal meal for infants. Breastfeeding also impacts on the health of a mother.

Every woman has a great role to play as a multitasker whether it is her personal life or professional life. Sometimes, professional life interrupts to excel the most important phase of her life i.e. motherhood. The typical problem they face during their working life is to breastfeed their child. Currently, breastfeeding for working women is a matter of concern to manage because of the lack of awareness, resources and places to nurse the child. Hence it is noted that either the women decide to quit the job or else the child may be neglected due to a lack of support at the workplace. In both conditions either she loses her professional carrier which might be a dream job for her or either a child may lack an exclusive need for the body to sustain a healthy diseased-free life which all parents wish for.

BREASTMILK - A NEED FOR CHILD

Breastfeeding is a basic necessity to survive and lead a healthy life for an infant. Breast milk contains various essential nutrients such as proteins, fats, vitamins, minerals, carbohydrates, hormones, enzymes, immunoglobulins, etc[1].

- It helps for the growth and development of the child
- Boosts immunity (*Vyadhi kshamatava*)
- Enhances intellectual power, memory and cognition.
- Reduces chances of infection
- Minimizes the chances of chronic ailments
- Accelerates recovery from the diseases, if happens (*Vyadhi pratibandhakatavam*)
- Improves quality of life of a child

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- *Ojo vardhanam*

For this, the WHO (World Health Organization) and UNICEF (United Nations International Children's Emergency Fund) together work globally to promote breastfeeding.

BENEFITS OF BREASTFEEDING FOR MOTHER

Breastfeeding is not only necessary for the child but it is also beneficial for the mother to safeguard herself from various health ailments.

- Reduces risk of cancers of ovaries and breast
- Postpartum haemorrhages can be reduced by the release of oxytocin by breastfeeding. Also, oxytocin helps to re-size the uterus after delivery.
- Prevents depression and stress.

CHALLENGES AT THE WORK PLACE FOR BREASTFEEDING

Usually, women face a lot of troubles during the breastfeeding phase of life because there is a lack of awareness among people regarding the importance of breastfeeding for the child. Due to this, the employer will not allow breaks for mothers, lack of a place to breastfeed and the hectic schedule made mothers to reduce breastfeeding in early infancy which will impact the health, growth and development of a child.

A PLAN FOR BREASTFEEDING EMPLOYERS AT THE WORKPLACES

The challenges can be overcome with the support of organizations and a friendly workplace environment. The great support of the organization impacts a lot on the health status of breastfeeding mothers and children. Every organization should provide support to breastfeeding mothers in numerous ways by implementing some special laws or policies to work.

1. **Work From Home** – Recently, the pandemic gave rise and promoted a culture of 'Work from home' for employees. That helps to generate business for companies without closing or hampering their work. The same rules can be implemented by the organization for breastfeeding mothers, for nursing and for taking care of their children in Infancy. Even Government has to come forward with some plans for working females to care for their children even up to Toddler age. Such plans will not only help to support the parents financially without losing jobs but also reduces the load on the hospitality sector as the chances of illness will reduce by this at an early age.
2. **Mid Breaks -** If unable to post the person to do work from home then there should be adequate mid-breaks for breastfeeding mothers to feed the child. Due to this, there must be a reduction and liberation of working hours for the mother without deducting the money.
3. **Liberal work hours** for lactating mothers. It will also avoid the negligence done by mothers to feed their children because of commitments or hurry at work.
4. **Awareness among the Mentors / Head of the departments/ Managers** – The head of every department whoever has a leading role to play to manage man force, must have sufficient awareness and be educated about the importance of breastfeeding. So, they should liberally support their staff concerning time and morality to nurse the child.
5. **Workshops** – A training program of 2-3 hours will be sufficient to aware the mentors, and employees to ensure exclusive breastfeeding importance among them. It will help the organization with the proper implementation of guidelines or policies for breastfeeding support at the workplace.
6. **Workplace surrounding / Infrastructure** – It must have clean separate rooms or a place for feeding children. The rooms should have adequate facilities like a suitable sitting place to feed in the correct position with privacy, and an attached bathroom to maintain hygiene before breastfeeding and to dress well after feeding. A fridge for the provision to store milk in bottles by withdrawal from breast pumps so that in case of emergency works child will be nursed at least on proper time without substituting the breast milk with alternatives (available in the market). Even there can be a provision of a conducive environment with the staff (nannies) to take care of children at workplace like Creche. It favours the companies by providing minimal short breaks instead of long breaks which may be needed to travel. Also, it contributes to generate employment.
7. **Stress-Free Environment improves work efficiency of employer** – This is a need for every individual to work in harmony but it should be focused well in concern to pregnant ladies, breastfeeding mothers, and diseased employees. In fact, a less stressful environment is most essential for organizations as it yields productive, creative and maximum output.[2] Education and awareness among people will help to develop such environments.
8. **Role of government agencies in promoting breastfeeding at workplace** – The astringent actions need to be taken by the Government agencies to conduct surveys, check the norms of organizations for breastfeeding mothers, and monitor the conducive environment by the industries. There is an act called Maternity Benefit (Amendment) Act 2017[3] was also established for breastfeeding mothers to feed their children by visiting 4 times at creche. These creches should be nearer to the office to promote the breastfeed and it also reflects its importance. But still, these efforts are neglected and lactating mothers are facing these issues. Hence need to form some supportive agencies to check these protocols at proper intervals.

ADVANTAGE OF FRIENDLY WORKPLACE FOR BREASTFEEDING WORKERS

The major advantage of providing friendly workplace for breastfeeding mothers build a life time bond with employ. It gives value to the work and also boost the confidence of mothers. It helps to retain the employ for the company's welfare. Creating a breastfeeding-friendly workplace offers advantages such as improved employee retention, enhanced morale, and increased productivity. By supporting breastfeeding employees with facilities and flexible schedules, companies demonstrate commitment to employee well-being and attract top talent. Reduced absenteeism and healthcare costs are additional benefits, along with compliance with legal

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requirements and a positive public image. Promoting diversity and inclusion, such initiatives foster a supportive environment for all employees. Overall, prioritizing breastfeeding support contributes to a more inclusive, productive, and socially responsible workplace within a concise framework.

CONCLUSION

In conclusion, breastfeeding at the workplace is a vital aspect of supporting the health and well-being of both working mothers and their infants. While the benefits of breastfeeding are well-established, there are still challenges that need to be addressed to create truly positive breastfeeding-friendly workplaces. Here, employers, facilities like lactation rooms, mid breaks, work from home culture etc will play a crucial role to manage such conditions and also supports a precious bond of a mother and child. Also, the Government policies need to be framed and executed well to ensure, educate, aware and promote breastfeeding at workplaces. If the barriers are resolved then people can work and nurse their children efficiently and the nutritional needs of a child will be adequately fulfilled. Along with this the productivity, growth and efficiency of the employer will also improve.

"A need to build a breastfeeding culture at workplace, but culture exists if an organization thinks"

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THE EFFECT OF INNOVATIVE LEARNING MEDIA POP-UP BOOK ON IMPROVING MATHEMATICAL COMMUNICATION SKILLS AND MATHEMATICS LEARNING INTEREST OF GRADE III STUDENTS IN ELEMENTARY SCHOOL

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ABSTRACT

This research aims to determine the effect of innovative pop-up book learning media on improving students' mathematical communication skills and mathematics learning interest. This research was conducted at Inpres Kayawu Elementary School. This research is using experimental method. Data collection techniques use tests and questionnaires whose validity and reliability have been tested. To determine the validity of each item, the Pearson Product Moment technique is used. Reliability testing is carried out on each item whose validity has been tested using the Cronbach Alpha (a) technique. Data management in this research uses descriptive analysis, normality test, hypothesis I and II tests using the t test, hypothesis III test using the Manova test, and coefficient of determination (R^2) test. The results of this research show that, 1) there is an influence of the use of pop-up book innovative learning media on mathematical communication skills in grade III students at Inpres Kayawu Elementary School, and 2) there is an influence of the use of pop-up book innovative learning media on mathematics learning interest grade III students at Inpres Kayawu Elementary School, and 3) there is an influence of the use of innovative pop-up book learning media on mathematical communication skills and mathematics learning interest in grade III students at Inpres Kayawu Elementary School

KEYWORDS: *Pop-Up Book Media, mathematical communication skills, mathematics learning interest*

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh media pembelajaran inovatif pop-up book terhadap peningkatkan kemampuan komunikasi matematis dan minat belajar matematika siswa. Penelitian ini dilakukan di SD Inpres Kayawu. Penelitian ini menggunakan metode eksperimen. Teknik pengumpulan data menggunakan tes dan angket yang telah diuji validitas dan reliabilitasnya. Untuk mengetahui validitas tiap item adalah teknik Pearson Product Moment. Uji reliabilitas dilakukan pada setiap item-item yang sudah teruji validitasnya dengan teknik Cronbach Alpha (α). Pengelolaan data dalam penelitian ini menggunakan analisis deskriptif, uji normalitas, uji hipotesis I dan II menggunakan uji t, uji hipotesis III menggunakan uji manova, dan uji koefisien determinasi (R^2). Hasil penelitian ini menunjukkan bahwa, 1) terdapat pengaruh penggunaan media pembelajaran inovatif pop-up book terhadap kemampuan komunikasi matematis pada siswa kelas III SD Inpres Kayawu, dan 2) terdapat pengaruh penggunaan media pembelajaran inovatif pop-up book terhadap minat belajar matematika pada siswa kelas III SD Inpres Kayawu, serta 3) terdapat pengaruh penggunaan media pembelajaran inovatif pop-up book terhadap kemampuan komunikasi matematis dan minat belajar matematika pada siswa kelas III SD Inpres Kayawu

Kata Kunci: Media *Pop-Up Book*, Kemampuan Komunikasi Matematis, Minat Belajar Matematika

INTRODUCTION

Learning is a functional communication process between students and teachers and students with students, in order to change attitudes and mindsets that will become habits for the students concerned. Especially through learning mathematics, a person is trained to think creatively, critically, honestly, and can apply mathematics in solving problems of everyday life and other disciplines (Katihokang et al., 2024). In this case communication is a process of expressing ideas or ideas and mathematical understanding using numbers, pictures, and words, in various communities including teachers and students. Interactions between teachers and students during classroom activities provide opportunities to develop their mathematical skills. Student interactions where mathematical ideas are explored from various views can help students to deepen their understanding, and develop their skills to communicate, explain, justify, and discuss mathematical ideas. In this case, mathematical communication skills are important things that students must have. The importance of mathematical communication skills to develop the ability to convey information or communicate ideas, among others, through oral talks, pictures, graphs, maps, diagrams, in explaining ideas.

Mathematical communication is the skill to express mathematical ideas coherently to friends, teachers, and others through oral and written language accompanied by explanation and justification. Lomibao et al. (2016) stated that mathematical communication skill is the ability to express ideas, describe,

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and discuss mathematical concepts coherently and clearly. Prayitno et al. (2013) argues that mathematical communication is needed to communicate ideas or solve mathematical problems, either orally, in writing, or visually, either in mathematics learning or outside of mathematics learning. Mathematics learning emphasizes more on written mathematical communication because during the learning process there is a lot of use of symbols or images to make it easier to solve a problem. Students' mathematical communication skills can be developed through the education process at school, one of which is the mathematics education process (Hodiyanto, 2017). In addition to mathematical communication skills, students must have an interest in learning.

Interest in learning is a sense of preference and a sense of interest in a thing or activity, especially interest in learning, without anyone telling you to. According to Aldefer (Achru P., 2019) learning interest is the tendency of students to carry out learning activities which are driven by the desire to achieve the best possible learning achievement. Interest is basically the acceptance of a relationship between oneself and something outside oneself. Interest in learning is an act of behavior change that occurs because of a desire in the form of attention so that there is a feeling of pleasure. Supardi et al. (2012).

In the world of education, especially in mathematics subjects after using innovative learning media, it can increase students' mathematical communication skills and mathematics learning interest. As for the results of research by Yuwono et al. (2021) the use of pop-up book learning media can be used effectively in learning mathematics. However, most teachers do not never use teaching media in class, but teachers lack innovation and only use teaching media in the form of image media directly from textbooks with the lecture method. So that the learning process is less varied and less interesting.

This research was conducted using alternatives for the implementation of learning as desired, namely with innovative learning media that are in accordance with the characteristics of students and in accordance with learning needs. So that the learning process can provide a variety of material presentations in the form of innovative learning media. Media is an important component in the learning process. "Learning media according to (Aqib, 2013) is anything that can be used to channel messages and stimulate the learning process in students. Media is used to help create good learning. Innovative learning media that can be used to help the learning process in elementary schools are very diverse. In this study, researchers used products that had been made as learning media, namely pop-up book media. Pop-up book media provides learning materials that can provide more interesting visualizations to students.

Pop-up book media is a three-dimensional teaching tool that can stimulate children's imagination and increase knowledge so that it can make it easier for children to know the depiction of the shape of an object, and increase children's understanding (Hanifah, 2014). This is in line with Ningtiyas et al. (2019) who suggest that a pop-up book is a card or book that when opened can present a 3-dimensional or embossed construction. Solichah & Mariana (2018) also explained that pop-up book media includes a type of 3D media that can provide an interesting effect, because each page opened will reveal a picture that appears and the material contained in the pop-up book can be adjusted to the teaching material to be conveyed. Based on this explanation, it can be concluded that pop-up book media is a book that has three-dimensional elements that can move when the page is opened, and provides a more interesting visualization and display to increase student understanding of the material.

This study discusses pop-up book media (X), mathematical communication skills (Y_1) and mathematics learning interest (Y_2). The difference between this research and previous research conducted by Ni Kadek Diana Yuni Pertiwi et al (2022) is in the pop-up book background object. The object of pop-up book media in this study is math material while in the research conducted by Pertiwi et al. (2022) the object of pop-up book media uses Balinese Cultural Nuances Picture Background ". Then the difference between this research and the second previous research conducted by Sari & Soesanto (2022), is in the learning media. This study uses innovative learning media pop-up book while in the research conducted by Sari & Soesanto (2022) using kahoot media.

This research can provide material for teachers in conducting self-development in improving performance as an educator and innovating in making learning media and improving students' mathematical communication skills and learning interests. The purpose of this study was to analyze the effect of innovative learning media pop-up book on improving mathematical communication skills and mathematics learning interest of grade III students in elementary school".

METHOD

This study uses a quantitative research approach. Quantitative research data is in the form of numbers and analysis using statistics (Sugiyono, 2019). This study aims to test the hypothesis proposed by analyzing the relationship between existing variables, namely the effect of using pop-up book learning media on mathematical communication skills and students' mathematics learning interest.

This research was conducted at Inpres Kayawu Elementary School. This research was conducted in the 2023/2024 school year. The population of this study were grade III students at Inpres Kayawu Elementary School in the odd semester of the 2023/2024 school year based on characteristics related to the three variables in this study. The sample in this study were all grade III students of Inpres Kayawu Elementary School, totaling 20 students.

The data collection techniques used in this study were tests and questionnaires. In this study using the initial test/pretest and final test/posttest and questionnaire using student response questionnaire to innovative pop-up book learning media and questionnaire student mathematics learning interest. The instruments in this study have been tested for validity and reliability and the results are valid and reliable instruments used. Furthermore, the data analysis techniques used in this study are descriptive analysis, normality test, hypothesis testing

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in this study, namely simple linear regression analysis using the t test to measure the effect of pop-up book media (X) on mathematical communication skills (Y_1) and the effect of pop-up book media (X) on mathematics learning interest (Y_2) partially. Multiple linear regression analysis using the manova test aims to determine the effect of pop-up book media (X) on mathematical communication skills (Y_1) and mathematics learning interest (Y_2) simultaneously, and the coefficient of determination (R^2) test.

RESULT AND DISCUSSION

This research was conducted in grade III students of Inpres Kayawu Elementary School based on the formulation of existing research problems. Respondents in this study amounted to 20 students who were students enrolled in the 2023/2024 school year. After completing the research, the next step is to analyze the data and then process the existing data with the aim of seeing the effect of pop-up book media on mathematical communication skills and mathematics learning interest in grade III students of Inpres Kayawu Elementary School with the help of the IBM SPSS application. In this study, descriptive analysis, normality test, hypothesis test, and coefficient of determination (R^2) test were first conducted. Descriptive analysis was carried out to see a general description of the data such as the average value (Mean), highest (Max), lowest (Min), and standard deviation of each variable, namely Pop-Up Book Media (X), mathematical communication skills (Y_1), and mathematics learning interest (Y_2). The results of descriptive analysis on variable X are known to have an average value (mean) of 94, the highest value (max) 100, the lowest value (min) 80, standard deviation 4.99368. The results of descriptive analysis on variable Y_1 are known to have an average value (mean) of 93, the highest value (max) 100, the lowest value (min) 73, standard deviation 7.83296. The results of the descriptive analysis on variable Y_2 are known to be the average value (mean) 94, the highest value (max) 100, the lowest value (min) 80, standard deviation 4.99368. The results of descriptive analysis on variable Y_1 are known to be the average value (mean) 98, the highest value (max) 100, the lowest value (min) 93, standard deviation 1.86096.

Before conducting hypothesis testing, a normality test is first carried out to determine whether the data is normal or not by looking at the significant value of the One Sample Kolmogorov-Smirnov Test using the SPSS application. The results of normality testing on the XY_1 data group show a significant number of 0.741 > 0.05. This indicates that the data is normally distributed. While in the XY_2 data group the results of normality testing showed a significant number of 0.801 > 0.05. Thus, the data is normally distributed.

After doing the normality test, the next step is to test the hypothesis. Hypothesis testing in this study aims to determine the effect of the independent variable on the dependent variable and answer the research hypothesis. There are two hypothesis tests carried out in this study. Namely simple linear regression analysis to determine the effect of variables partially and multiple linear regression analysis to determine the effect of variables simultaneously. Simple linear regression analysis was carried out to test hypotheses I and II, while multiple linear regression analysis was carried out to test hypothesis III.

Hypothesis I in this study is that there is an effect of using innovative learning media pop-up book on mathematical communication skills in grade III students of Inpres Kayawu Elementary School. Data analysis used t test to test hypothesis I about the effect of pop-up book innovative learning media variables on mathematical communication skills. The results of the t test analysis are as follows:

Table 1. Simple Regression Test Results (X - Y1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	132.486	16.737		7.916	.000
	Pop-Up Book Media	-.423	.178	-.489	-2.377	.029
a. Dependent Variable: Mathematical Communication Skill						

Based on the analysis results in table 1, a significant value of 0.029 < 0.05 was obtained. So the obtained significance value of 0.029 < 0.05, so it can be concluded that the pop-up book media variable (X) affects the mathematical communication ability variable (Y_1). Then H_0 is rejected, so it can be concluded that the pop-up book media variable has an effect on the mathematical communication skills variable. Thus, H_a is accepted which states that there is an effect of pop-up book media on mathematical communication skills in grade III students of Inpres Kayawu Elementary School.

Hypothesis II in this study is that there is an effect of using innovative learning media pop-up book on mathematics learning interest in grade III students of Inpres Kayawu Elementary School. Data analysis used t test to test hypothesis II about the effect of pop-up book innovative learning media variables on mathematics learning interest. The results of the t test analysis are as follows:

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Table 2. Simple Regression Test Results (X - Y2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.901	15.936		3.069	.007
	Pop-Up Book Media	.513	.169	.581	3.029	.007
a. Dependent Variable: Mathematics Learning Interest						

Based on the analysis results in table 2, a significant value of 0.007 < 0.05 was obtained. So the significance value is 0.007 < 0.05, so it can be concluded that the pop-up book media variable (X) has an effect on the mathematics learning interest variable (Y_2). Then H_0 is rejected, so it can be concluded that the pop-up book media variable has an effect on the mathematics learning interest variable. Thus, H_a is accepted, which states that there is an effect of pop-up book media on mathematics learning interest in grade III students of Inpres Kayawu Elementary School.

Hypothesis III in this study is that there is an effect of using innovative learning media pop-up book on mathematical communication skills and mathematics learning interest in grade III students of Inpres Kayawu Elementary School. Data analysis used manova test to test hypothesis III about the effect of pop-up book innovative learning media variables on mathematical communication skills and mathematics learning interest. The results of the manova test analysis are as follows:

Table 3. Multiple Regression Test Results

	Value	F	Hypothesis df	Error df	Sig.
Wilks' lambda	.080	2.542[a]	18.000	18.000	.028
Hotelling's trace	8.980	3.991	18.000	16.000	.004
Roy's largest root	8.685	9.649[b]	9.000	10.000	.001
Each F tests the multivariate effect of X. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.					
a. Exact statistic					
b. The statistic is an upper bound on F that yields a lower bound on the significance level.					

Based on the results of data analysis through SPSS using the Wilk's Lambda method, it is known that the significance value is 0.028 < 0.05, so from the results of this data analysis it can be concluded that the regression model has a significant effect together between the pop-up book media variables on mathematical communication skills and students' mathematics learning interest. Thus, H_a is accepted in this study which states that there is an influence between pop-up book media on mathematical communication skills and mathematics learning interest in grade III students of Inpres Kayawu Elementary School.

The next stage is to analyze the coefficient of determination (R_2) test to estimate the extent to which the independent variable plays a role in influencing the dependent variable. The results of the coefficient of determination (R_2) test analysis using the help of IBM SPSS obtained model (Model Summary) can be seen in table 4 below.

Table 4. Summary of Pop-Up Book Media Variable Model on Mathematical Communication Ability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.489[a]	.239	.197	3.87460
a. Predictors: (Constant), Pop-Up Book Media				

Based on the results of the analysis of the coefficient of determination (R_2) test of pop-up book media on mathematical communication skills in table 4, it is known that $\hat{Y} = 132.486 + 0.423X$. The coefficient X of 0.423 states that every 1% addition of pop-up book media value, the value of mathematical communication skills increases by 0.423. The regression coefficient of mathematical communication skills is positive, this shows the unidirectional movement of these two variables which explains that the better the pop-up book media, the students' mathematical communication skills increases. The coefficient of determination or the determining coefficient (KP) is obtained by the formula KP = r^2 x 100%, so that the coefficient of determination is 23.9%. This means that 23.9% of mathematical communication skills can be explained by the

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pop-up book media variable, while the remaining 76.1% is explained by other variables.

Table 5. Summary of Pop-Up Book Media Variable Model on Interest in Learning Mathematics

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.581[a]	.338	.301	3.68907
a. Predictors: (Constant), Pop-Up Book Media				

Based on the results of the analysis of the coefficient of determination (R_2) test of pop-up book media on mathematics learning interest in table 5, it is known that $\hat{Y} = 48.901 + 0.513X$. The coefficient X of 0.513 states that every 1% increase in the value of pop-up book media, the value of students' mathematics learning interest increases by 0.513. The regression coefficient of student learning interest is positive, this shows the unidirectional movement of these two variables which explains that the better the pop-up book media, the student's mathematics learning interest increases. The coefficient of determination or the determining coefficient (KP) is obtained by the formula KP = r^2 x 100%, so that the coefficient of determination is 33.8%. This means that 33.8% of students' mathematics learning interest can be explained by the pop-up book media variable, while the remaining 66.2% is explained by other variables.

In hypothesis I research shows that there is an effect of pop-up book media on mathematical communication skills in grade III students of Inpres Kayawu Elementary School. The results of this study are in line with research by Setiyanigrum (2019) where the results showed that the mathematical communication skills of students taught with the savi model assisted by pop-up book can reach the minimum completion value. So it can be concluded that the activities of elementary school students using the Savi model assisted by pop-up book have a positive effect and improve students' mathematical communication skills. Thus, the first hypothesis, namely that there is an effect of pop-up book media on mathematical communication skills in grade III students of Inpres Kayawu Elementary School, is accepted and very significant.

In hypothesis II research shows that there is an effect of pop-up book media on mathematics learning interest in grade III students of Inpres Kayawu Elementary School. This research is in line with the research statement by Tumurang et al. (2022) that media is a tool that functions and can be used to convey learning messages. The results of this study are in line with research conducted by Riana et al. (2023) which examines the use of pop-up book media on student learning interest, where the results show that the use of pop-up book media effectively affects student learning interest in grade III elementary school mathematics subjects. In addition, the results of this study are also in line with the results of research by Tangkudung et al. (2022) that learning media has a positive and good impact on increasing student interest and motivation to learn. Thus, the second hypothesis, namely that there is an effect of pop-up book media on mathematics learning interest in grade III students of Inpres Kayawu Elementary School, is accepted and very significant.

In hypothesis III research shows that there is an effect of pop-up book media on mathematical communication skills and mathematics learning interest in grade III students of Inpres Kayawu Elementary School. The results of this study are also in line with the results of previous studies examining mathematical communication skills and student learning interest, such as the results of research conducted by Lubis et al. (2023) which examines students' mathematical communication skills in mathematics learning, where it is explained in the introduction that students' mathematical communication skills are very important and affect the learning process in class, considering that mathematical communication is the ability of students to express their mathematical ideas through language, notation or symbols so that they are able to understand, interpret, describe relationships and solve contextual problems into mathematical models orally and in writing. The results of research by Banobe et al. (2022) which discusses learning interest where it is explained that interest has a huge influence on a person's activities because with interest he will do something he is interested in. Conversely, without interest a person is unlikely to do something.

CONCLUSION

The results showed that the better the pop-up book media, the mathematical communication skills and students' mathematics learning interest increased. The results of this study provide implications for teachers to be able to always develop existing knowledge so that in learning in order to improve performance as an educator and innovate in making learning media. For students to be able to further improve their mathematical communication skills and mathematics learning interest so that learning can be optimal. Then, from the results of this study, the school also needs to create a good environment where teachers can be more creative and innovative in carrying out their duties and responsibilities, especially in learning mathematics, so that students' mathematical communication skills and mathematics learning interest can continue to increase.

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ANALYSIS OF DIFFERENTIATED LEARNING IN IPAS SUBJECTS FOR 4TH GRADE ELEMENTARY SCHOOL IN MINAHASA

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ABSTRACT

This study aims to describe the analysis of differentiated learning in IPAS (Natural and Social Sciences) subjects for 4th grade elementary school in Minahasa as well as the role of teachers and students in differentiated learning and explain the impact of differentiated learning. The research method used in this research is descriptive qualitative. The data collection technique used interview, observation and documentation techniques. The subjects of this research is the teacher mover in Minahasa, found in 8 schools. The results of this study found that there are things that need to be considered in differentiated learning including 'Merdeka' curriculum teaching modules, the content of differentiated teaching modules. Teachers have a key role in identifying the potential, interests, and learning needs of each student, teachers can design learning that accommodates student diversity, so that each student can develop optimally. The impact is that student learning outcomes can be very significant, because differentiated teaching modules can adjust the needs and learning styles of individual students so that there is an increase in student involvement in the learning process.

KEYWORDS : *Differentiated Learning, IPAS Subjects for 4th Grade of Elementary School*

PENDAHULUAN

New paradigm learning provides flexibility for teachers to formulate learning and assessment designs according to the characteristics and needs of students. New paradigm learning ensures that learning practices are student-centered. Learning is a cycle that starts from mapping competency standards, planning the learning process, and implementing assessments to improve learning so that students can achieve the expected competencies (Kemdikbud RI, 2022).

The government pays serious attention to the field of education because the progress of a country starts from the field of education. The Merdeka Curriculum then comes as an effort to answer the problems and challenges of learning innovation in Indonesia. This curriculum emphasizes learning that liberates students, helps teach students, and encourages the development of students' potential ranging from intellectual, physical, emotional, social, artistic, to spiritual potential holistically.

The curriculum was developed with the aim of improving the quality of education because the heart of an education is the curriculum (Siregar et al., 2021). The Merdeka curriculum creates active and creative learning. This program is not a replacement for the current program, but to provide improvements to the current system (Achmad et al., 2022). The implementation of the Merdeka Curriculum has been realized since 2021.

Indonesian education is currently leading to positive changes in accordance with Ki Hajar Dewantara's thinking, that education is oriented towards four perspectives, namely physical, intellectual, spiritual, and social goals. The position of teachers is a facilitator and motivator for students (Febriyanti, 2021). Teachers must be able to strengthen themselves in order to participate in ongoing technological developments. In order to adequately adapt to the different characteristics of contemporary life, especially before the Industrial Revolution 4.0, teachers must be able to recognize new information in every change, lead and guide students (Supit et al., 2023).

Ki Hajar Dewantara's educational philosophy is in line with the concept of differentiated learning (Herwina, 2021). One of the efforts in developing the concept of "Merdeka Belajar" that is being launched in the current National Education System, and in accordance with Ki Hajar Dewantara's thoughts is differentiated learning (Wahyuni, 2022). Tomlinson (2001) and Suwartiningsih (2021) revealed that differentiated learning has a pattern of collaboration strategies from all differences to get information from what is learned. Quality education is education that is able to meet and support the needs of each student. Each student is unique as an individual with characteristics that vary from one another. Even though students attend school and are placed in the same class, differences in characteristics among students cannot be avoided, such as differences in interests, learning styles, backgrounds, and students' ability to obtain information about the subjects being taught (Miqwati et al., 2023).

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Differentiated learning should be rooted in meeting students' learning needs and how teachers respond to those learning needs. Thus, teachers need to identify learning needs more comprehensively, so that they can respond more appropriately to the learning needs of their students. (Suwartiningsih, 2021). Differentiated learning has three important aspects. In the differentiated learning process, there are three important aspects, namely content differentiation, process differentiation and product differentiation. According to Maryam (2021): first, content differentiation includes what students will learn. Content is related to the curriculum and material to be taught. Second, process differentiation is the way students process ideas and information. And third, product differentiation is how students show what they have learned..

Natural Science is a subject in elementary school that is intended for students to have organized knowledge, ideas and concepts about the surrounding nature, which are obtained from experience through a series of scientific processes including investigation, preparation and presentation of ideas. The opinion of (Mangangantung & Tuerah, 2021) tells that the natural science process is not sufficient to convey information about concepts but must also understand the process of natural phenomena by sensing as much as possible, observing events that occur directly through demonstration and experiment activities, and recording information that arises from these events. Therefore, it is necessary to create meaning and invite students to play an active role through demonstration activities and experiments during the process.

In this Merdeka curriculum between science and social studies learning, namely becoming IPAS as found by Agustina et al. (2022). This research is important to do to see how the teacher's role in differentiated learning is as far as how the teacher can determine the three important aspects of differentiated learning, namely content, process, product. apart from these three aspects, what the teacher must also pay attention to is how student readiness, as well as students' interests, and talents before starting learning. In order for learning not to be monotonous and because this Merdeka curriculum gives freedom to teachers and students, this year it is combined, therefore trying every semester, in this Merdeka curriculum because it gives freedom to teachers and students.

In IPAS learning which is the focus of research for teachers mover in Minahasa district, namely about differentiated learning which contains 3 aspects in it, namely content, process and product. In IPAS subjects for 4th grade elementary school in Minahasa district for semester 1 focuses on science subjects and for semester 2 focuses on social studies subjects. And in this study, researchers focus on science subjects. For the material presented is the body parts of plants. In the material there is content in the form of images and reading text on how to identify plant body parts and describe their functions. For the process in this 4th grade IPAS teaching module using the PBL (Problem Based Learning) learning model where in the learning process follows the syntax or existing learning steps. And for the products expected from this learning, namely students are able to know what are the parts of plants and their functions in the form of LKPDs that have been prepared and made by students and students' ability to understand the material that has been delivered by the teacher.

Research on differentiated learning has been carried out but is limited to the character and abilities of students, such as those carried out by (Jenyana, 2022) which is about differentiating according to student needs and (Faizah & Kamal, 2024) also discusses the different learning needs of students according to the potential of each student. While in this study it is more focused on the core of differentiated learning, namely differentiation of content, process, and product.

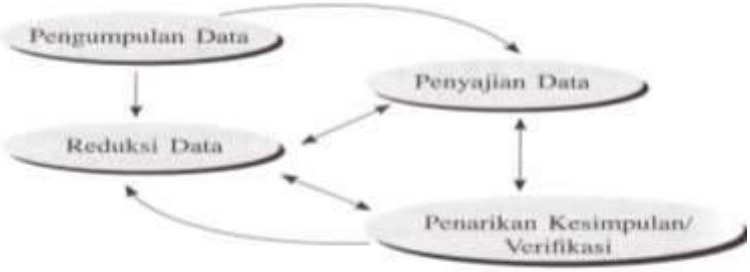
The impact of this research on teachers is to be a source of information about differentiated learning that does not only look at student needs and student potential. However, the results of this study provide an overview of the important aspects of differentiated learning, namely content, process and product differentiation. Based on the description above, this research was conducted with the aim of describing differentiated learning, analyzing the role of teachers and students in differentiated learning and explaining the impact of differentiated learning in teaching modules on IPAS learning for 4th grade.

METODE PENELITIAN

The research method used in this study uses descriptive qualitative. Meanwhile, Creswell & Poth (2016) defines a qualitative approach as a research and understanding process based on a methodology that investigates a social phenomenon and human problems (Murdiyanto, 2020). The data analysis technique uses Miles & Huberman (1994) adaptation flow analysis, the author uses a qualitative descriptive approach. Descriptive qualitative research, descriptive is a problem formulation that guides research to explore or portray the social situation to be studied thoroughly, broadly and in depth. In this research, it is hoped that the analysis of differentiated learning in IPAS subject for 4th grade in Minahasa will be able to describe the data thoroughly and accurately. The data were obtained by means of observation, interviews and documentation. The data of this research was obtained from eight teachers in eight schools in Minahasa district.

The data from the research were then processed using the data analysis technique according to Miles & Huberman (1994). There are four qualitative data analysis techniques, namely data collection, data reduction, data presentation and conclusion drawing. This process takes place continuously during the research.

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(Miles dan Huberman, 1992)

HASIL DAN PEMBAHASAN

Differentiated learning is learning that accommodates students' learning needs. Teachers facilitate students according to their needs, because each student has different characteristics, so they cannot be given the same treatment (Mahfudz MS, 2023). Differentiated learning should be rooted in the fulfillment of students' learning needs and how teachers respond to these learning needs. Thus, teachers need to identify learning needs more comprehensively, so that they can respond more appropriately to the learning needs of their students (Suwartiningsih, 2021). In the differentiated learning process, it does not only look at the characteristics and needs of different students but must look at 3 important aspects, namely content differentiation, process differentiation and product differentiation According to Maryam (2021): first, content differentiation includes what students will learn. Content is related to the curriculum and material to be taught. Second, process differentiation is the way students process ideas and information. And third, product differentiation is how students show what they have learned.

The results of the researcher's interviews with teachers from eight schools in Minahasa found that differentiated learning is a method or approach taken by teachers to adjust the learning process with the aim of meeting the needs and expectations of specific students. Learning using differentiated teaching modules is necessary because differentiated learning provides a more flexible learning space and allows students to adjust to their respective needs, including interest readiness and learning styles and how teachers design teaching modules that contain aspects of content, process and products that will be produced in learning. In a lesson with a learning strategy that encourages student activeness can increase student interest in learning, of course, by involving learning media provided by the teacher to facilitate student needs (Surentu et al., 2023). Learning can be effective and relevant for students because of learning that uses differentiated learning modules so that teachers can implement the principles of an Merdeka curriculum that can adjust the individual needs of each student. these results are in accordance with research that has been conducted that by using differentiated learning, each student can show unique skills, backgrounds, talents, interests, and also learning preferences. Teachers realize that students have a diversity of personalities so that teachers provide specific services to each student. Therefore, it is important to incorporate differentiated teaching into the Merdeka curriculum, namely different content for each student who has different learning needs. Before implementing differentiated teaching, teachers must also understand about differentiated learning, so it is very important for teachers to first understand the things that need to be considered in implementing the Merdeka curriculum in differentiated teaching modules in this case, namely in the IPAS subject.

The role of teachers and students in differentiated learning in IPAS subjects for 4th grade is greater. Teachers have a key role in identifying the potential, interests, and learning needs of each student. With the Merdeka Curriculum approach, teachers can design learning that accommodates student diversity, so that each student can develop optimally. The role of the teacher in differentiated learning is very important when the teacher must map out different content in learning, then different processes in learning and products that will be produced differently according to students' abilities and needs. The role of the teacher in differentiated teaching modules is very important because in compiling differentiated teaching modules the teacher must see 3 important aspects that must be present in the teaching module and integrated in learning, namely content differentiation, process differentiation and product differentiation. Differentiated learning not only looks at students' interests, talents but looks at important aspects in the teaching module and the teacher has played a good role, it can be seen from the performance of teachers who have played a role in designing learning experiences, using differentiated teaching modules that are integrated into 3 aspects, namely content, process and product, managing classes with collaboration, compiling learning materials, and measuring student learning outcomes. These teacher roles can be seen from teachers who have understood the individual characteristics of students, including their ability levels, interests and needs. With this knowledge, teachers can design effective and differentiated learning experiences for each student. Teachers are also able to adapt IPAS learning materials by adjusting student differences, teachers identify student needs see content or materials that suit needs, and ensure that each student gets appropriate support, teachers conduct assessments that are in accordance with the characteristics and needs of students. This involves classroom management in an inclusive learning process and pays attention to individual differences. In addition to teachers, students have also played a good role in differentiated learning in IPAS subjects for 4th grade, which can be seen through the results of interviews conducted by researchers that students are not only recipients of information, but also as active learning subjects. As active learning subjects, students have maximized individual progress, increased motivation, and created a more positive learning experience.

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The impact of differentiated learning in IPAS subjects for 4th grade elementary school. The impact is that student learning outcomes can be very significant by maximizing the important aspects of differentiated learning in learning, namely connectivity, process and product. because differentiated teaching modules can adjust the needs and learning styles of individual students so that there is an increase in student involvement in the learning process. There are positive and negative impacts of differentiated learning in IPAS subjects for 4th grade elementary school in Minahasa. The positive impact can be seen through the role of teachers and students who work together to achieve learning objectives in the differentiated teaching module in accordance with the principles of the Merdeka curriculum. And the negative impact of differentiated learning is a challenge for teachers because if teachers do not carry out this differentiated learning well, it will have an impact on learning differentiation can cause slower students to feel left behind or less recognized, while brighter students will not feel sufficient challenge. Therefore, the solution lies in the role of teachers in differentiated learning in IPAS subjects for 4th grade elementary school in Minahasa must work hard fairly, effectively and maximally to overcome the negative impacts that may occur.

In an era of education that increasingly recognizes individual diversity among students, differentiated learning has become increasingly important. Based on the research in the field, it can be seen that differentiated learning is an approach to teaching in which teachers vary teaching methods, content, processes, products and assessments to meet the different learning needs of each student in the class. Differentiated learning also implements a teaching module. This differentiated teaching module is a learning tool designed to accommodate the diverse learning needs of students in one class. This teaching module is designed in such a way by paying attention to the aspects of differentiated learning, namely content, process and product so that it can be adjusted to the level of ability, interest, learning style, and individual needs of each student. Differentiated teaching modules provide a variety of options, flexibility and customization that allow teachers to adjust learning according to the unique characteristics of each student. It can be seen that differentiated learning with the IPAS approach in grade 4 elementary school is very relevant and important in dealing with individual student diversity. By paying attention to the principles of an Merdeka curriculum, teachers can adapt learning according to students' needs and interests, as well as a diverse learning environment. Differentiated teaching modules are an effective tool to provide a variety of learning options that match the unique characteristics of each student. Through this approach, it is expected that each student can reach their maximum potential in learning, increase their learning motivation, participation and academic achievement, and better prepare them to face the challenges of life and the diverse world of work in the future. The discussion above is in accordance with the results of the researcher's interviews with the teachers mover at Minahasa Elementary School, the results of which show that differentiated learning with the IPAS teaching module for 4th grade can implement the principles of an Merdeka curriculum because it is known from the results of the research that differentiated learning is an approach that understands each student who has different needs, learning styles, interests, and levels of understanding by integrating them in teaching modules that look at student needs through differentiated content, process and product. It adapts materials, teaching methods and assessments to the individual characteristics of students so that they can learn effectively and successfully reach their full potential.

Teachers are people whose duties are related to efforts to educate the nation's life in all its aspects, both spiritual and emotional, intellectual, physical, and other aspects. Teachers are also the main figure in the world of education that has an irreplaceable role in shaping, guiding, and motivating students towards academic and personal success. The differentiated teaching module in IPAS subject for 4th grade is an increase in student involvement in the learning process. With this approach, students become more active and involved in learning because the material presented can be tailored to their level of understanding and interest. In addition to the positive impact, of course, researchers found a negative impact in the interview results. The negative impact of differentiated learning in IPAS subjects for 4th grade can cover several aspects. One of them is the potential increase in workload for teachers. Designing and managing differentiated learning for each student in a class requires additional time, effort and energy from the teacher. From the interviews, it can be seen from the various impacts above that differentiated learning has a positive impact on students' engagement in learning. This is reflected in the increase of students' motivation, interest and participation in the learning process. In addition, differentiated learning also accommodates students' individual learning styles, allowing them to learn according to their individual needs and interests. It can be concluded that differentiated learning in IPAS subjects for 4th grade has a significant impact. The positive impacts include increased student involvement in learning, higher learning motivation, and accommodating students' individual learning styles. However, there are also negative impacts such as increased workload for teachers and the potential to increase the gap between students who are able to be independent and those who need more assistance.

Therefore, in differentiated learning not only see the needs, interests and talents of students but how teachers are able to make differentiated teaching modules which contain three very important aspects, namely content differentiation where teachers must create appropriate content, process differentiation where in the learning process differentiated students who are proficient and who still need guidance, and the last is product differentiation where in the final result of a differentiated learning the teacher must know that there are various kinds of differences that exist in the classroom which will produce different final products from each student. From the results of the research obtained that learning using differentiated modules in which there are three important aspects is very effective and efficient to be used in daily learning in the classroom.

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KESIMPULAN

In the era of education that increasingly recognizes individual diversity among students, differentiated learning has become increasingly important. Based on the results of the research from the researchers in the field, it can be seen that learning can be effective and relevant for students because of the learning that uses differentiated learning modules so that teachers can implement the principles of an Merdeka curriculum that can adjust the individual needs of each student.

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PAGTUTURO NG WIKA BATAY SA NILALAMAN AT PAGLINANG NG IKA-21 SIGLONG KASANAYAN

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ABSTRAK

Ang pag-aaral na ito ay may layuning matukoy ang makabuluhang ugnayan ng pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan ng mga guro sa Lungsod ng Davao Oriental, Rehiyon XI para sa Taong Panuruan 2022-2023. Nagsagawa ng simple random sampling ang mananaliksik upang makakuha ng 52 na mga guro sa sekondarya. Gumamit ng Mean, Pearson Product-Moment Correlation, at Multiple Linear Regression sa pagsusuri ng datos. Nakapagtala ng mataas na antas sa pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan. Nagpakita rin na ang pagtuturo ng wika batay sa nilalaman ay may makabuluhang impluwensiya sa paglinang ng ika-21 siglong kasanayan ng mga guro. Batay sa resulta ng pag-aaral, iminungkahi ng mananaliksik ang rekomendasyon na ipagpatuloy at panatilihin ang pagpapahalaga sa pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan sapagkat pareho itong nakakuha ng katumbas na paglalarawan na mataas. Ang kinalabasan ng pag-aaral na ito ay gagamitin sa paggawa ng mga seminar-workshayp at programa na tutugon sa pangangailangan ng mga guro sa pagtuturo.

MGA SUSING SALITA: *Pagtuturo ng Wika, Nilalaman, Ika-21 Siglong Kasanayan, Davao Oriental, Rehiyon XI.*

INTRODUKSYON

Ang sistema ng edukasyon sa Pilipinas ay patuloy na humaharap sa mga hamon sa kalidad ng edukasyon. Sa pagtugon sa pangangailangan ng makabagong panahon, maraming pagbabago ang isinasagawa ng pamahalaan, partikular na ang Kagawaran ng Edukasyon, upang masiguro ang pagkakaroon ng kalidad na edukasyon. Ayon kina Acosta at Acosta (2017), ang mga pagbabagong ito ay nakatuon sa layunin na masiguro ang paglinang ng kasanayan ng mga mag-aaral na naaayon sa mga pangangailangan ng ika-21 siglo.

Nakatuon ang mga pagbabago sa edukasyon sa pagpapalakas ng mga kasanayan ng mga mag-aaral sa kritikal na pag-iisip, komunikasyon, kolaborasyon, at pagkamalikhain. Mahalaga ito hindi lamang para sa kanilang pag-unlad bilang indibidwal kundi pati na rin para sa kanilang kakayahan na makipagsabayan sa pandaigdigang kompetisyon. Ayon sa United Nations Educational, Scientific and Cultural Organization (UNESCO, 2015), ang mga kasanayang ito ay hindi lamang makatutulong sa pag-unlad ng indibidwal kundi maaari ring maging pundasyon ng isang mas maunlad na lipunan.

Nagsisilbing gabay ang mga internasyonal na organisasyon tulad ng UNESCO sa pagtukoy ng kahalagahan ng mga kasanayang ito para sa pag-unlad. Sa konteksto ng Education for Sustainable Development (ESD), hinahamon nito ang mga mag-aaral na gumawa ng mga matalinong desisyon at aksyon upang itaguyod ang integridad ng kapaligiran, ekonomikong adaptasyon, at isang mas pantay na lipunan. Ito ay ayon nina Wiek, Withycombe, at Redman (2011).

Sa Pilipinas, isang hakbang patungo sa pandaigdigang kasangkapan ang ipinatutupad na Enhanced Basic Education Act o RA 10533, na nagpapatibay sa K to12 na kurikulum. Ipinakikita nito ang pagtugon ng bansa sa mga hamon ng pandaigdigang kompetisyon at integrasyon sa ASEAN. Ayon naman kay Cox (2014), ang ganitong hakbang sa larangan ng edukasyon ay nagpapataas ng abot tanaw ng pagsasalin ng balangkas ng edukasyon ng bansa sa mga pandaigdigang pamantayan.

Ang pagpapalakas ng mga kasanayan sa ika-21 siglo ay mahalaga rin para sa mga guro. Ayon kina Anter at Bulonos (2022), ang kanilang papel ay hindi lamang maghatid ng kaalaman kundi bagkus ay magbago ng buhay ng kanilang mga mag-aaral at komunidad. Subalit, kinakailangan pa ring suriin at linangin ang mga pamamaraan sa pagtuturo upang masiguro na ang mga guro ay nakapagbibigay ng mahusay na gabay sa mga mag-aaral sa pag-unlad ng kanilang kasanayan sa ika-21 siglo.

Layunin ng Pag-aaral

Isinagawa ang pag-aaral na ito upang matukoy ang makabuluhang ugnayan ng pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan. Sa katiyakan, para mabigyan ng kasagutan ang sumusunod na tanong:

1. Ano ang lawak ng pagtuturo ng wika batay sa nilalaman batay sa:
    1.1. pagkakaloob ng mga nauunawaang input;
    1.2. pagkaiiba-iba ng estratehiya; at
    1.3. pagbibigay suporta sa pagkatuto?
2. Ano ang lawak ng paglinang ng ika-21 siglong kasanayan ayon sa:
    2.1. kritikal na pag-iisip;
    2.2. komunikasyon;
    2.3. kolaborasyon; at
    2.4. pagkamalikhain?
3. Mayroon bang makabuluhang ugnayan ang pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan?
4. Ano-anong indikeytor ng pagtuturo ng wika batay sa nilalaman ang may makabuluhang impluwensiya sa paglinang ng ika-21 siglong kasanayan?

METODOLOHIYA

Disenyo ng Pananaliksik. Ang pag-aaral ay gumamit ng mga disenyo na kuwantitatibo, deskriptibo, at korelasyonal. Ang deskriptibong pananaliksik ay naglalarawan ng partikular na aspeto ng isang grupo gamit ang patuloy na datos. Ginamit ang analisis ng kwantitatibong datos upang suriin ang suliranin, kung saan ang mga survey ang ginamit na instrumento para sa pangangalap ng datos. Ang korelasyonal na pananaliksik ay sumusuri sa ugnayan ng mga baryabol, kung saan ang

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pangangalap ng datos ay ginamit upang tukuyin ang antas ng ugnayan sa pagitan ng dalawang o higit pang baryabol.

***Mga Kalahok*.** Kabilang sa mga kalahok ang mga guro ng Filipino sa sekundaryang paaralan sa mga pampublikong paaralan ng Davao Oriental para sa Taong Akademiko 2021-2022. Ginamit ang Total Enumeration, kung saan ang lahat ng guro mula sa mga tinukoy na paaralan ay awtomatikong kasama.

Mga Instrumento ng Pananaliksik. Ang pangangalap ng datos ay nangangailangan ng mga survey questionnaires na ipinamamahagi sa mga kalahok, na nagpapatibay ng kalinawan at angkop na mga tanong. Ang content validity ay itinatag sa pamamagitan ng pagsusuri ng mga dalubhasa. Ginamit ang Likert Scale para sa pagmamarka ng datos, na nagbibigay ng tumpak na interpretasyon.

Proseso ng Paglilikom ng Datos. Humingi ang mananaliksik ng pahintulot mula sa mga kinauukulan at ipinamahagi ang mga survey questionnaires sa mga kalahok. Sinunod ang mga alituntunin sa etika, tiyak na nagsiguro ng boluntaryong pakikilahok, anonimato, at kumpidensyalidad.

***Pagsusuri ng mga Datos*.** Ang mga datos na nakuha ay inanalisa gamit ang mga estadistikong pamamaraan tulad ng Mean, Pearson-r Correlation, at Multiple Regression upang tukuyin ang lawak ng pagtuturo ng wika batay sa nilalaman at ang pag-unlad ng mga kasanayan sa ika-21 siglo ng mga guro sa Filipino.

Etykal na Mga Pangangailangan. Sumunod ang pag-aaral sa mga etikal na pamantayan, iniwasan ang plagiarism, pinanatili ang pahintulot ng mga kalahok, at nagpatupad ng kumpidensyalidad. Sinunod ang mga protocol para sa kalusugan at kaligtasan sa panahon ng pandemya ng COVID-19.

Interpretasyon ng Mga Datos. Ang pagsusuri ng mga datos ay nagbigay-daan sa wastong interpretasyon ng mga resulta hinggil sa epektibong pagtuturo ng wika at ang pag-unlad ng mga kasanayan sa ika-21 siglo ng mga guro.

MGA RESULTA AT PAG TALAKAY

Lawak ng Pagtuturo ng Wika Batay sa Nilalaman Pagkakaloob ng mga Nauunawaang Input

Sa Talahanayan 1, ipinakita ang mga paraan ng pagtuturo ng wika at ang kanilang mean rating: pagpapayabong ng nauunawaang input (3.23, mataas), pagsasanay para sa kaalaman ng nilalaman (4.10, mataas), pakikilahok sa klase (3.50, mataas), pakikipag-usap sa mga mag-aaral (4.03, mataas), at pagsusuri sa output ng mag-aaral (3.07, katamtaman). Sa kabuuang mean rating na 3.59, mataas para sa limang indikator ng pagkakaloob ng nauunawaang input, mahalaga ang papel ng mga guro sa pagbibigay ng sapat na impormasyon at kasanayan sa kanilang mga mag-aaral.

Gayunpaman, ang pagsusuri sa output ng mag-aaral ay may pinakamababang mean score (katamtaman), nagpapahiwatig na hindi ito madalas na ginagawa ng guro. Sa pamamagitan ng ganitong uri ng pagtuturo, natutulungan ng mga guro na malaman ang mga pangangailangan ng kanilang mga mag-aaral at magbigay ng mga solusyon sa kanilang mga problema. Ipinapakita rin nito ang kahalagahan ng pagsasaayos ng mga tagubilin para sa bawat indibidwal na mag-aaral.

Ayon kay Barberos, Gozalo, at Padayogdog (2018), ang mabisang pagtuturo ay nakabatay sa mga indibidwal na pangangailangan ng mag-aaral. Ang ganitong paraan ng pagtuturo, na nakatuon sa pagtutok sa mga pangangailangan ng bawat mag-aaral, ay nagbibigay-daan sa mga ito na mas mapalawak ang kanilang kasanayan sa wika, lalo na sa Ingles, na mahalaga para sa kanilang mga tungkulin sa hinaharap.

Talahanayan 1. Antas ng Pagtuturo ng Wika Batay sa Nilalaman Ayon sa Pagkakaloob ng Nauunawaang Input

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Nagtuturo ako ng mga paraan kung paano mapayabong ang nauunawaang input ng mga mag-aaral.	3.23	Mataas
2.	Nagsasagawa ako ng mga pagsasanay sa mga mag-aaral upang mahasa ang kanilang kaalaman sa nilalaman.	4.10	Mataas
3.	Nagsusulong ako ng pakikilahok ng mga mag-aaral sa klase.	3.50	Mataas
4.	Nakikipag-usap ako sa mga mag- aaral hinggil sa kanilang nauunawaan batay sa nilalaman.	4.03	Mataas
5.	Sinusuri ko ang mga nabuong awtput ng mga mag-aaral.	3.07	Katamtaman
	Kabuoan	**3.59**	**Mataas**

Pagkaiiba-iba ng Estratehiya

Sa Talahanayan 2, inilarawan ang pagtuturo ng wika base sa pagkakaiba-iba ng estratehiya, kung saan ang mga guro ay gumagamit ng iba't ibang pamamaraan. Ang kabuuang mean rating para dito ay 3.77, mataas, na nagpapahiwatig na karaniwan ang paggamit ng iba't ibang estratehiya sa pagtuturo at ito ay binibigyang pansin. Gayunpaman, ang pagtataya sa kahusayan ng estratehiya ay nagpakita ng mean score na katumbas sa katamtaman, nagpapahiwatig na hindi laging nasusukat ang epekto nito sa pagkatuto ng mga mag-aaral.

Ang pag-aaral ay nagbibigay-dagdag na kaalaman sa mga guro hinggil sa kahalagahan ng paggamit ng iba't ibang estratehiya sa pagtuturo. Mahalaga ang tamang pagtataya sa kahusayan ng mga estratehiya upang mapabuti ang kalidad ng edukasyon na ibinibigay sa mga mag-aaral. Binabanggit din ng mga pananaliksik ang kahalagahan ng sapat na pagsasanay sa pagtuturo, na maaaring magdulot ng hindi epektibong pagtuturo kung kakulangan dito. Kaya't mahalaga ang patuloy na pagsasanay at pagpapahusay ng mga guro upang mapabuti ang kalidad ng edukasyon na kanilang ibinibigay at magpatuloy ang pag-unlad ng kaalaman ng mga mag-aaral.

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Talahanayan 2. Antas ng Pagtuturo ng Wika Batay sa Nilalaman Ayon sa Pagkaiiba-iba ng Estratehiya

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Nagagamit ko ang iba't ibang estratehiya sa pagtuturo sa mga mag-aaral.	3.10	Katamtaman
2.	Naipaliliwanag ko nang maayos ang aralin gamit ang mga angkop na estratehiya.	4.90	Lalong Mataas
3.	Natutulungan ko ang mga mag-aaral na maunawaan ang paksa.	3.50	Mataas
4.	Pinupuri ko ang positibong pag- uugali ng mga mag-aaral.	4.13	Mataas
5.	Nagbibigay ako ng pagtataya sa mga mag-aaral upang malaman kung mabisa ba ang ginamit na estratehiya.	3.23	Katamtaman
	Kabuoan	**3.77**	**Mataas**

***Pagbibigay Suporta sa Pagkatuto*.**
Sa Talahanayan 3, ipinakita ang lawak ng pagtuturo ng wika batay sa pagbibigay suporta sa pagkatuto. Ang kabuuang mean rating para dito ay 3.53, mataas, na nagpapahiwatig na karaniwan ang pagbibigay suporta sa pagkatuto at ito ay binibigyang pansin ng mga guro. Gayunpaman, ang ilang aspeto tulad ng pagsusuri sa kaalaman ng mga mag-aaral at pagtatakda ng gawain para sa pagkatuto ay nagpakita ng mean score na katumbas sa katamtaman, nagpapahiwatig na bihira lamang ang pakikipag-ugnayan ng mga guro para sa suhestiyon at hindi nabigyang-diin ang pagtatakda ng mga gawain na makakatulong sa paglinang ng kasanayan ng mga mag-aaral.

Mahalaga ang malaking papel ng guro sa pagkatuto ng mga mag-aaral, kung saan dapat nilang bigyan ng pansin ang mga programa o gawain na magpapatibay sa kakayahan at kasanayan ng mga mag-aaral. Ang mga gawain na ito ay maaaring magdulot ng malaking pagbabago sa pagkatuto ng mga mag-aaral, lalo na kapag ang kanilang karanasan ay awtentiko.

Batay sa mga pag-aaral ni Snow (2014) at Donato (2016), ang pagtuturo na nakabatay sa nilalaman ay nagbibigay ng mga pagkakataon para sa integrasyon ng apat na kasanayan sa wika, at ang mga mag-aaral na tinuruan gamit ang ganitong pamamaraan ay nakakamit ng mas mahusay na mga resulta kaysa sa mga tradisyunal na pamamaraan ng pagtuturo.

Sa kabuuan, mahalaga ang patuloy na pagpapabuti ng mga estratehiya at mga programa sa pagtuturo upang mapabuti ang kalidad ng edukasyon na ibinibigay sa mga mag-aaral at mapalakas ang kanilang kakayahan sa wika at iba pang kasanayan.

Talahanayan 3. Antas ng Pagtuturo ng Wika Batay sa Nilalaman Ayon sa Pagbibigay Suporta sa Pagkatuto

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Nakikipagtulungan ako sa ibang mga guro para sa mga solusyon at suporta sa pagkatuto ng mga mag-aaral.	3.23	Katamtaman
2.	Hinihikayat ko ang mga mag-aaral na malayang makilahok sa klase.	4.90	Lalong Mataas
3.	Nagbibigay ako ng mga babasahin sa mga mag-aaral upang malinang ang kanilang komprehensiyon sa pagbasa.	3.50	Mataas
4.	Nagsasagawa ako ng pagsusuri sa kaalaman at natutuhan ng mga mag-aaral.	2.80	Katamtaman
5.	Nagtatakda ako ng mga gawain na susuporta sa pagkatuto ng mga mag-aaral.	3.20	Katamtaman
	Kabuoan	**3.53**	**Mataas**

Buod sa Antas ng Pagtuturo ng Wika Batay sa Nilalaman
Sa Talahanayan 4, ipinakita ang buod ng pagtuturo ng wika batay sa nilalaman, kung saan ang bawat indikator ay may katumbas na mean rating: pagkakaloob ng nauunawaang input (3.59, mataas), pagkaiiba-iba ng estratehiya (3.77, mataas), at pagbibigay suporta sa pagkatuto (3.53, mataas). Ang kabuuang mean rating ay 3.63, mataas.

Sa kabuuang resulta, ipinapakita na ang pagtuturo ng wika batay sa nilalaman ay madalas na ginagawa, namamasid, at pinaniniwalaan ng mga guro. Ang mataas na mean rating ay nagpapahiwatig na mahalaga ang aspetong ito ng pagtuturo sapagkat dito nakasalalay ang pagkatuto ng mga mag-aaral.

Ang prinsipyo ng pagtuturo ng wika batay sa nilalaman ay nagbibigay diin sa importansya ng pagbibigay ng input sa target na wika ng mga mag-aaral, na may mas mataas na priyoridad sa nilalaman kaysa sa wika mismo. Sa pamamagitan ng ganitong pamamaraan, mas nagiging madali para sa mga mag-aaral na magkaroon ng mas malalim na pag-unawa sa mga konsepto at kasanayan sa wika.

Gayunpaman, may mga pag-aaral na nagpapakita ng mga hamon sa pagtuturo ng wika batay sa nilalaman, kabilang ang pagkakaroon ng kalaboan sa pagtutok sa layunin ng pag-aaral ng wika. Gayunpaman, ang mga prinsipyo ng pagtuturo ng wika batay sa nilalaman ay patuloy na nagbibigay ng gabay sa pagpapabuti ng pagtuturo ng wika sa iba't ibang konteksto, kabilang ang mga programa ng pagtuturo ng Ingles.

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Talahanayan 4. Buod sa Antas ng Pagtuturong Wika Batay sa Nilalaman

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Pagkakaloob ng Nauunawaang Input	3.59	Mataas
2.	Pagkaiiba-iba ng Estratehiya	3.77	Mataas
3.	Pagbibigay Suporta sa Pagkatuto	3.53	Mataas
	Kabuoan	**3.63**	**Mataas**

Antas ng Paglinang ng Ika-21 Siglong Kasanayan
Kritikal na Pag-iisip.

Sa Talahanayan 5, ipinakikita ang lawak ng paglinang ng kritikal na pag-iisip sa ika-21 siglo. Mayroong mga aspeto ng pag-aaral na tinututukan tulad ng paghahambing ng impormasyon mula sa iba't ibang pinagkukunan, pagsusuri ng mga impormasyon mula sa iba't ibang hanguan, at ang kakayahan na mabisa ang kritikal na pag-iisip sa pagtugon sa mga gawain. Ang mataas na mean rating para sa mga ito ay nagpapahiwatig ng kanilang kahalagahan sa paghubog ng kaalaman ng mga mag-aaral.

Ang implikasyon ng resulta ay naglalarawan ng pangangailangan na suriin at kilatisin ng maigi ang impormasyon mula sa iba't ibang pinagkukunan upang maiwasan ang kalituhan sa pag-iisip ng mga mag-aaral. Ito ay maaaring magdulot ng balakid sa kanilang pag-unawa sa isang paksa. Ang mga guro ay maaaring gamitin ang pagtuturo ng kritikal na pag-iisip sa iba't ibang paraan, tulad ng pagtugon sa tunay na mga problema, pagpapalawak sa kasanayan sa pag-iisip, at pagpapalawak ng pag-unawa sa mga disiplina.

Ang kritikal na pag-iisip ay hindi lamang nagpapabuti sa kasanayan sa pag-iisip ng mga mag-aaral, kundi nagdudulot din ng positibong epekto sa kanilang kasanayan sa komunikasyon. Ito ay nagpapalakas sa kanilang kakayahan sa pagsasalita at nagpapataas ng kalidad ng kanilang pakikipagtalastasan. Sa ganitong paraan, ang paglinang ng kritikal na pag-iisip ay nagbubunga ng mas malalim na pag-unawa at mas mahusay na kasanayan sa komunikasyon ng mga mag-aaral.

Talahanayan 5. Antas ng Paglinang ng Ika-21 Siglong Kasanayan Ayon sa Kritikal na Pag-iisip

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Inihahambing ko ang mga impormasyon sa iba’t ibang pinagkukunan.	3.23	Katamtaman
2.	Sinusuri ko ang mga impormasyong nakuha mula sa iba’t ibang hanguan.	3.00	Katamtaman
3.	Binibigyan ko ng sariling interpretasyon ang mga nabasang pahayag.	3.50	Mataas
4.	Sinusubukan kong paunlarin ang aking kritikal na pag-iisip sa pamamagitan ng palutas sa sariling problema.	4.13	Mataas
5.	Nagagawa kong mabisa ang aking kritikal na pag-iisip sa pagtugon sa mga gawain.	3.27	Katamtaman
	Kabuoan	**3.43**	**Mataas**

Komunikasyon

Sa Talahanayan 6, ipinapakita ang lawak ng paglinang ng ika-21 siglong kasanayan sa komunikasyon. Ang mga aytem tulad ng paghahanda para sa pasalitang presentasyon, pagpapaunlad ng kasanayan sa pagsasalita ng mga mag-aaral, pagpapalakas ng kasanayan sa komunikasyon sa klase, pagsusuri ng pagsasalita ng mga mag-aaral sa mga ulat, at pagbibigay ng pagkakataon sa verbal na pagpapahayag ng mga ideya ng mga mag-aaral ay nagpapakita ng kanilang kahalagahan sa pagtuturo.

Ang resulta ay nagpapahiwatig na ang mga guro ay dapat magbigay ng sapat na pansin sa paghuhubog ng mga kasanayang ito sa mga mag-aaral. Ang mga aytem na ito na nakakuha ng mean rating na katamtaman ay nagpapakita na ito ang mga aspeto na maaaring magkaroon ng kaunting pagpapabuti. Mahalaga ang paglinang ng kasanayan sa komunikasyon dahil ito ay may malaking epekto hindi lamang sa akademikong pag-unlad kundi pati na rin sa interpersonal na ugnayan.

Ang pag-aaral nina Bernales et al., 2016 ay nagpapatunay sa kahalagahan ng komunikasyon sa pagkatuto. Ito ay nagpapabukas ng mga oportunidad sa mga mag-aaral upang maibahagi ang kanilang kaalaman at karanasan sa kanilang kapwa mag-aaral, na nagtutulak sa mas malalim na pag-unawa at paggamit ng wika. Ang ganitong pagpapalakas ng komunikasyon ay hindi lamang nagpapabuti sa kanilang pag-aaral kundi nagbubunga rin ng mas mabuting interpersonal na ugnayan.

Kaugnay nito, mahalaga rin ang papel ng mga guro sa pagpapalakas ng kasanayan sa komunikasyon. Hindi sapat na mayroon silang sapat na kaalaman at paniniwala; dapat din nilang palakasin ang kanilang kasanayan sa pagpapahayag upang maging epektibo silang tagapagturo. Sa ganitong paraan, magiging mas mabisang tagapag-udyok sila sa kanilang mga mag-aaral.

Talahanayan 6. Antas ng Paglinang ng Ika-21 Siglong Kasanayan Ayon sa Komunikasyon

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Inihahanda ko ang aking sarili sa pasalitang presentasyon.	3.27	Katamtaman
2.	Sinusubukan kong paunlarin ang kasanayan sa pagsasalita ng mga mag-aaral.	4.07	Mataas
3.	Nililinang ko ang kasanayan sa komunikasyon ng mga mag-aaral sa klase.	3.53	Mataas
4.	Sinusuri ko nang maigi ang pagsasalita ng mga	4.13	Mataas

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	mag-aaral sa tuwing nag-uulat sa klase.		
5.	Binibigyan ko ng pagkakataon ang mga mag-aaral na maglahad ng kanilang ideya sa klase sa paraang berbal.	3.33	Katamtaman
	Kabuoan	**3.67**	**Mataas**

Kolaborasyon

Sa Talahanayan 7, ipinakita ang lawak ng paglinang ng ika-21 siglong kasanayan sa kolaborasyon. Ang mga resulta ay nagpapahiwatig na ang ilang aspeto ng kolaborasyon, tulad ng paghuhubog sa mga gawain na nagpapalawak ng kasanayan sa pakikipagtulungan ng mga mag-aaral at ang pagsusuri ng mga guro sa mga ito, ay nangangailangan ng higit na pagtuon at pagpapabuti.

Mahalaga ang mga gawaing pangkat sa paglinang ng kasanayan sa pakikipagtulungan, ayon sa mga resulta. Ang pagpapalakas ng kasanayan sa kolaborasyon ay nagbibigay-daan sa mga mag-aaral na matuto at makatulong sa kanilang mga kapwa. Ang pagtukoy ng mga guro sa layunin at plano para sa pangkat na gawain ay isang mahalagang bahagi ng pagpapalakas ng kolaborasyon, nagbibigay-daan ito sa mga mag-aaral na maunawaan ang kanilang mga papel at responsibilidad sa isang grupo, pati na rin ang pagpapalakas ng kanilang kakayahan sa pakikipagtulungan.

Nakatuon ang mga resulta sa kahalagahan ng kolaborasyon hindi lamang sa larangan ng edukasyon kundi maging sa hinaharap na trabaho. Ang mga kasanayan sa kolaborasyon ay hinahanda ang mga mag-aaral para sa pagtatrabaho sa isang kapaligiran na nangangailangan ng pakikipagtulungan at pagtutulungan. Sa pamamagitan ng mga gawaing pangkat, ang mga mag-aaral ay natututo ng kasanayan sa pakikipagtulungan, pagsusuri, at pagpapasya na mahalaga sa kanilang mga karera at buhay sa hinaharap.

Nakalalasong mahalaga ang pagpapalakas ng mga kasanayan sa kolaborasyon hindi lamang sa loob ng silid-aralan kundi pati na rin sa paghahanda ng mga mag-aaral para sa kanilang hinaharap. Ito ay hindi lamang nagpapabuti sa kanilang pagkatuto kundi nagpapalakas din ng kanilang mga kakayahan sa interpersonal na ugnayan at tagumpay sa kanilang mga karera.

Talahanayan 7. Antas ng Paglinang ng Ika-21 Siglong Kasanayan Ayon sa Kolaborasyon

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Gumagawa ako ng mga gawain na lilinang sa kasanayan sa pakikipagtulungan ng mga mag- aaral.	3.23	Katamtaman
2.	Nagbibigay ako ng pidbak sa ginawang pangkatang gawain ng mga mag-aaral.	3.70	Mataas
3.	Sinusubukan ko ang mga grupo na gumawa ng mas mahusay na mga desisyon sa kanilang presentasyon.	3.50	Mataas
4.	Nakikipagtulungan ako sa mga mag- aaral upang magtakda ng mga layunin at plano para sa isang gawain.	4.13	Mataas
5.	Gumagawa ako ng mabisang pagsusuri sa mga kasanayan sa pakikipagtulungan ng mga mag- aaral.	3.23	Katamtaman
	Kabuoan	**3.56**	**Mataas**

***Pagkamalikhain*.**

Batay sa Talahanayan 8, mahalaga ang paglinang ng kasanayan sa pagkamalikhain sa mga mag-aaral, partikular sa paggamit ng mga estratehiya upang hikayatin ang kanilang pagiging malikhain at pagpapalawak ng kanilang kaisipan.

Ang mga resulta ay nagpapakita na ang mga guro ay dapat maglaan ng sapat na oras at pansin sa paglinang ng pagkamalikhain sa mga mag-aaral. Ito ay maaaring makamit sa pamamagitan ng paggamit ng iba't ibang estratehiya at pamamaraan upang masubaybayan ang pag-unlad ng kanilang pagkamalikhain. Mahalaga rin na bigyan ng mga mag-aaral ng pagkakataon na ipahayag ang kanilang mga ideya sa paraang malikhain upang maitaas ang kanilang kumpiyansa at gana sa pag-aaral.

Ang mga pag-aaral na sumusuporta sa paglinang ng pagkamalikhain ay nagpapakita na ang pagtuturo ng pagkamalikhain ay hindi lamang tungkol sa pagbuo ng mga gawaing pangmalikhain, kundi higit sa pagpapalakas ng kasanayan ng mga mag-aaral sa pagsusuri at paglutas ng mga problemang may iba't ibang pananaw at konsepto. Sa pamamagitan ng malikhaing pag-iisip, nagkakaroon ang mga mag-aaral ng kakayahan na makahanap ng mga alternatibong solusyon sa mga suliranin at magpakita ng pagiging mapanlikha sa kanilang mga gawain.

Ipinapakita rin ng mga resulta na ang paggamit ng mga estratehiya at pamamaraan sa pagtuturo ng pagkamalikhain ay nagbibigay-daan sa mga mag-aaral na magkaroon ng positibong karanasan sa pag-aaral at mas maging handa sila sa mga hamon sa hinaharap. Sa pangkalahatan, ang paglinang ng pagkamalikhain sa mga mag-aaral ay hindi lamang nagpapabuti sa kanilang pag-aaral kundi nagbibigay din sa kanila ng mga kasanayang mahalaga para sa kanilang personal at propesyunal na pag-unlad.

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Talahanayan 8. Antas ng Paglinang ng Ika-21 Siglong Kasanayan Ayon sa Pagkamalikhain

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Gumagamit ako ng mga teknik o estratehiya sa paglikha ng mga ideya.	3.23	Katamtaman
2.	Sinubukan kong paunlarin ang pagkamalikhain at mga kasanayan sa pagbabago ng mga mag-aaral.	4.90	Lalong Mataas
3.	Lumilikha ako ng isang pagganap upang maipahayag ang kanilang mga ideya sa malikhaing paraan.	3.50	Mataas
4.	Naglalahad ako ng mga sitwasyon sa mga mag-aaral upang malutas ang mga problemang may iba't ibang pananaw at konsepto.	4.13	Mataas
5.	Ginagawa kong mabisang masuri ang pagkamalikhain ng mga mag-aaral.	2.97	Katamtaman
	Kabuoan	**3.75**	**Mataas**

Buod sa Antas ng Paglinang ng Ika-21 Siglong Kasanayan

Batay sa Talahanayan 9, mahalaga ang paglinang ng ika-21 siglong kasanayan tulad ng kritikal na pag-iisip, komunikasyon, kolaborasyon, at pagkamalikhain. Ang mga mataas na palarawan sa bawat kasanayan ay nagpapakita na ang mga guro ay madalas na naglalaan ng pansin at pagtutok sa paglinang ng mga ito sa kanilang mga mag-aaral.

Ang implikasyon ng mga resulta ay nagpapakita na ang paglinang ng mga nabanggit na kasanayan ay may malaking epekto sa pagkatuto ng mga mag-aaral. Ipinapakita rin nito ang halaga ng pag-aaral sa pag-unlad ng kurikulum upang mapabilis ang pag-unlad at pag-aadapt sa mga hamon ng ika-21 siglo, kabilang ang teknolohiya ng impormasyon at komunikasyon.

Sa pag-aaral ng mga kompitensing na hindi gaanong nakalilinang sa mga pangunahing kasanayan, mahalaga ang pagtukoy ng mga ito upang mabatid kung aling aspeto ng paglinang ng kasanayan ang nangangailangan ng dagdag na pagpapaunlad. Sa ganitong paraan, maaaring mabigyan ng mga guro ng karagdagang gawaing makatutulong sa higit na paglinang ng mga kasanayan na ito.

Ang mga pag-aaral na binanggit ay nagpapakita rin na ang paggamit ng teknolohiya, partikular ang teknolohiya ng impormasyon at komunikasyon (ICT), ay may mahalagang papel sa pagpapabuti ng mga kasanayan ng mga mag-aaral sa ika-21 siglo. Ipinapakita rin nito na mahalaga ang pag-aangkop sa mga modernong pamamaraan ng pagtuturo upang masiguro ang interes at kahusayan ng mga mag-aaral sa kasalukuyang panahon.

Talahanayan 9. Buod sa Antas ng Paglinang ng Ika-21 Siglong Kasanayan

Blg.	Mga Aytem	Mean	Palarawang Katumbas
1.	Kritikal na Pag-iisip	3.43	Mataas
2.	Komunikasyon	3.67	Mataas
3.	Kolaborasyon	3.56	Mataas
4.	Pagkamalikhain	3.75	Mataas
	Kabuoan	**3.60**	**Mataas**

Makabuluhang Ugnayan ng Antas ng Pagtuturo ng Wika Batay sa Nilalaman at Antas ng Paglinang ng Ika-21 Siglong Kasanayan

Ang mga datos na naglalarawan sa makabuluhang ugnayan ng pagtuturo ng wika batay sa nilalaman at ng paglinang ng ika-21 siglong kasanayan ay inilalahad sa mga Talahanayan 10. Ang bawat baryabol ay may r-value na 0.407 kung saan may antas na korelasyon na katumbas ay katamtaman. Samantala, ang p-value ay 0.00 na mas mababa sa 0.05 na signifikans, at ang pasya sa haypoteses ay tinanggihan. Samakatuwid, may makabuluhang ugnayan ang pagtuturo ng wika batay sa nilalaman at ng paglinang ng ika-21 siglong kasanayan

Talahanayan 10. Datos ng Makabuluhang Ugnayan ng Pagtuturo ng Wika Batay sa Nilalaman at Paglinang ng Ika-21 Siglong Kasanayan

Mga Baryabol	r-value	Antas ng Korelasyon	*p*-value	Pasya sa Ho
(X) *Pagtuturo ng Wika Batay sa Nilalaman*	0.871**MK**	Mataas na Korelasyon	0.00	Tinanggihan
(Y) *Paglinang ng Ika-21 Siglong Kasanayan*				

MK*- Makabuluhan sa 0.05 Antas ng Kahalagahan*

Mga Indikeytor ng Pagtuturo ng Wika Batay sa Nilalaman na may Makabuluhang Impluwensiya sa Paglinang ng Ika-21 Siglong Kasanayan

Sa Talahanayan 11, ipinakita ang mga indikator ng pagtuturo ng wika batay sa nilalaman na may makabuluhang impluwensiya sa paglinang ng ika-21 siglong kasanayan. Nakita na ang mga domeyn tulad ng pagkakaloob ng nauunawaang input, pagkaiiba-

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iba ng estratehiya, at pagbibigay suporta sa pagkatuto ay may mataas na antas ng kahalagahan, na mas mababa sa 0.05 (sig. value < 0.05). Tinanggihan ang hipotesis na walang domeyn ng pagtuturo ng wika batay sa nilalaman na may makabuluhang impluwensiya sa paglinang ng ika-21 siglong kasanayan. Ang mga indikator na ito ay pawang may makabuluhang impluwensiya sa paglinang ng ika-21 siglong kasanayan.

Ang pag-aaral na ito ay sumasalig sa Input Theory of Language Acquisition ni Krashen (1982), na nagmumungkahi na ang pagtuturo ng wika ay batay sa pagbibigay ng input na naiintindihan ng mag-aaral. Ayon dito, mahalaga na maunawaan ng mag-aaral ang binibigay na input upang magamit nila ito. Ang mga indikator na binanggit ay naglalayong siguruhin na ang mga guro ay nagbibigay ng makabuluhang input na nauunawaan at naaangkop sa antas ng kasanayan at interes ng mga mag-aaral.

Ang Socio-cultural Theory ni Vygotsky (1978) ay nagpapatibay sa mahalagang natuklasan ng pag-aaral. Ayon dito, ang wika ay naglalaro ng mahalagang papel sa paghubog ng pag-iisip at pag-uugali ng mga bata. Sa pamamagitan ng wika, sila ay natutong magplano, mag-organisa, at mag-ugali nang may kasanayan. Ang pagsasalita at paggamit ng gramatika ay nagpapakita ng self-regulatory mechanism sa paglinang ng kanilang kakayahan.

Sa kabuuan, ang mga indikator ng pagtuturo ng wika batay sa nilalaman na nabanggit ay nagpapakita ng kahalagahan ng wastong pagbigay ng input, paggamit ng iba't ibang estratehiya, at suporta sa pagkatuto upang mapabuti ang paglinang ng ika-21 siglong kasanayan ng mga mag-aaral.

Talahanayan 11. Mga Indikeytor ng Pagtuturo ng Wika Batay sa Nilalaman na may Makabuluhang Impluwensiya sa Paglinang ng Ika-21 Siglong Kasanayan

Indicators	Unstandardized Coefficients		Standardized Coefficients	t-ratio	Sig
	B	Std. Error	Beta		
Constant	β_0	4.37	0.44	21.00	0.03
Pagkakaloob ng mga Nauunawaang Input	β_1	1.56	0.94	29.09	0.02
Pagkaiiba-iba ng Estratehiya	β_2	01.58	0.47	6.20	0.01
Pagbibigay Suporta sa Pagkatuto	β_3	0.23	0.68	12.07	0.02

Kongklusyon

Ang pag-aaral na ito ay nagbigay-diin sa kahalagahan ng pagtuturo ng wika batay sa nilalaman at paglinang ng ika-21 siglong kasanayan. Sa pamamagitan ng kuwantitatibong pananaliksik, natukoy na may kaugnayan ang dalawang aspetong ito at mahalaga ang kanilang impluwensiya sa pag-unlad ng mga mag-aaral.

Una, lumalabas na ang pagtuturo ng wika batay sa nilalaman ay may positibong epekto sa paglinang ng ika-21 siglong kasanayan. Ito ay nagsisilbing pundasyon sa pagpapaunlad ng kritikal na pag-iisip ng mga mag-aaral, na mahalaga para sa kanilang kakayahan sa pagharap sa mga suliranin at kompetisyon sa hinaharap.

Pangalawa, matapos suriin ang mga indikeytor ng pagtuturo ng wika batay sa nilalaman, natuklasan na may malaking impluwensiya ang mga ito sa paglinang ng ika-21 siglong kasanayan ng mga guro. Samakatuwid, mahalaga ang pagtutok sa pagpapabuti ng mga indikeytor na ito upang mas mapabuti ang kalidad ng edukasyon na kanilang naibibigay sa mga mag-aaral.

Sa pag-aaral na ito, pinatibay ang teoryang Input Theory of Language Acquisition ni Krashen at Socio-cultural Theory of Vygotsky. Ang unang teorya ay nagpapakita na ang mga uri ng input na ibinibigay ng guro ay mahalaga sa pag-unlad ng wika at kasanayan ng mga mag-aaral. Samantalang, ang huli ay nagbibigay-diin sa papel ng wika sa pagpapaunlad ng self-regulation at pag-uugali ng mga bata.

Sa huli, ang mga natuklasan sa pag-aaral na ito ay nagpapalakas sa kamalayan sa kahalagahan ng wastong pagtuturo ng wika at paglinang ng mga kasanayan para sa hinaharap ng mga mag-aaral at guro.

Rekomendasyon

Ang layunin ng pag-aaral na ito ay bigyang-diin ang kahalagahan ng paglinang ng kakayahan ng mga guro sa pagtuturo ng wika batay sa nilalaman at pagpapaunlad ng ika-21 siglong kasanayan. Batay sa mga natuklasan, narito ang ilang rekomendasyon upang mapalakas ang kalidad ng edukasyon sa Pilipinas:

Opisyales ng Kagawaran ng Edukasyon. Dapat magsagawa ng masusing pagsusuri sa kasalukuyang kurikulum upang matiyak na ang mga kompetensiya ay naaayon sa pangangailangan ng mga mag-aaral. Kailangang magtalaga ng mga eksperto na magsusuri sa kurikulum at mag-implementa ng mga programa na magpapabuti sa kalidad ng edukasyon, partikular na sa paglinang ng ika-21 siglong kasanayan.

***Mga Punong Guro*.** Ang mga punong guro ay dapat magsagawa ng mga pagsasanay na naglalayong palakasin ang kakayahan ng kanilang mga guro sa pagtuturo. Mahalaga rin na maging aktibo ang mga guro sa mga pagbabagong nangyayari sa sistema ng edukasyon sa pamamagitan ng pagsasali sa mga seminar at workshop na may kaugnayan sa ika-21 siglong kasanayan.

Mga Guro. Mahalaga para sa mga guro na patuloy na magbahagi at magbahagi ng kanilang kaalaman sa pamamagitan ng pagsasanay. Dapat silang magpakita ng bukas na pagtanggap sa mga bagong pamamaraan at estratehiya sa pagtuturo na nagtataguyod ng ika-21 siglong kasanayan. Kaya't ang kanilang pakikilahok sa mga pagsasanay ay makatutulong sa kanila upang maenhance ang kanilang kakayahan sa pagtuturo.

Mga Mananaliksik. Mahalaga ang patuloy na pagsasagawa ng mga pag-aaral hinggil sa ika-21 siglong kasanayan upang

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mapalawak ang kaalaman ng mga guro sa makabagong pamamaraan sa pagtuturo. Dapat rin itong magbigay-diin sa mga pagbabago at pag-unlad sa sistema ng edukasyon, upang maging handa ang mga guro sa pagharap sa mga hamon ng pagtuturo sa hinaharap**.**

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LIVED EXPERIENCES OF TEACHERS USING ADAPTIVE STRATEGIES IN TEACHING ASD LEARNERS: A PHENOMENOLOGICAL STUDY

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ABSTRACT

This qualitative study delves into how teachers apply adaptive strategies to instruct learners with Autism Spectrum Disorder (ASD) in Special Education (SPED) settings. Employing a phenomenological approach, the research utilized individual interviews and focus group discussions to explore various challenges, coping mechanisms, and insights related to the effectiveness and appropriateness of these strategies. Ten participants from SPED schools in Davao City were randomly selected to ensure diverse perspectives, with five engaging in individual interviews and the remaining five participating in focus group discussions. The initial findings reveal significant themes emphasizing the importance of adaptive strategies in teaching ASD learners. Key concepts include the utilization of visual aids, structured environments, and positive reinforcement, aligning with previous research indicating their efficacy in improving understanding and communication among ASD learners. Challenges in implementation, such as the variability in ASD presentations, underscore the necessity for personalized approaches. Furthermore, positive outcomes like personalized learning experiences and increased engagement highlight the beneficial impact of adaptive strategies. Subsequent findings shed light on the coping mechanisms employed by teachers to navigate challenges associated with implementing adaptive strategies. Individualized Education Plans (IEPs), support from colleagues, and open communication with families emerged as crucial coping mechanisms. Additionally, strategies for managing emotional and cognitive demands, ongoing professional development, and adapting instructional practices were emphasized, contributing to a deeper understanding of effective support mechanisms for ASD learners. Further insights into the effectiveness and appropriateness of adaptive strategies highlight themes such as individualized approaches, alignment with specific needs, and enhancement through teacher training and technology, emphasizing the importance of personalized, flexible, and collaborative approaches. These findings provide valuable guidance for educators and policymakers, drawing on relevant literature and research. In conclusion, the study underscores the significance of adaptive strategies in supporting ASD learners within SPED classrooms, advocating for personalized, structured, and inclusive educational approaches.

KEYWORDS: *ASD learners, adaptive strategies, special education, lived experiences, qualitative inquiry, coping mechanisms, teacher training, individualized approach.*

INTRODUCTION

In the realm of special education, the experiences of teachers implementing adaptive strategies for learners with autism spectrum disorder (ASD) hold profound importance. This study delves into the rich tapestry of educators' experiences in Special Education (SPED) classrooms, focusing specifically on learners with ASD. It extends its scope from global perspectives to the local context within the Davao Region of the Philippines.

Globally, there has been a growing recognition of the diverse needs of learners with ASD. International efforts emphasize evidence-based practices to enhance the educational experiences and outcomes for individuals with ASD. For instance, the World Health Organization (WHO) highlights the importance of evidence-based interventions and educational strategies for individuals with ASD (WHO, 2018). While global initiatives provide a broad framework, there is a need for localized research to understand the practical implementation and effectiveness of adaptive strategies in various educational contexts.

In the Philippines, inclusive education is gaining prominence, supported by legislation such as the Magna Carta for Persons with Disabilities (Republic Act No. 7277). However, there is limited research specifically focusing on the experiences of teachers using adaptive strategies to teach ASD learners within the SPED context. One national study conducted by Reyes and colleagues (2019) examined the challenges faced by teachers in implementing inclusive education, highlighting the need for targeted support and resources for learners with ASD. This underscores the importance of further research to explore the specific strategies employed by teachers and their impact on the educational experiences of ASD learners.

Zooming into the Davao Region, understanding the specific challenges and opportunities in implementing adaptive teaching strategies for learners with ASD becomes imperative. While national policies shape the broader educational landscape, local dynamics play a significant role in determining the effectiveness of interventions. Local studies within the region are scarce, indicating a gap in knowledge regarding the lived experiences of teachers in this context. However, insights from regional initiatives such as the Davao Autism Intervention Program (DAIP) can provide valuable context-specific information on the challenges and successes encountered in teaching ASD learners (DAIP Annual Report, 2020).

These literatures highlight the importance of exploring the lived experiences of teachers using adaptive strategies in teaching ASD learners within the SPED context. From a global perspective, there is a recognition of the diverse needs of individuals with ASD and the importance of evidence-based practices. However, localized research is essential to understand the practical implementation of adaptive strategies and their impact on educational outcomes. In the Philippines, inclusive education is supported by legislation, but there is a need for targeted research to inform effective practices for ASD learners. Similarly, within the Davao Region, understanding

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local dynamics is crucial for developing context-specific interventions. By bridging the gap between global policies and local realities, this qualitative inquiry aims to provide insights that can inform educational practices and support the needs of ASD learners in diverse contexts.

This study holds profound importance and urgency within the landscape of special education. As the prevalence of autism spectrum disorder (ASD) continues to rise globally, there is a critical need to understand the practical application and impact of adaptive teaching strategies tailored to ASD learners. By delving into teachers' lived experiences within Special Education (SPED) contexts, this research seeks to bridge the gap between theory and practice, offering invaluable insights into the day-to-day realities faced by educators. These insights are crucial for informing evidence-based practices that resonate with the complexities of SPED classrooms, ultimately enhancing the educational experiences and outcomes for ASD learners.

Moreover, amidst the escalating demand for effective educational interventions and the paradigm shift towards inclusivity, the urgency of this research is underscored. By amplifying teachers' voices and experiences, this research has the potential to catalyze positive change, fostering more inclusive educational environments that honor the individuality of ASD learners and empower educators to meet their diverse needs effectively.

STATEMENT OF THE PROBLEM

The utilization of adaptive strategies in teaching learners with autism spectrum disorder (ASD) within Special Education (SPED) settings presents a complex and multifaceted challenge. While there is growing recognition of the importance of tailored approaches to meet the diverse needs of ASD learners, there remains a gap in understanding the lived experiences of teachers implementing these strategies. Therefore, this qualitative inquiry seeks to explore the lived experiences of teachers using adaptive strategies in teaching ASD learners within the SPED context, with a focus on the Davao Region of the Philippines. Specifically, this research aims to answer the following questions:

1. How do teachers describe their lived experiences in utilizing adaptive strategies to teach ASD learners within SPED classrooms?
2. What coping mechanisms do teachers employ to navigate the challenges associated with implementing adaptive strategies for ASD learners?
3. What insights do teachers offer regarding the effectiveness and appropriateness of adaptive strategies in meeting the unique needs of ASD learners within the SPED context?

REVIEW OF RELATED LITERATURE AND STUDIES

Theoretical Foundations in ASD Education

The theoretical foundations of our research on the impact of adaptive teaching strategies for learners with Autism Spectrum Disorder (ASD) in Special Education (SPED) are deeply rooted in the evolving landscape of inclusive education and evidence-based practices. Inclusive education emphasizes the right of every learner, regardless of abilities, to access quality education within mainstream settings, extending beyond physical presence to encompass effective instructional strategies catering to diverse learning profiles. Adaptive teaching strategies, such as visual supports and sensory integration techniques, are highlighted as crucial for accommodating the learning needs of individuals with ASD.

Previous studies emphasize the significance of evidence-based practices in ASD education, advocating for empirical support in guiding instructional decisions. Theoretical perspectives draw from ecological systems theory and social-communication models, highlighting the dynamic interplay between individual characteristics, the classroom environment, and communication challenges inherent in ASD. Embracing the neurodiversity paradigm, the research seeks to move beyond deficit-oriented approaches to recognize and harness the inherent strengths and capabilities of individuals with ASD.

Relevant Studies

Two relevant studies, conducted by Vismara et al. (2019) and Hume et al. (2021), offer valuable insights into the effectiveness of specific adaptive teaching strategies. Vismara et al.'s study delves into the efficacy of early start Denver model interventions, while Hume et al. explore the outcomes of peer-mediated interventions for students with ASD. These studies contribute valuable data but highlight the need for quantitative explorations within the unique context of SPED classrooms.

Bridging the Gap in Research

While existing literature provides valuable insights, there's a noticeable gap in research systematically exploring the interplay between adaptive teaching strategies, the classroom environment, and the effectiveness of education for learners with ASD in SPED. Our study aims to bridge this gap by offering a quantitative exploration, contributing to the conceptual evolution of evidence-based practices in ASD education. By integrating theoretical frameworks from inclusive education, adaptive teaching strategies, evidence-based practices, and global initiatives, our research seeks to provide a holistic understanding of the factors influencing the educational experiences of learners with ASD in SPED classrooms.

Theoretical Lens

The qualitative research aims to delve into the intricate dynamics of educators' experiences in implementing adaptive strategies for learners with autism spectrum disorder (ASD) within Special Education (SPED) settings, with a particular focus on the Davao Region of the Philippines. To guide this inquiry, we will draw upon main and supporting theories that offer theoretical frameworks for understanding the lived experiences of teachers and the effectiveness of adaptive strategies in meeting the unique needs of ASD learners.

Social constructivism, as proposed by Vygotsky (1978), emphasizes the role of social interactions and cultural context in shaping individuals' learning experiences and understanding. Within the context of teaching ASD learners, social constructivism provides a lens through which to explore how teachers' interactions with students, colleagues, and the broader educational environment influence their perceptions and practices. According to this theory, knowledge is co-constructed through meaningful interactions, and teachers' lived experiences can be understood as situated within social and cultural contexts (Gergen, 1995).

Moreover, Bronfenbrenner's (1979) ecological systems theory posits that individuals are influenced by multiple interconnected systems, ranging from the microsystem (immediate environment) to the macrosystem (cultural values and societal norms). Within the SPED context, this theory provides a framework for understanding the complex interplay of factors that shape teachers' experiences in implementing adaptive strategies for ASD learners. By examining the interactions between teachers, students, families, and broader

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institutional contexts, this theory illuminates the multifaceted nature of teachers' lived experiences and the various influences on their instructional practices.

Lastly, Self-determination theory (Deci & Ryan, 1985) emphasizes the importance of autonomy, competence, and relatedness in fostering intrinsic motivation and well-being. Within the context of teaching ASD learners, this theory offers insights into the psychological factors that may impact teachers' engagement and effectiveness in implementing adaptive strategies. By examining teachers' perceptions of their autonomy in selecting and implementing adaptive strategies, their perceived competence in meeting the needs of ASD learners, and their sense of connection with students and colleagues, this theory can provide valuable insights into the motivational dynamics underlying teachers' lived experiences.

These main and supporting theories offer theoretical lenses through which to explore the lived experiences of teachers using adaptive strategies in teaching ASD learners within SPED settings. By drawing upon these theoretical frameworks, this qualitative inquiry seeks to uncover the complexities of teachers' experiences and contribute to the development of evidence-based practices that support the diverse needs of ASD learners in the educational context.

METHOD

In this research, several methodological considerations will be employed to ensure rigor and ethical integrity throughout the study. Philosophically, this research will be grounded in qualitative assumptions, recognizing the subjective nature of lived experiences and the importance of understanding phenomena within their natural context (Creswell & Poth, 2017).

The design will adopt a phenomenological approach to explore teachers' lived experiences in utilizing adaptive strategies, employing both individual interviews and focus group discussions. Seven participants will be selected for individual interviews to allow for in-depth exploration of personal experiences, while another seven will participate in focus group discussions to facilitate rich dialogue and shared reflections (Creswell & Poth, 2017).

Participants will be drawn from teachers currently teaching ASD learners using adaptive strategies in SPED schools in Davao City, selected through random sampling to ensure a diversity of perspectives. Ethical considerations will be paramount, with informed consent obtained from all participants, and confidentiality and anonymity strictly maintained throughout the research process.

Moreover, the role of the researchers will be transparent, serving as facilitators of dialogue and stewards of ethical practice. Data collection will commence only after obtaining approval from the Research Ethics Committee (REC) for the Initial Review, ensuring adherence to ethical guidelines (Creswell & Poth, 2017).

Furthermore, data analysis will involve thematic analysis, identifying patterns and themes within the qualitative data to uncover the essence of teachers' experiences (Braun & Clarke, 2006). Lastly, the trustworthiness of the study will be ensured through various strategies, including member checking, peer debriefing, and triangulation of data sources, to enhance the credibility and validity of findings (Creswell & Poth, 2017).

RESULTS AND DISCUSSION

This chapter delves to the rich tapestry of results gleaned from our qualitative inquiry, offering a profound exploration into the lived experiences of educators employing adaptive strategies in teaching learners with Autism Spectrum Disorder (ASD) within the Special Education (SPED) context. As we venture into the heart of our findings, we embark on a journey illuminated by the voices of these dedicated teachers, whose narratives provide invaluable insights into the nuanced challenges, triumphs, and evolving methodologies encountered within the realm of ASD education. Through rigorous analysis and reflective discourse, this chapter serves as a beacon, casting light upon the multifaceted landscape of adaptive teaching strategies and their profound impact on both educators and ASD learners alike.

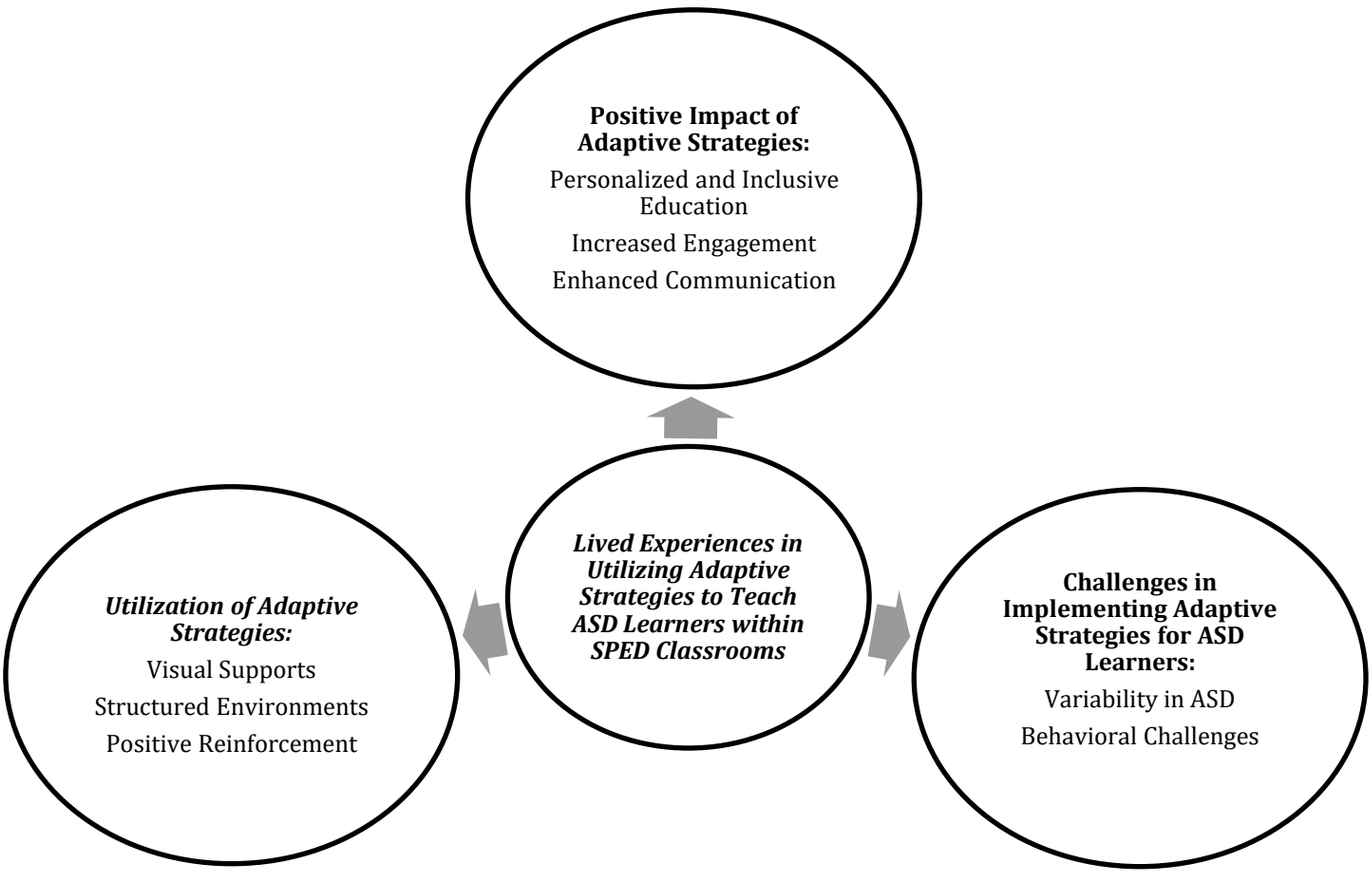
Lived Experiences in Utilizing Adaptive Strategies to Teach ASD Learners within SPED Classrooms

The initial findings of the research titled "Exploring the Lived Experiences of Teachers Using Adaptive Strategies in Teaching ASD Learners" shed light on the intricate dynamics of utilizing adaptive strategies within Special Education (SPED) classrooms to cater to the needs of learners with Autism Spectrum Disorder (ASD). These results provide valuable insights into the challenges faced by educators and the positive impacts observed when employing adaptive strategies. Understanding these experiences is crucial for enhancing the effectiveness of teaching practices and promoting inclusive education for ASD learners.

Figure 1 shows the lived experiences in utilizing adaptive strategies to teach ASD learners within SPED classrooms.

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Fig. 1
Major Themes and Core Ideas on the Lived Experiences in Utilizing Adaptive Strategies to Teach ASD Learners within SPED Classrooms



Utilization of Adaptive Strategies

Educators consistently emphasized the significance of utilizing adaptive strategies in teaching ASD learners effectively.

Visual Support

Visual support emerged as a prominent core idea, reflecting the importance of using visual aids to facilitate comprehension and communication for ASD students. Visual supports are tools that provide individuals with visual cues to aid comprehension, communication, and organization. These can include visual schedules, picture symbols, and task cards. Research suggests that visual supports can enhance learning and independence for individuals with various cognitive and developmental disabilities (Sainato, Strain, & Lefebvre, 2012). By presenting information visually, individuals may better understand expectations and sequence of tasks, leading to increased engagement and success in completing activities.

> *"Teaching ASD learners involves using adaptive strategies such as visual supports, structured environments, clear communication, and individualized instruction." - IDI1*
> *"So, with those experiences, I can also apply it in teaching ASD learners within SPED classrooms by implementing visual schedules." - IDI2*

In conclusion, the utilization of visual supports offers significant benefits in promoting understanding, communication, and independence for individuals with disabilities. Incorporating visual cues into daily routines and activities can enhance comprehension and engagement, ultimately supporting individuals in achieving their goals.

Structured Environments

Structured environments were also highlighted, indicating the necessity of providing predictable and organized surroundings to promote a sense of security and stability. Structured environments involve organizing physical spaces and daily routines to provide clear expectations and minimize distractions. This approach aims to create predictability and consistency, which can be particularly beneficial for individuals with autism spectrum disorder and other developmental disabilities (Koegel, Koegel, & Brookman, 2003). By establishing clear boundaries and routines, structured environments help individuals feel more secure and confident in navigating their surroundings.

> *"It involves using visual supports, structured environments, sensory accommodations, individualized instruction, positive reinforcement, collaboration, flexibility, and patience..." - IDI5*
> *"While a structured environment reduces anxiety." - IDI1*
> *"Should have schedules then, after having a schedule I incorporate sensory breaks." - IDI2*
> *"...to create an inclusive and supportive learning environment that meets the unique needs of each of my learners." - IDI5*

In summary, implementing structured environments can significantly support individuals with developmental disabilities by reducing anxiety, promoting independence, and facilitating positive behavior. By creating predictability and consistency, structured environments offer a supportive framework for individuals to thrive and succeed in various settings.

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Positive Reinforcement

Additionally, positive reinforcement was identified as a crucial strategy for encouraging desired behaviors and fostering a conducive learning environment for ASD learners. Positive reinforcement involves providing rewards or praise to increase the likelihood of desired behaviors. This strategy is based on the principles of operant conditioning and has been widely used in behavior management interventions for individuals with disabilities (Miltenberger, 2008). By reinforcing desired behaviors with positive consequences, individuals are motivated to continue exhibiting those behaviors, leading to skill acquisition and behavior improvement.

> *"I will also use positive reinforcement techniques, of course, that's important because I am promoting engagement in the class and reducing anxieties in ASD learners which is very important to a SPED Teacher ..." - IDI2*
>
> *"Individualized instruction, positive reinforcement, collaboration with support professionals, technology integration, and parent involvement contribute to a holistic approach..." - IDI1*

To conclude, the utilization of positive reinforcement techniques offers an effective means of promoting desired behaviors and skill development in individuals with disabilities. By emphasizing positive consequences for desired behaviors, this approach fosters a supportive and encouraging environment that facilitates learning and behavior change. These core ideas collectively underscore the essential role of adaptive strategies in accommodating the diverse learning needs of ASD students within SPED classrooms.

Positive Impact of Adaptive Strategies

Personalized and Inclusive Education

Personalized and inclusive education emerged as a core idea, highlighting the ability of adaptive strategies to create learning environments that accommodate the diverse needs and abilities of all students, including those with ASD. Personalized and inclusive education refers to tailoring educational experiences to meet the unique needs and abilities of each learner, including those with diverse backgrounds and abilities. This approach fosters a sense of belonging and support for all students, ultimately leading to better academic outcomes and personal growth. According to research by Hattie and Yates (2014), personalized learning has a significant positive impact on student achievement, with effects sizes ranging from 0.18 to 1.44. By implementing adaptive strategies such as differentiated instruction, individualized learning plans, and flexible grouping, educators can create an environment where every student feels valued and empowered to succeed.

> *"The overall impact of adaptive strategies on teaching practices and the educational experiences of ASD learners is generally positive. It leads to more personalized and inclusive education..." - IDI1*
>
> *" Since I implemented flexible learning activities and experiences for my learners, they were able to adapt easily to my activities. ….- IDI3*

Personalized and inclusive education strategies not only enhance academic achievement but also foster a sense of belonging and empowerment among students. By tailoring instruction to meet individual needs and promoting inclusivity, educators can create a supportive learning environment where all students can succeed.

Increased Engagement

Adaptive strategies can significantly increase student engagement by providing opportunities for active participation and personalization of learning experiences. When students feel connected to the material and see its relevance to their lives, they are more likely to be motivated and engaged in the learning process. Research by Fredricks, Blumenfeld, and Paris (2004) highlights the importance of engagement in academic achievement, stating that engaged students are more likely to persist in challenging tasks and demonstrate higher levels of learning. By incorporating adaptive techniques such as project-based learning, gamification, and peer collaboration, educators can create dynamic learning environments that capture students' interest and promote deep learning.

> *"… My ASD learners have learned by teaching them, but I am also learning from my ASD learners because I enhance and develop my teaching practices." - IDI2
*
>
> *" The learners were able to easily adapt to my activities, and it was easier for them to engage with my lessons and activities. They enjoyed my activities more."- IDI3*

Increased engagement through adaptive strategies leads to better academic outcomes and a more fulfilling learning experience for students. By incorporating methods that promote active participation and personalization, educators can cultivate a learning environment where students are motivated to explore, learn, and succeed.

Enhanced Communication

Adaptive strategies facilitate enhanced communication between students, educators, and other stakeholders, fostering collaboration, understanding, and support. Effective communication is essential for creating a positive learning environment where students feel heard, valued, and connected to their peers and teachers. Research by Vygotsky (1978) emphasizes the importance of social interaction in the learning process, stating that communication with others plays a central role in cognitive development. By implementing adaptive techniques such as peer feedback, collaborative learning tasks, and digital communication platforms, educators can promote meaningful interactions and facilitate the exchange of ideas and perspectives.

> *"Adaptive strategies have a transformative impact on my teaching practices and the educational experiences of ASD learners... fostering communication and social skills..." - IDI5*

Enhanced communication through adaptive strategies strengthens relationships, promotes collaboration, and fosters a supportive learning community. By facilitating meaningful interactions and providing platforms for dialogue, educators can create an inclusive and engaging learning environment where students feel connected and supported in their academic journey.

Increased engagement was also noted, indicating the effectiveness of adaptive strategies in capturing student interest and motivation, thereby enhancing overall learning outcomes. Furthermore, enhanced communication emerged as a key outcome, reflecting the improved ability of ASD learners to express themselves and interact with peers and educators effectively. These core ideas underscore the transformative potential of adaptive strategies in promoting student success and fostering a supportive and inclusive educational culture within SPED classrooms.

Challenges in Implementing Adaptive Strategies for ASD Learners

Despite the inherent benefits of adaptive strategies, educators encountered various challenges in their implementation for ASD learners.

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Variability in ASD

The variability in ASD emerged as a prominent core idea, highlighting the diverse range of abilities, behaviors, and needs among ASD students. This variability necessitates individualized approaches and flexible strategies tailored to meet each student's unique requirements. Variability in ASD refers to the wide range of characteristics and behaviors exhibited by individuals on the autism spectrum. This variability can manifest in various ways, including differences in communication skills, sensory sensitivities, and social interactions. Implementing adaptive strategies for ASD learners can be challenging due to this variability, as what works for one individual may not be effective for another. For example, a study by Bishop-Fitzpatrick et al. (2017) found that individuals with ASD exhibit diverse patterns of sensory sensitivities, with some being hypersensitive to certain stimuli while others are hyposensitive. This variability highlights the need for personalized approaches to intervention and support for ASD learners.

> *"Implementing adaptive strategies for students with autism spectrum disorder (ASD) poses challenges due to the disorder's diverse nature and individualized needs."-IDI1*
>
> *"So far, the challenges that I've encountered in implementing adaptive strategies have been individual variability..."-IDI5*

The variability in ASD presents a significant challenge in implementing adaptive strategies for learners on the spectrum. Personalized approaches that take into account individual differences are essential for addressing the diverse needs of ASD learners effectively.

Behavioral Challenges

Additionally, behavioral challenges were identified as a significant hurdle, indicating the complexities associated with managing and addressing behavioral issues effectively within SPED settings. Behavioral challenges are another significant obstacle in implementing adaptive strategies for ASD learners. These challenges can include difficulties with emotional regulation, repetitive behaviors, and meltdowns. For instance, a review by Mazurek (2015) identified that individuals with ASD often struggle with emotional dysregulation, which can lead to disruptive behaviors in various settings. Addressing these behavioral challenges requires a comprehensive understanding of the underlying factors contributing to them, such as sensory sensitivities or communication difficulties.

> *"Identifying and managing behavioral issues is crucial, involving understanding underlying causes and implementing appropriate strategies."-IDI1*
>
> *"So sometimes there would be changes of behaviors and patterns every day. Because sometimes that's also part of their behaviors."-IDI4*

Behavioral challenges pose a substantial barrier to implementing adaptive strategies for ASD learners. Strategies that target the underlying causes of these behaviors, such as sensory accommodations or communication supports, are essential for promoting positive outcomes for individuals on the autism spectrum.

These core ideas underscore the importance of understanding and navigating the challenges inherent in implementing adaptive strategies for ASD learners. In conclusion, the first set of results from the study sheds light on the multifaceted experiences of educators utilizing adaptive strategies to teach ASD learners within SPED classrooms. By delineating key themes and core ideas, the study underscores the crucial role of adaptive strategies in addressing the unique needs and challenges associated with ASD education. Despite encountering various challenges, educators emphasize the positive impacts of adaptive learning approaches on student engagement, socialization, and academic achievement. Moving forward, these insights can inform the development of more effective and inclusive educational practices aimed at enhancing the learning experiences and outcomes of ASD learners within SPED contexts.

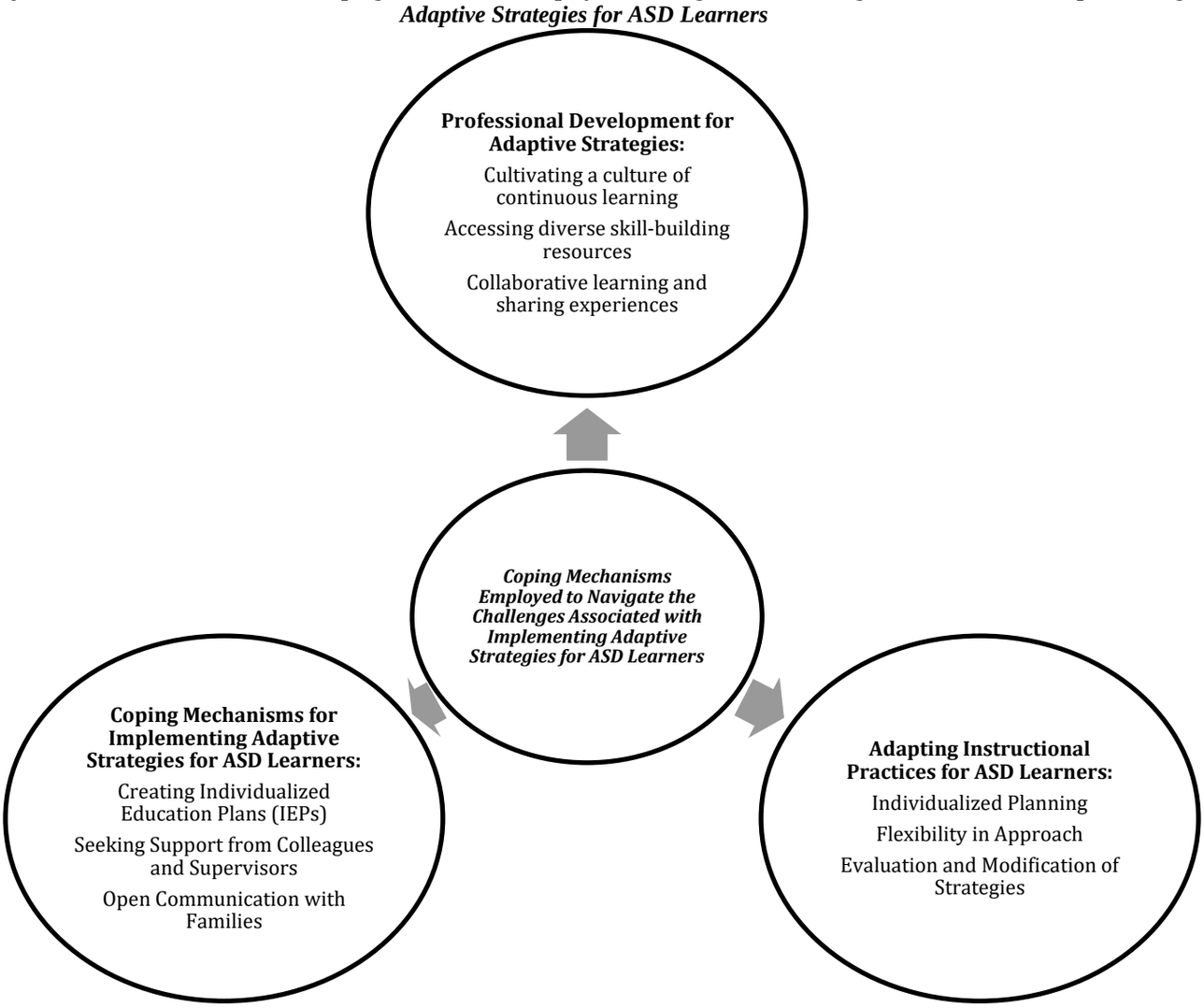
Coping Mechanisms Employed to Navigate the Challenges Associated with Implementing Adaptive Strategies for ASD Learners

The second set of results from the research on teachers utilizing adaptive strategies for ASD learners' sheds light on the multifaceted challenges inherent in special education contexts. ASD learners present unique needs that require tailored approaches to education, often demanding significant adjustments from teachers. Understanding how teachers cope with these challenges and navigate the complexities of implementing adaptive strategies is essential for enhancing educational outcomes for ASD learners. By exploring the coping mechanisms employed by teachers, researchers can uncover valuable insights into the support structures, strategies, and resources necessary for effective special education practices.

Figure 2 shows the coping mechanisms employed to navigate the challenges associated with implementing adaptive strategies for ASD learners.

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Fig. 2
Major Themes and Core Ideas on Coping Mechanisms Employed to Navigate the Challenges Associated with Implementing Adaptive Strategies for ASD Learners



Coping Mechanisms for Implementing Adaptive Strategies for ASD Learners

In this theme, teachers detail their coping mechanisms for implementing adaptive strategies tailored to ASD learners' needs. Creating Individualized Education Plans (IEPs) emerges as a crucial coping mechanism, emphasizing the importance of personalized educational approaches to address the diverse requirements of ASD learners. Seeking Support from Colleagues and Supervisors highlights the significance of collaborative efforts and professional networks in navigating the challenges associated with ASD education. Open Communication with Families underscores the essential role of parental involvement and partnership in supporting ASD learners' educational journey.

Creating Individualized Education Plans (IEPs)

It is crucial for implementing adaptive strategies for learners with Autism Spectrum Disorder (ASD). IEPs are personalized plans designed to meet the unique needs of each student with ASD, encompassing academic goals, behavioral interventions, and necessary support services (Zachor et al., 2020). These plans involve collaboration among educators, specialists, and parents to tailor educational experiences that address the specific strengths and challenges of the learner. Through the customization of learning objectives and instructional methods, IEPs provide a framework for accommodating diverse learning styles and fostering success for students with ASD within inclusive educational settings.

> *"... but effective coping mechanisms include creating Individualized Education Plans (IEPs) tailored to specific needs..." - IDI1*

The creation of Individualized Education Plans (IEPs) facilitates the implementation of adaptive strategies by providing a personalized roadmap for addressing the unique needs of learners with ASD. By fostering collaboration among educators, specialists, and families, IEPs promote inclusivity and enable tailored support to enhance the educational experiences and outcomes of students with ASD.

Seeking Support from Colleagues and Supervisors

Educators may encounter challenges in understanding and implementing appropriate interventions for students with ASD due to the complexity of the disorder and individual variations in presentation (Lang et al., 2019). Collaborating with colleagues who have expertise in special education or have experience working with ASD learners can provide valuable insights and resources to support effective teaching practices. Additionally, seeking guidance and support from supervisors or administrators can help ensure that educators have access to necessary training, resources, and accommodations to meet the diverse needs of students with ASD in educational settings.

> *"I prioritized self-care by setting boundaries, practicing mindfulness, and seeking support from colleagues and supervisors..." - IDI2*
> *"... I also seek help from my special ed instructional facilitator, my supervisor, and some of my colleagues." - IDI5*

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Seeking support from colleagues and supervisors is vital for the successful implementation of adaptive strategies for learners with ASD, as it facilitates access to expertise, resources, and guidance necessary for effectively addressing the unique needs of these students. Collaboration and guidance from experienced professionals enhance educators' ability to provide inclusive and supportive learning environments that promote the academic and social-emotional development of students with ASD.

Open Communication with Families

Parents and caregivers play a crucial role in advocating for their child's needs and providing valuable insights into their strengths, challenges, and preferences (Nolan et al., 2021). By fostering open communication and collaboration between educators and families, schools can ensure that instructional approaches and support services align with the individualized needs and goals of the learner. Additionally, involving families in the development and implementation of intervention plans promotes consistency between home and school environments, enhancing the effectiveness of strategies aimed at supporting the academic and social-emotional growth of students with ASD.

> *"...develop the habit of open communication with the family of my learners to understand their needs and preferences." - IDI5*

Open communication with families is essential for the successful implementation of adaptive strategies for learners with ASD, as it promotes collaboration, consistency, and alignment between home and school environments. By valuing and incorporating the perspectives and insights of parents and caregivers, educators can create supportive partnerships that optimize the educational experiences and outcomes of students with ASD.

Professional Development for Adaptive Strategies

This theme delves into the professional development strategies employed by teachers to enhance their capacity in implementing adaptive strategies for ASD learners. Cultivating a culture of continuous learning emphasizes the importance of fostering an environment that encourages ongoing professional growth and learning opportunities. Accessing diverse skill-building resources underscores the necessity of leveraging various educational resources and training programs to acquire the knowledge and skills required for effective ASD education. Collaborative learning and sharing experiences highlight the benefits of peer collaboration and knowledge exchange in enhancing teachers' proficiency in implementing adaptive strategies for ASD learners.

Cultivating a Culture of Continuous Learning

Establishing a workplace culture that prioritizes continuous learning is paramount for professional development. This involves encouraging employees to actively seek out learning opportunities, whether through formal training programs, workshops, or self-directed learning. According to a study by Bersin & Associates, organizations that promote a culture of learning are 46% more likely to be the leader in their industry. This culture fosters adaptability, innovation, and resilience among employees, enabling them to stay abreast of industry trends and acquire new skills to navigate evolving challenges. Through regular feedback mechanisms and recognition of learning achievements, employees feel motivated to engage in lifelong learning, contributing to their personal growth and organizational success.

> *"To effectively implement adaptive strategies, organizations should cultivate a culture that values innovation and continuous learning..." - IDI1*

Cultivating a culture of continuous learning is indispensable for professional development. By prioritizing learning, organizations empower employees to adapt to change, innovate, and contribute to organizational success.

Accessing Diverse Skill-Building Resources

Access to diverse skill-building resources is essential for professionals to adapt to changing demands in the workplace. This encompasses a wide range of resources, including online courses, mentorship programs, industry conferences, and networking opportunities. Research by LinkedIn Learning indicates that employees who have access to a variety of learning resources are 47% more likely to be motivated to learn and grow professionally. By providing employees with access to diverse skill-building resources, organizations not only invest in their development but also foster a culture of inclusivity and equity, enabling individuals from diverse backgrounds to thrive and contribute meaningfully to the workforce.

> *"I also attend workshops, conferences or training sessions focused on evidence-based practices and strategies for supporting the diverse needs of ASD learners..." - IDI5*

Access to diverse skill-building resources is crucial for fostering inclusive professional development. By offering a range of learning opportunities, organizations empower employees to acquire new skills and stay relevant in an ever-changing landscape.

Collaborative Learning and Sharing Experiences

Collaborative learning and sharing experiences are effective strategies for professional development as they facilitate knowledge exchange and collective problem-solving. This approach encourages employees to learn from one another's experiences, perspectives, and expertise, fostering a culture of collaboration and teamwork. A study published in the Journal of Workplace Learning found that collaborative learning enhances employee engagement, improves retention of information, and promotes a sense of community within the organization. By creating platforms for collaborative learning, such as peer mentoring programs, cross-functional projects, and knowledge-sharing sessions, organizations harness the collective intelligence of their workforce, driving innovation and fostering a culture of continuous improvement.

> *"... but we do have, like, seminars that we can actually do as a group or as a school or as a district..." - IDI4*

Collaborative learning and sharing experiences are powerful drivers of professional development. By leveraging the collective knowledge of employees, organizations foster a culture of collaboration and innovation, enabling individuals to learn from one another and drive organizational success.

Adapting Instructional Practices for ASD Learners

Teachers discuss strategies for adapting instructional practices to meet the diverse needs of ASD learners in this theme. Individualized Planning underscores the significance of developing tailored instructional plans that accommodate the unique strengths and challenges of each ASD learner. Flexibility in Approach highlights the importance of being adaptable and responsive to the evolving needs and preferences of ASD learners throughout the educational process. Evaluation and Modification of Strategies emphasize the iterative nature of instructional design, emphasizing the importance of regularly assessing and refining adaptive strategies to optimize learning outcomes for ASD learners.

Individualized Planning

By tailoring teaching methods and materials to meet the specific needs and abilities of each student, educators can maximize learning outcomes. According to Howlin (2012), individualized planning allows educators to address the unique strengths and challenges of ASD learners, promoting engagement and skill development. This involves conducting thorough assessments to

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identify each student's preferences, learning styles, and areas of difficulty, which serves as the foundation for creating personalized learning goals and strategies.

> *"Gathering information from various sources, including parents and professionals, is essential to understand each learner's strengths, weaknesses, preferences, and sensitivities." - IDI1*
>
> *"... we as teachers should do - to collect data from the learners so we can understand their backgrounds, what they don't like, what's forbidden for them, what triggers their tantrums, and so on."- IDI3*

In conclusion, individualized planning is a cornerstone of effective instruction for ASD learners. By customizing teaching approaches and materials to meet the diverse needs of students on the spectrum, educators can create a supportive learning environment where each individual can thrive. This personalized approach maximizes engagement and facilitates skill acquisition, ultimately enhancing educational outcomes for ASD learners.

Flexibility in Approach

Given the heterogeneity of characteristics and needs within the ASD population, a one-size-fits-all approach is ineffective. Flexibility allows educators to adapt teaching methods in real-time based on students' responses, interests, and levels of comprehension. As noted by Koegel and Koegel (2006), flexibility enables educators to modify their instructional strategies to accommodate the unique learning styles and sensory preferences of ASD learners, fostering greater participation and learning success.

> *"The approach should be flexible because they have diverse needs." - IDI2*
>
> *"The important thing here is to be clear in giving instruction and should be flexible and be creative in teaching style." - IDI2*

In conclusion, flexibility in approach is paramount for effectively supporting ASD learners in educational settings. By being responsive to students' individual needs and adjusting teaching methods accordingly, educators can create an inclusive learning environment where all students can access and engage with the curriculum. This adaptability promotes student success and fosters a positive learning experience for ASD learners.

Evaluation and Modification of Strategies

It's essential for educators to regularly assess the effectiveness of their teaching strategies and make adjustments as needed to meet the evolving needs of students. According to Simpson (2005), ongoing evaluation allows educators to identify which strategies are most effective in promoting learning and which may require modification or replacement. By collecting data on student progress and feedback, educators can make informed decisions about the appropriateness and effectiveness of their instructional practices.

> *"So, you also need to evaluate the activity so that next time, you can adapt, change, or frame it according to their actual needs."- IDI3*
>
> *"So there would be a lot of avenue that you have to modify it so that you could also access their interests and thing ...." - IDI4*

The process of evaluating and modifying instructional strategies is integral to supporting the diverse needs of ASD learners. By continually assessing the impact of their teaching methods and making adjustments based on student feedback and progress, educators can optimize learning outcomes for students on the spectrum. This iterative approach ensures that instructional practices remain responsive to the unique needs and abilities of ASD learners, ultimately enhancing their educational experiences.

In general, the second set of results from our research highlights the diverse coping mechanisms employed by teachers to navigate the challenges associated with implementing adaptive strategies for ASD learners within the SPED context. These coping mechanisms encompass various aspects of professional practice, including individualized planning, self-awareness, continuous learning, and flexibility in approach, underscoring the complex and multifaceted nature of supporting students with ASD in educational settings.

Insights Regarding the Effectiveness and Appropriateness of Adaptive Strategies in Meeting the Unique Needs of ASD Learners within the SPED Context

In exploring the lived experiences of teachers utilizing adaptive strategies within Special Education (SPED) contexts for learners with Autism Spectrum Disorder (ASD), the third set of results delves into the effectiveness and appropriateness of these strategies. Given the diverse and unique needs of ASD learners, understanding how adaptive strategies are implemented and their impact is crucial for improving educational outcomes and fostering inclusive environments. This set of results focuses on key themes and core ideas that emerged from qualitative inquiries, providing insights into the nuances of adaptation within SPED settings.

Figure 3 shows the insights regarding the effectiveness and appropriateness of adaptive strategies in meeting the unique needs of ASD learners within the SPED context.

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Fig. 3

Major Themes and Core Ideas on the Insights Regarding the Effectiveness and Appropriateness of Adaptive Strategies in Meeting the Unique Needs of ASD Learners within the SPED Context



Alignment between Adaptive Strategies and Individualized Needs

This theme underscores the importance of alignment between adaptive strategies and the unique needs of ASD learners. Flexibility and customization are crucial to adapting teaching methods and interventions to meet the ever-changing needs of learners on the spectrum. Targeted interventions address specific areas of difficulty, allowing for focused support and progress monitoring. Collaboration and integration of sensorial activities facilitate holistic learning experiences, tapping into various modalities to enhance engagement and comprehension.

Flexibility and Customization

Flexibility and customization in educational strategies refer to the ability to adapt teaching methods, materials, and activities to meet the diverse needs of individual students. This approach recognizes that learners have unique strengths, preferences, and learning styles that may require different approaches to instruction (Hummel & Huitt, 2011). By offering a variety of instructional options and allowing for flexibility in pacing, content delivery, and assessment methods, educators can better address the specific needs of each student (Tomlinson, 2001). For example, a student with dyslexia may benefit from audio recordings of texts or alternative forms of assessment that emphasize verbal expression rather than written responses. By incorporating flexibility and customization into teaching practices, educators can create a more inclusive learning environment where all students have the opportunity to succeed.

> *"As a SPED teacher you should see your own way or customize your own ways or approach to meet the needs or tasks that the child will be able to do. Customize yourself. See your own way to meet the needs of the child." - IDI2*

Flexibility and customization in educational strategies are essential for aligning adaptive strategies with individualized needs. By recognizing and accommodating the diverse needs of learners, educators can create a more inclusive and effective learning environment that promotes student success.

Targeted Intervention

Targeted intervention involves the systematic identification and addressing of specific learning needs or challenges faced by individual students. This approach requires ongoing assessment and monitoring to identify areas where students may require additional support, followed by the implementation of targeted interventions designed to address those needs (Gersten et al., 2009). For example, a student struggling with math concepts may benefit from small-group instruction, one-on-one tutoring, or specialized intervention programs aimed at improving mathematical skills. By providing targeted intervention, educators can help students overcome obstacles to learning and make progress towards their academic goals.

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"Since I adapted my strategy, we still achieve the competency we aim for or our goal within a certain time frame."- IDI3

Targeted intervention plays a crucial role in aligning adaptive strategies with individualized needs by providing personalized support and assistance to students who require additional help in specific areas. By addressing learning needs proactively and systematically, educators can help students overcome challenges and achieve success in their academic pursuits.

Collaboration and Integration of Sensorial Activities

Collaboration and the integration of sensorial activities involve creating opportunities for students to engage with learning material through multiple senses and modalities, such as sight, sound, touch, and movement. This approach recognizes the importance of multisensory learning experiences in promoting deeper understanding and retention of information (Dunn & Dunn, 1993). By incorporating sensorial activities into instruction and fostering collaboration among students, educators can accommodate diverse learning styles and preferences while promoting active engagement and participation in the learning process. For example, a science lesson on plant anatomy might involve hands-on activities like dissecting flowers, observing plant growth, and conducting experiments to explore different sensory aspects of plant life.

"It makes teachers creative in planning and preparing our lesson because it helps us to integrate different sensorial activities to the lesson and to the activities that we will implement." - IDI3

"They must join together and you also have to know more about this." - IDI4

Collaboration and the integration of sensorial activities are effective strategies for aligning adaptive approaches with individualized needs by providing diverse learning experiences that cater to students' sensory preferences and strengths. By offering opportunities for hands-on exploration and collaboration, educators can create a dynamic learning environment where all students can thrive and succeed.

Enhancing Implementation of Adaptive Strategies

For adaptive strategies to be effective, they must be implemented with precision and support. Training for teachers is essential, equipping them with the knowledge and skills necessary to effectively implement adaptive strategies and support ASD learners. Access to resources and facilities ensures that educators have the tools and environments conducive to implementing these strategies successfully. Collaboration and communication among stakeholders foster a supportive ecosystem wherein the needs of ASD learners are prioritized and addressed comprehensively.

Training for Teachers

Through training, teachers can gain the necessary skills and knowledge to effectively implement adaptive strategies tailored to the diverse needs of students. Research by Hattie (2012) highlights the significance of teacher professional development in improving student outcomes, indicating that well-designed training programs can have a substantial impact on student achievement.

"So, first is training for teachers. So, that's what I would recommend initially, to train the teachers in selecting adaptive strategies that will be helpful or suitable for their learners."- IDI3

"Ongoing professional development for SPED teachers, differentiated instruction to accommodate varied learning styles is very essential." - IDI1

Additionally, training can help teachers stay updated on the latest educational research and best practices, enabling them to adapt their instructional approaches accordingly. By investing in comprehensive training initiatives, educational institutions can empower teachers to successfully implement adaptive strategies in their classrooms, ultimately fostering a more inclusive and effective learning environment.

Access to Resources and Facilities

Adequate resources, such as assistive technologies, instructional materials, and specialized equipment, are essential for accommodating diverse learning needs and ensuring equitable access to education. Moreover, accessible facilities, including classrooms, libraries, and laboratories, are necessary to create an inclusive learning environment where all students can thrive. Research by Black-Hawkins et al. (2007) underscores the importance of resource provision in supporting inclusive education, emphasizing that insufficient resources can impede the effective implementation of adaptive strategies.

"The SPED classroom should be visible, it will be easy for you to access if you help your child." - IDI2

"And even having such good and even conducive and friendly environment. As much as you can, make your room appropriate for learning for them." - IDI4

Therefore, ensuring sufficient resources and facilities is paramount for successfully integrating adaptive strategies into educational practices.

Collaboration and Communication among Stakeholders

Collaborative efforts involving teachers, administrators, parents, and community members can facilitate the sharing of knowledge, expertise, and resources, leading to more comprehensive support for diverse learners. Effective communication channels, such as regular meetings, workshops, and digital platforms, enable stakeholders to exchange ideas, coordinate efforts, and address challenges collaboratively. Research by Farrell and Ainscow (2002) highlights the importance of collaborative approaches in promoting inclusive education, suggesting that collaboration fosters a sense of shared responsibility and collective ownership of educational goals.

"Collaboration and teamwork among educators, therapists, and students, and other professionals involved in supporting ASD learners and open communication with parents." - IDI5

"Insights from parents or other professionals. This is what we call IEP – Individualized Educational Plan." - IDI2

Thus, fostering collaboration and communication among stakeholders is essential for creating an inclusive educational ecosystem that effectively supports the implementation of adaptive strategies.

In conclusion, training for teachers, access to resources and facilities, and collaboration and communication are integral components for enhancing the implementation of adaptive strategies in education. By investing in teacher professional development, providing adequate resources and facilities, and fostering collaboration among stakeholders, educational institutions can create an inclusive learning environment where all students have the opportunity to succeed. These efforts are essential for promoting educational equity and ensuring that every learner receives the support they need to reach their full potential.

Advancement of Adaptive Strategies for ASD Learners

Continuous improvement and innovation are central to advancing adaptive strategies for ASD learners. Leveraging technology allows for personalized learning experiences tailored to the unique needs and preferences of each learner. Professional development opportunities empower educators to stay abreast of best practices and emerging trends in ASD education. Research and collaboration drive innovation, facilitating the development

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of evidence-based practices and fostering a community of practice dedicated to enhancing outcomes for ASD learners.

Leveraging Technology for Personalized Learning

The advancement of technology offers promising avenues for personalized learning experiences tailored to the unique needs of learners with Autism Spectrum Disorder (ASD). Tools such as educational apps, virtual reality simulations, and adaptive learning software can be customized to accommodate various learning styles and preferences. For instance, interactive applications can provide visual supports, repetition, and immediate feedback, which are beneficial for individuals with ASD who often excel in visual learning environments (Grynszpan et al., 2014). Moreover, the use of assistive technology devices, such as communication apps and devices with picture exchange systems, can enhance communication skills and social interactions among ASD learners (Ramdoss et al., 2012).

> *"... for Autism Spectrum Disorder (ASD) education involves leveraging personalized learning technologies such as adaptive platforms and virtual reality." - IDI1*
> *"A future where adaptive strategies are even more effective, inclusive, empowering, and supporting Eastern learners." - IDI2*

Leveraging technology for personalized learning holds immense potential in catering to the diverse learning needs of individuals with ASD. By providing tailored experiences and incorporating assistive tools, technology can empower ASD learners to thrive academically and socially.

Professional Development for Educators

Investing in professional development programs for educators is essential for enhancing their capacity to support ASD learners effectively. Teachers equipped with specialized knowledge and skills are better equipped to create inclusive and supportive learning environments that accommodate the diverse needs of students with ASD. Professional development initiatives can cover topics such as understanding ASD characteristics, implementing evidence-based instructional strategies, and fostering positive behavior support techniques (National Professional Development Center on Autism Spectrum Disorder, 2020). Moreover, ongoing training and coaching can help educators stay abreast of the latest research findings and best practices in the field of autism education.

> *"Professional development for educators, and community involvement contribute to a cohesive and supportive learning experience." - IDI1*
> *"So, with that, mas dali sa part sa teachers na mo create ug plan. Kay naa na man mga strategies na pilian niya, diba?" - IDI3*

Professional development programs play a crucial role in equipping educators with the knowledge and skills necessary to effectively support ASD learners. By investing in ongoing training and resources, educational institutions can foster inclusive learning environments where all students, including those with ASD, can thrive.

Research and Collaboration

Advancing adaptive strategies for ASD learners requires a concerted effort in research and collaboration among educators, researchers, clinicians, and stakeholders. Rigorous scientific inquiry into the efficacy of interventions and instructional approaches is essential for identifying evidence-based practices and refining existing methodologies to better serve ASD learners (National Research Council, 2001). Collaborative efforts involving interdisciplinary teams can facilitate the development of comprehensive intervention programs that address the multifaceted needs of individuals with ASD across various settings. Additionally, partnerships between researchers and educators can bridge the gap between theory and practice, ensuring that interventions are practical, feasible, and sustainable in real-world educational settings.

> *"... for advancing ASD learners' educational journey through collaborative efforts across educators, developers, researchers, and communities." - IDI1*
> *"...having such great research would actually help us teachers to really know what are the things that we can actually do." - IDI4*

Research and collaboration are paramount in advancing adaptive strategies for ASD learners. By fostering partnerships and conducting rigorous research, stakeholders can develop and implement interventions that are tailored to the unique needs of individuals with ASD, ultimately promoting their academic and social success.

In summary, this reveals crucial insights into three major themes: alignment between adaptive strategies and individual needs through flexibility, targeted interventions, and collaboration; enhancements in implementation via teacher training, resource access, and stakeholder communication; and the advancement of adaptive strategies through technology, professional development, and research collaboration. These findings emphasize the importance of tailored, flexible, and collaborative approaches in supporting ASD learners within SPED, aiming for continuous improvement and personalized support.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The culmination of findings from the qualitative inquiry into the lived experiences of teachers utilizing adaptive strategies for learners with Autism Spectrum Disorder (ASD) within Special Education (SPED) classrooms unveils essential themes and core ideas. These results shed light on the significance of personalized, structured, and inclusive approaches to education. The first set of results illuminates the utilization of adaptive strategies such as visual supports and structured environments, resonating with research highlighting the efficacy of visual schedules and personalized interventions in enhancing understanding and communication among ASD learners. Challenges in implementation, including the variability in ASD presentations and behavioral challenges, underscore the necessity for individualized approaches, aligning with research emphasizing tailored accommodations for improved outcomes. Moreover, the positive impact of adaptive learning on personalized experiences, transitioning to mainstream classrooms, and enhanced engagement and social skills underscores the transformative potential of tailored interventions. Coping mechanisms, strategies for managing emotional and cognitive demands, professional development, and adapting instructional practices emerge as crucial aspects in effectively supporting ASD learners, emphasizing the importance of ongoing training, collaboration, and flexibility in addressing diverse needs. Insights into the effectiveness and appropriateness of adaptive strategies further reinforce the need for personalized, flexible, and collaborative approaches informed by continuous research and professional development efforts. Overall, these findings underscore the dynamic and multifaceted nature of supporting ASD learners within the SPED context, emphasizing the pivotal role of adaptive strategies in fostering inclusive and empowering educational experiences.

Recommendations

Based on the insights gleaned from the qualitative inquiry into the lived experiences of teachers utilizing adaptive strategies for learners with Autism Spectrum Disorder (ASD) within Special Education (SPED) classrooms, several recommendations can be proposed. Firstly, educators should prioritize the implementation

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of personalized and structured approaches, including visual supports and individualized accommodations, to cater to the diverse needs of ASD learners. Secondly, continuous professional development opportunities should be provided to equip educators with the necessary skills and strategies for effectively supporting ASD learners, emphasizing self-awareness, collaboration, and flexibility. Thirdly, there should be a concerted effort to enhance communication and collaboration among educational professionals, families, and support networks to foster a holistic support system for ASD learners. Additionally, leveraging technology and research collaborations can advance the development and refinement of adaptive strategies to ensure ongoing improvements in educational outcomes for ASD learners. Overall, these recommendations underscore the importance of a collaborative, inclusive, and evidence-based approach to effectively support ASD learners within the SPED context.

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EFFICACY OF DRY NEEDLING IN POST TOTAL KNEE REPLACEMENT SURGERY WITH ARTHROFIBROSIS- CASE REPORT

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ABSTRACT

Background*: TKR is a surgical technique where a synthetic or artificial joint replaces an inoperative knee joint. The main manifestations of TKR are discomfort and functional constraints. For individuals to be evaluated a candidate for TKR, their everyday activities tend to be significantly impacted by pain and functional limitations .An excessive immune reaction to a pro-inflammatory stimulus causes arthrofibrosis (AF), which is characterised by pathological periarticular fibrosis and ensuing symptoms including reduced joint range of motion. A rare, localised, and irreversible delayed impact of surgery that has been reported in a variety of tissues and organs is called postoperative fibrosis (POF). In this study we use dry needling as an approach towards arthrofibrosis which develop after total knee arthroplasty.*

Case presentation*: We presented the case of 69 year old female patient who had total knee arthroplasty and has fibrosis. Physiotherapy procedure was commenced along with dry needling.*

Conclusion*: As a result the physiotherapy with dry needling aided patient in his recovery.*

KEY WORDS: *Total Knee Replacement, Arthrofibrosis, Dry Needling, Physical Therapy, Case Report*

INTRODUCTION

TKR is a surgical method where a damaged knee joint gets substituted with a prosthetic or artificial joint. Pain is the main indication of TKR, followed by functional impairment(1). Usually, a person's everyday activities must be considerably affected by pain and functional restrictions for him or her to be deemed a candidate for TKR. (TKR) By 2040, 78.4 million persons are expected to be affected by arthritis, with a lifetime prevalence of symptomatic knee arthritis anticipated at 44.7%(2). Fast-track physical therapy-based total joint replacement programmes show promise in enhancing both the immediate and long-term rehabilitation following surgery. Patients enrolled in these fast-track programmes for total knee replacement (TKR) and total hip replacement (THR) exhibit higher levels of short-term functionality(3).An excessive immune reaction to a pro-inflammatory stimulus causes arthrofibrosis (AF), which is characterised by pathological periarticular fibrosis and ensuing symptoms including reduced joint range of motion. The hallmark of AF is capsular constriction due to abnormal extracellular matrix deposition, which can result from hemarthrosis, postinfectious arthritis, surgical insult, or periarticular trauma. Primary AF seldom happens, but when it does, it usually has an unknown cause(4). People of various ages are affected by arthrofibrosis, with differing reported rates. Due to a lack of diagnostic biomarkers and a limited understanding of the pathophysiology, the risk factors and optimal therapy techniques remain mainly unclear(5).

CASE PRESENTATION

A 69 year old female who is house wife complains of bilateral knee pain (L>R) which is insidious in onset and gradually progressive with symptoms like swelling, crepitus and medial joint line tenderness. Because of the pain her daily activity was hampered. She visited to hospital and was diagnosed with grade IV osteoarthritis of knee, due to which she undergone into a total knee replacement surgery, pre and post X-ray is shown in Fig1. Secondary to surgery she develops arthrofibrosis. Due to development of arthrofibrosis there was swelling and grade 2 tenderness on lateral aspect of knee and stiffness. Her manual muscle testing (MMT) and range of motion (ROM) seemed restricted. Robotics approach was used for her surgery and the implant which is been used was stryker. Since it was a comfortable position, she was laid out supine on the bed.

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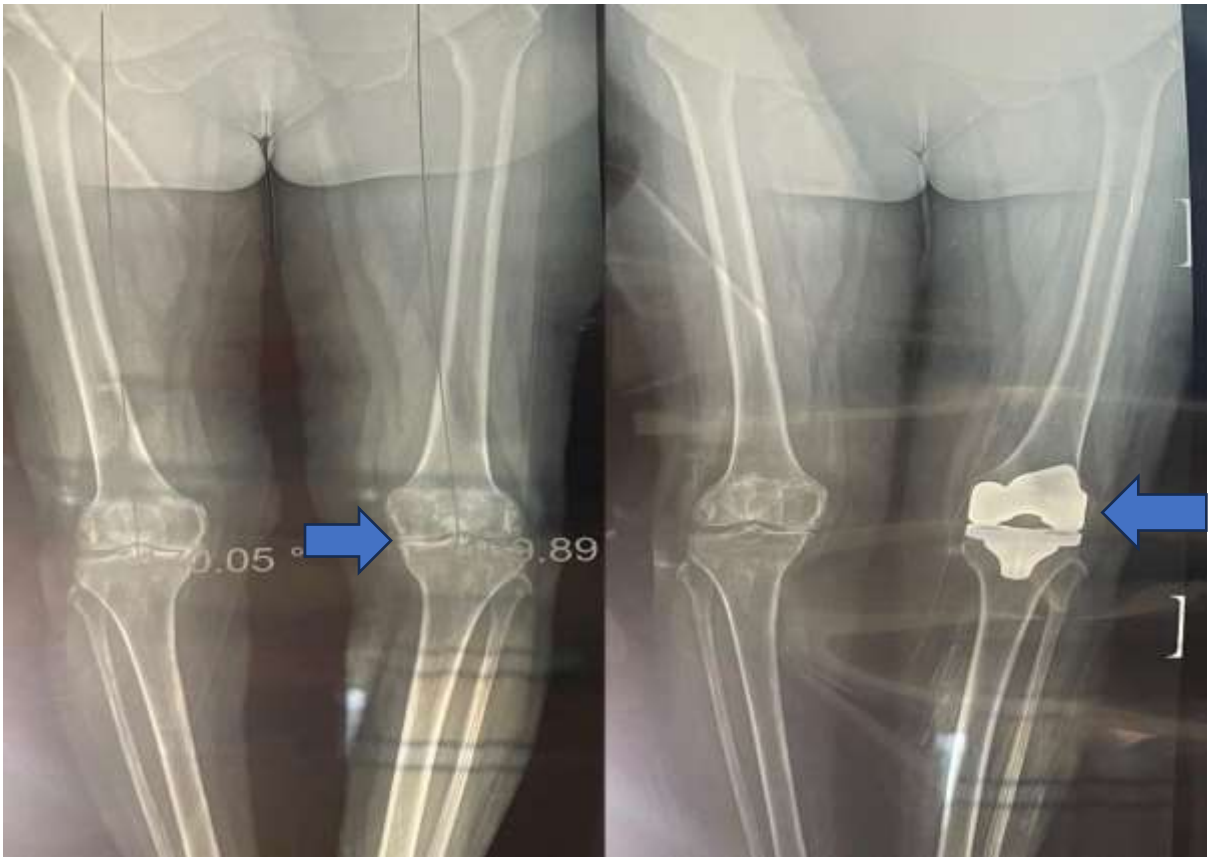


FIGURE 1: Pre and Post X-ray

PHYSIOTHERAPY INTERVENTION

Physical therapy was administered to the patient with the aim of boosting and recuperating the strength of their hip and knee motions, as well as restoring the range of motion in those joints(6).

PHASE 1 (Day 0- Hospital discharge)	PHASE 2 (Hospital discharge – 6 weeks)	PHASE 3 (6 weeks- 12 weeks)	PHASE 4 (12 weeks & beyond)
Full Active movements to ankle and gentle movements of hip and knee. Passive heel slides and ATMs.	All phase 1 exercises, with modification for e.g. – heel slides with towel.	Continuing joint mobilization, quads table with resisted exercises.	Full range of motion exercises to ankle, hip and knee, stretching of quads, hamstrings and calf muscles.
Isometric exercises to quadriceps, gluteus and hamstrings muscles.	Prone knee flexion exercises, stationary bicycle and joint mobilizations.	Increase resistance using weight cuff for strengthening exercises.	Continue walking and bicycling. Dry needling for 10mins, 2 times a week.
Gentle hip abduction and adduction and SLR.	Stretching of hamstrings and gastrosoleus muscles, SLR is done without lag resistance exercises.	Eccentric control of quadriceps with closed chain exercises.	Proprioceptive exercises : Continuing all phase 3 exercises , increasing difficulty as tolerated. Endurance programme for 30-45mins, 3 times a week
Bed mobility and transfer techniques is taught, use of CPM for 20-30 degree of knee flexion.	Hip abduction, adduction and extension against gravity. Closed chain exercises including terminal knee exercises.	Balance and agility exercises is initiated.	
Non-weight bearing with support of walker.	Full weight bearing with gait training.	full weight bearing while requiring a walker for support.	Full weight bearing without support.

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During the phase 4 of the physiotherapy protocol the dry needling practice was use, needle was prick in the knee shown in fig 2. As patient develop arthrofibrosis the dry needling shows the immense effect on the condition. Many articles suggested that dry needling was effective in post TKA, but in this study dry needling shows the satisfactory results towards arthrofibrosis which develop after TKA.



Figure 2: Dry Needling Practice

FOLLOW UP AND OUTCOME

Following appropriate rehabilitation, the individual's range of motion (ROM), both passive and active, had increased by the time of discharge. Results from manual muscle testing (MMT) both before and after exhibited an improvement in muscle strength[6].

JOINT		AROM	PROM	
HIP	BASELINE	DISCHARGE	BASELINE	DISCHARGE
FLEXION	20^0	110^0	25^0	115^0
EXTENSION	15^0	25^0	20^0	30^0
ABDUCTION	30^0	40^0	35^0	45^0
ADDUCTION	30^0	40^0	35^0	45^0
KNEE				
FLEXION	20^0	110^0	25^0	115^0

MUSCLE STRENGTH

PRE- TREATMENT	POST -TREATMENT
1	+3

DISCUSSION

One very incapacitating consequence of total knee arthroplasty (TKA) is arthrofibrosis. It is a standard cause of TKA failure and one of the main reasons for hospital readmission. Being conscious of this, physical therapy's objective in post TKA with arthrofibrosis is to restore the range of motion, muscle strength and reduce stiffness and pain. Dry needling combine with physical therapy shows the significant improvement in arthrofibrosis. More research and Subsequent randomised clinical trials ought to delve more into the efficacy of this strategy in comparable circumstances[7].

The author Kate G Hendreson ,et.al in there systemic review and meta analysis shows the effectiveness of physiotherapy after TKA. The author in there study stated that physiotherapy regime shorten the hospital stay of patient and pain, activity and range of motion is also increased by physiotherapy and hydrotherapy respectively[8].

Michelle R .Rauzi, et.al in there study author shows the effectiveness of physical therapy in arthrofibrosis after TKA, the author concluded that Seventy percent of patients refuse to be operated on while sedated, the implementation of the multimodal physical therapy programme is possible for treating early-stage arthrofibrosis following total knee arthroplasty. Physiotherapy helped patient gaining confident after arthrofibrosis after TKA[9].

Rodrigo Nunez Cortes, et.al in there study author discussed about the effectiveness of dry needling combine with the physical therapy. Author states that Patients with post-TKA chronic pain had statistically significant improvements in pain, function, range of motion, and myofascial trigger points following the use of dry needling in conjunction with therapeutic activities[10].

CONCLUSION

Together, dry needling and physiotherapy sessions have significantly improved the patient's condition after TKA, but dry needling shows the significance effect in arthrofibrosis by reducing the symptoms. At the conclusion of the session, muscle strength, range of motion were increased , stiffness and pain was reduced after the session. The efficacy of this technique in comparable circumstances ought to be further explored in future randomised clinical trials.

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LEARNING MOTIVATION AND LEARNING ENVIRONMENT ON MATHEMATICS LEARNING ACHIEVEMENT OF FIFTH GRADE ELEMENTARY SCHOOL STUDENTS

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ABSTRAK

The purposes of this research are: (1) the influence of learning motivation on mathematics learning achievement of fifth grade students of Advent 1 Tikala Manado Elementary School. (2) the influence of learning environment on mathematics learning achievement of fifth grade students of Advent 1 Tikala Manado Elementary School. (3) the influence of learning motivation and learning environment on the mathematics learning achievement of fifth grade students of Advent 1 Tikala Manado Elementary School. This type of research is causal associative research with survey research method. The population in this research were fifth grade students of Advent 1 Tikala Manado Elementary School, totaling 42 students. The sampling technique is the total sampling technique, because the population is less than 100 people so that the entire population is sampled. Methods in data collection (1) using a questionnaire. (2) using the value of the results of the midterm exam in mathematics. Data analysis techniques used are descriptive statistics, normality test, linearity test, hypothesis testing (partial test or t test and simultaneous test or F test). The research findings show that 1) There is a positive influence of Learning Motivation on Mathematics Learning Achievement, 2) There is a positive influence of Learning Environment on Mathematics Learning Achievement. 3) There is an influence of Learning Motivation and Learning Environment together on Mathematics Learning Achievement of fifth grade students of Advent 1 Tikala Manado Elementary School.

KEYWORDS : *Learning Motivation, Learning Environment, Mathematics Learning Outcomes*

A. INTRODUCTION

Each education provider in general has made efforts to improve student achievement. Many efforts have been made by schools to improve mathematics learning achievement including running additional hours or tutoring programs, and problem solving. However, the achievement of the results of each of these efforts from one school to another tends to differ due to various factors. Efforts to improve the quality of education can use the assessment of student learning achievement as a direct indicator of the quality of education. The quality of education will be higher as student learning achievement increases. Advent 1 Tikala Manado Elementary School as an institution that organizes learning activities always tries to realize high quality education. The school's high commitment to improving learning achievement is realized in various academic and non-academic activities.

Based on observations that have been made, in the fifth grade students of Advent 1 Tikala Elementary School, Manado City, there are 42 students but students who have reached the KKM (Minimum Completeness Criteria) score of less than 20% of students who have not been completed in achieving Mathematics Learning Achievement, for the KKM value applied for mathematics subjects is to reach a score of 70. This can interfere with and hinder students in their efforts to achieve mathematics learning achievement as expected..

There are several factors of mathematics learning achievement (Goni et al., 2020). Besides that there are also factors that cause problems, one of which is learning mathematics is a scourge for students (Lumintang et al., 2023) and has implications for not optimizing student learning motivation. Motivation is one of the factors that determine the success of children in learning (Gara et al., 2022). In general, learning motivation that is not optimal often occurs in students. Students sometimes forget or even do not understand the purpose of learning at all, so their learning motivation is not optimal. Based on the facts in the field at Advent 1 Tikala Elementary School, Manado City, the learning motivation of fifth grade elementary school students who are not optimal is shown by the presence of students who are busy by themselves during lessons, secretly using cellphones, late entering class, paying less attention to teacher explanations, lack of response to material, and sleeping in class. It is suspected that this shows that low student learning motivation is one of the factors that affect math learning achievement. Low learning motivation is one of the factors that make students not achieve maximum math learning achievement.

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Another factor that affects math learning achievement is the learning environment. According to (A. Rohman, 2011), the learning environment is everything that surrounds students when doing learning activities. Learning Environment factors come from the non-social environment and the social environment. The non-social environment is a physical factor which includes a place to study, the location of the school, learning tools, learning resources, school building conditions, classrooms, cleanliness of the school environment and learning support facilities, while social factors include the family environment, the student's social environment at home, and the school's social environment. Based on the facts in the field, it shows that a conducive learning environment creates a comfortable atmosphere for learning. Supportive learning environment conditions such as the availability of physical learning facilities, a comfortable place to study, a calm atmosphere, harmonious relationships with the social environment can provide encouragement to students to study mathematics so that students' mathematics learning achievement increases. Conversely, if the conditions of the learning environment are less supportive, it will reduce students' enthusiasm for learning so that students' math learning achievement will decrease.

B. METHOD

This research uses a quantitative approach with a survey research method. The survey research method is an information collection technique carried out by compiling a list of questions submitted to respondents. In this research, researchers examined the characteristics or causal relationships between all variables, without the intervention of researchers (Lestari & Yudhanegara, 2018). Causal relationship is a relationship that is cause-and-effect, one variable (independent) affects another variable (dependent) (Sugiyono, 2015). This causal associative by researchers is used to determine whether there is an influence of learning motivation and learning environment on the mathematics learning achievement of fifth grade students of Advent 1 Tikala Manado Elementary School. The population in this research were all fifth grade students of Advent 1 Tikala Manado Elementary School, totaling 42 students. The sampling technique used population samples where the number of samples is the same as the population because the population is less than 100 the entire population is used as a research sample (Sugiyono, 2015). So the sample in this research was a large number of the population of fifth grade students of Advent 1 Tikala Manado Elementary School totaling 42 students.

The source of data in the research were students of Advent 1 Tikala Manado Elementary School. Data collection using questionnaires and documents. The questionnaire used has two components, namely learning motivation and learning environment. Source of document data, namely in the form of odd semester midterm exam results for the 2023-2024 school year in mathematics subjects.

For data analysis techniques in this research, descriptive statistical analysis techniques were carried out, normality tests using the One Sample Kolmogorov-Smirnov Test with the provisions if Asymp. Sig> 0.05 then the data is normally distributed, linearity test for testing using Test For Liniarity with the provision that if Deviation from Linearity> 0.05 then the two variables have a linear relationship, and hypothesis testing using partial test or t test and simultaneous test or F test.

C. RESULT AND DISCUSSION

Descriptive data analysis on the Learning Motivation variable shows that the range or range of values is 56; the minimum score or lowest score is 91; the maximum score or highest score is 147; then the mean data or average score is 124.12, for the score Std. Deviation or standard deviation of 13.067; and data variance or data variance of 170.742. Furthermore, descriptive data analysis on the Learning environment variable shows that the range or range of values is 60; the minimum score or lowest value is 82; the maximum score or highest value is 142; then the mean data or average score is 120.19, for the Std score. Deviation or standard deviation of 13.067; and data variance or data variance of 277.524. While the descriptive data analysis on the Mathematics learning achievement variable shows that the range or range of values is 14; the minimum score or lowest score is 80; the maximum score or highest score is 94; then the mean data or average score is 88.93, for the Std. Deviation or standard deviation of 3.460; and data variance or data variance of 11.970.

After descriptive data analysis, the analysis is continued with prerequisite testing, namely normality test and linerity test. The normality test was carried out on all data, namely Learning Motivation data, Learning Environment data and Mathematics Learning Achievement data using the SPSS 23 One Sample Kolmogorov-Smirnov test with the provisions if Asymp. Sig> 0.05 then the data is normally distributed. Based on normality testing using spss, a significance value of 0.796> 0.05 was obtained for the Learning Motivation variable. Furthermore, the significance value is 0.397> 0.05 for the Learning Environment variable. While the significance value for the Mathematics Learning Achievement variable is 0.132> 0.05. It can be concluded that the significance results of the three variables, both the Learning Motivation variable, the Learning Environment and the Mathematics Learning Achievement variable, get a significance value greater than the test criteria (sig 0.05), so it can be stated that the three data groups in the research are normally distributed.

After the data is normally distributed, then the linearity test is carried out. The linearity test aims to determine whether two variables have a linear relationship or not significantly. Testing using Test For Liniarity with the provisions if Deviation from Linearity> 0.05 then the two variables have a linear relationship. Based on data analysis using spss, the results of the linearity test of the Learning Motivation variable with the Mathematics Learning Achievement variable have a significance value of 0.362> 0.05. These results indicate that the Learning Motivation variable with Mathematics Learning Achievement has a linear relationship, because the significance value is more than 0.05. Furthermore, the linearity test on the Learning Environment variable with the Mathematics Learning Achievement variable found a significance value of 0.516> 0.05. This result shows that the Learning Environment variable and the Mathematics Learning Achievement variable have a

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linear relationship, because the significance value is more than 0.05. After the prerequisite test is fulfilled, namely that the data is normally distributed and has linearity, then proceed to hypothesis testing.

Testing the first and second hypotheses is done with the t test to determine the partial influence of the independent variable on the dependent variable. This test is by comparing the probability value or p-value (sig-t) with the significance level of 0.05. If the p-value is smaller than 0.05 then Ha is accepted, and vice versa if the p-value is greater than 0.05 then Ha is rejected.

Table 1 SPSS output testing of hypothesis 1 and 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	93.962	6.306		14.901	.000
	Learning Motivation	1.022	.042	.284	1.525	.000
	Learning Environment	.219	.033	.192	1.574	.001

a. Dependent Variable: Math Learning Outcomes

The results of the t test as in table 1 for testing the first hypothesis show that the Learning Motivation variable (X1) obtained a t count of 1.525 with a probability / significance value of 0.000 < 0.05. Thus, the first hypothesis is accepted, which means that there is a significant positive influence of Learning Motivation (X1) partially on Mathematics Learning Achievement (Y).

The results of this research are in line with the results of research by Vina Aulia Al Haq (2019) Where it is revealed that there is a positive influence of learning motivation on learning achievement. The results of this research also agree with Sumadi Suryabrata in (Djaali, 2015) motivation is a condition contained in a person that encourages him to carry out certain activities in order to achieve goals. Students who do not know about their purpose of learning at school will certainly affect their learning motivation. Therefore, learning motivation is one of the most important factors in influencing the learning process, because without realizing it, learning motivation can be influenced by active and passive students in participating in the learning process in the classroom. This condition can affect the learning outcomes and achievements that students will obtain. This means that learning motivation which is an internal and external encouragement in students who are learning to make changes in behavior in general with several indicators or elements that support. Students also learn without coercion so that children have the urge to always be active in learning and make it possible to improve their learning outcomes.

Furthermore, in testing hypothesis 2 presented in table 1, it can be concluded that the Learning Environment variable (X2) obtained t count of 1.574 with a probability of 0.001 <0.05. Thus, the second hypothesis is accepted, which means that there is a significant positive influence of Learning Environment (X2) partially on Mathematics Learning Achievement (Y). The results of this research support the research of Reni Puspita (2019) which states that the results of the analysis obtained that both partially and simultaneously the independent variable learning environment has a positive and significant influence on the learning achievement variable.

Therefore, the learning environment factor has an influence on the success of the learning process. According to (F. Rohman, 2018), the learning environment is everything that surrounds students when doing learning activities. Learning Environment Factors come from the non-social environment and the social environment (Nabillah & Abadi, 2020). The non-social environment formed from facilities and infrastructure (Nurfirdaus & Sutisna, 2021), namely physical factors which include a place to study, the location of the school, learning tools (Choiri, 2017), learning resources, school building conditions, classrooms, cleanliness of the school environment (Hanipah et al., 2022) and learning support facilities, while social factors include the family environment, the social environment of students at home, and the social environment of the school. A conducive learning environment certainly creates a comfortable atmosphere for learning (Arianti, 2019). Supportive Learning Environment conditions such as the availability of physical learning facilities, a comfortable place to study, a calm atmosphere, harmonious relationships with the social environment can provide encouragement for students to learn mathematics so that students' mathematics Learning Achievement increases. Conversely, if the conditions of the Learning Environment are less supportive, it will reduce students' enthusiasm for learning so that students' mathematics Learning Achievement will decrease. One of them is a school environment that is less conducive (Gampu et al., 2022).

The success of a learning process can be measured based on the results obtained by each student (Saputra, 2020). In the learning process, there is a need for learning discipline that must be considered. Teachers should not only provide teaching material to their students (Rasam & Sari, 2018). Teachers must also instill a disciplined attitude in learning to their students. Students must also have an early awareness of the importance of discipline in learning (F. Rohman, 2018) so that the learning process can take place well and can obtain learning achievements.

Furthermore, the third hypothesis testing was carried out using the simultas test (F test). The F test shows whether all independent variables have a joint influence on the dependent variable. The results of the F test can be seen in the table below:

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Table 1 SPSS output testing of hypothesis 3

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.235	2	46.117	1.332	.000[b]
	Residual	482.551	39	12.373		
	Total	490.786	41			

a. Dependent Variable: Math Learning Outcomes
b. Predictors: (Constant), Learning Environment, Learning Motivation

Based on table 2 above, the F count is 1,332 with a probability of 0.000 which is below 0.05. This shows that all independent variables, namely Learning Motivation and Learning Environment, have a significant influence simultaneously (together) on the Mathematics Learning Achievement of fifth grade elementary school students.

Based on these results, it can be seen that Learning Motivation and Learning Environment affect the Mathematics Learning Achievement of fifth grade elementary school students. The findings of this research support the findings of (Utaminingtyas et al., 2021) which state that math learning outcomes are influenced by learning motivation and learning environment. This is in accordance with the opinion of (Purwanto, 2013), which states that the factors that influence learning can be divided into two groups, namely: Factors that come from within the student (individual factors) and factors that come from outside the student (social factors). Individual factors consist of maturity / growth factors (Syafi'i et al., 2018), intelligence, training, motivation and personal factors. Meanwhile, social factors include family factors / household conditions, teachers and their teaching methods, tools used in teaching and learning, conditions and opportunities available and social motivation. Learning activities are carried out by every student, because through learning they gain experience from the situation they face. Thus learning is related to changes in the individual as an achievement of his experience in the environment.

D. CONCLUSION

Based on the results of the research and discussion that has been stated previously, the researcher draws the following conclusions:

1. There is significant and a positive influence of Learning Motivation on Mathematics Learning Achievement.
2. There is significant and a positive influence of Learning Environmenton Mathematics Learning Achievement .
3. There is a significant and simultaneous influence (together) of the Learning Motivation variable and the Learning Environment variable on the Mathematics Learning Achievement of fifth grade students at Advent 1 Tikala Manado Elementary School.

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THE INFLUENCE OF GADGETS ON SOCIAL INTERACTION PATTERNS AND LEARNING MOTIVATION OF GRADE FIVE STUDENTS AT ADVENT AIRMADIDI ELEMENTARY SCHOOL

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ABSTRACT

The purpose of this research was to identify the relationship between the gadgets use on interaction patterns and students' motivation to learn in grade five of Advent Aimadidi Elementary School. This research used a quantitative approach. The research involved students who were in grade five at Advent Airmadidi Elementary School. The research data were collected from grade five students at Advent Airmadidi Elementary School through a questionnaire that included three elements: gadget use, social interaction patterns, and motivation to learn. The data analysis began with pre-requisite testing, namely normality using the Kolmogrov Smirnov formula, and linearity with linear regression. Furthermore, hypothesis testing was conducted using the manova test to evaluate the differences between several independent variables and the dependent variable. This research shows that first, the social interaction pattern of Grade Five students at Advent Airmadidi Elementary School is influenced by the gadgets use. Second, gadget use influence learning motivation. Third, the social interaction pattern and learning motivation of grade five students Advent Airmadidi Elementary School is influenced by the gadgets use.

KEYWORDS : *Gadget Use, Social Interaction Patterns, Students' Learning Motivation.*

INTRODUCTION

Technological progress is something that cannot be avoided. Along with the times and scientific advances, technology will always innovate. In this era of globalization, it is very beneficial to be able to surf in cyberspace with very sophisticated technology that can be easily operated (Nainggolan, 2016). Technological innovation in the form of gadgets can be an electronic device that has practical purposes and functions to help human work (Iswidharmanjaya, 2014).

According to the development of this era, gadgets are currently much loved by the community, especially among children to adolescents (Agusli, 2008), even gadgets are not only electronic devices used as communication tools, but have turned into tools for socialization, entertainment, including learning (Kusumadewi, 2016). Gadgets can have a positive impact on their users, namely increasing imagination, training intelligence, increasing self-confidence, and developing problem-solving skills. However, on the contrary, gadgets can also have a negative impact such as decreased school quality, and can damage the physical (e.g. eyes) and mental health of its users (Rozalia, 2017).

However, in many cases, gadgets can be a bridge to social support, especially for individuals who may feel physically isolated or have difficulty interacting in person. Therefore, gadgets can influence social interaction patterns in different ways. The use of gadgets can also be a bridge to increase insight in digging up information and can affect students' interest in learning, as written in a journal entitled "The Effect of Online Learning Media and Learning Interest on Mathematics Learning Outcomes of Grade Five Students at Public Elementary School 03 Manado" by Banobe et al. (2022), where online learning using electronic devices such as smartphones and laptops combined with interesting learning can help increase math learning outcomes in grade five elementary school students (Lasut et al., 2022).

Although, it is undeniable that gadgets can reduce students' learning interest due to the absence of guidance and supervision from parents in using gadgets, considering that elementary school children experience development in exploring and tend to be happy with new things (Witarsa et al., 2018). This makes the use of gadgets uncontrollable and affects student learning outcomes. Therefore, it is very important in education to understand the impact of software use on social interaction patterns and student interest in learning because the use of electronic devices can have an impact on the quality of student learning (Rogahang et al., 2022).

Therefore, a teacher at school is expected to create an interesting and meaningful learning environment and provide motivation so that someone can be encouraged to act to do something to achieve certain goals (Hamdu & Agustina, 2011). The discipline of

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learning and appreciation also play an important role in improving student learning outcomes because student learning motivation is the key to achieving optimal results (Datu et al., 2022).

AdapMoreover, the purpose of this research is to find out whether there is an influence of gadgets on the interaction patterns and learning motivation of grade five students at Advent Airmadidi Elementary School. Similar research has been conducted by (Budiwati et al., 2022) with the title "The Effect of Gadgets on Social Interaction Skills of Elementary School Students". The difference between this research and previous research is in student learning motivation where in previous studies, the research did not look for the influence of gadgets on student learning motivation while in this study, researchers want to see whether student learning motivation can be influenced by the gadgets use or not.

Through this research, it is hoped that it can provide insight to better fellow researchers on how to overcome the problem of gadget use and create a healthier learning environment for students. The researcher hopes that this research will be useful for students, teachers, and parents so that all parties can pay more attention to the impacts that gadget use can have, especially for students who are still in elementary school. Likewise, schools can pay more attention and can also take action against excessive gadget use.

METHOD

In this research using a quantitative approach with, type of causal associative research. Causal research is a type of research that aims to determine the relationship between two or more variables. The causal relationship is a cause-and-effect relationship, in which one independent variable affects another variable, namely the dependent variable (Sugiyono, 2015). This research used the survey method. This research involved all 71 grade five students of Advent Airmadidi Elementary School in the 58th batch of the 2023/2024 school year. Considering that the population was less than 100, a total of 71 students were taken as samples (Arikunto, 2014). The research data were collected from the grade five students of SD Advent Airmadidi through a questionnaire. Students provided direct data for this study through a questionnaire covering three elements: gadget use, social interaction patterns, and motivation to learn.

The independent variable and dependent variable are the two variables responsible for this study. Social interaction pattern (Y1) and learning motivation (Y2) are the dependent variables. Meanwhile, the independent variable is gadgets use (X).

Data analysis begins with prerequisite testing, namely normality using the Kolmogrov Smirnov formula, and linearity with linear regression. Furthermore, hypothesis testing was carried out using the manova test (Multivariate Analysis of Variance) or Multivariate Analysis of Variance which is used to evaluate differences between several independent variables and the dependent variable.

The hypotheses of this study are 1) The use of tools has a significant influence on students' social interaction patterns in grade five elementary schools; 2) The use of tools has a significant influence on students' learning interest in grade five elementary schools; 3) The gadgets use has a significant impact on students' social interaction patterns and learning interest in grade five elementary schools.

RESULTS AND DISCUSSION

The results of descriptive data analysis can be presented as follows: Gadget Use Variable (X): has a value range of 39, with a minimum value of 65 and a maximum value of 104. The average is 86.056, with a standard deviation of 9.628 and a variance of 92.711. While the Social Interaction Pattern Variable (Y1): has a value range of 35, with a minimum value of 69 and a maximum value of 104. The average is 87.985, with a standard deviation of 8.107 and a variance of 65.728. While the Learning Motivation Variable (Y2): has a value range of 41, with a minimum value of 68 and a maximum value of 109. The average is 84.563, with a standard deviation of 8.656 and a variance of 75.449. These results provide an overview of how respondents rated their gadget use, social interaction patterns, and learning motivation. To get a better understanding of the influence of gadget use on social interaction patterns and learning motivation of grade five students at Advent Airmadidi Elementary School, this data will be compared with the category criteria for each variable.

The results showed that in general the gadgets use was in the high category, with 30% of respondents in that category. In addition, 25% of respondents were in the medium category, 14% in the low category, and 7% in the very low category, according to the formula proposed by (Azwar, 2011). While 21.3% of respondents indicated very high social interaction patterns, followed by 35% of respondents in the high social interaction pattern category. In addition, 20% of respondents were in the category of moderate social interaction patterns, 11% in the category of low social interaction patterns, and 4% in the category of very low social interaction patterns. While the description of learning motivation in most respondents, namely 25%, is in the category of very high learning motivation, followed by 28% of respondents who are in the high learning motivation category. Meanwhile, 23% of respondents were in the medium learning motivation category, 17% in the low learning motivation category, and 7% in the very low learning motivation category.

The data analysis of testing the first hypothesis shows the average value (mean) of the social interaction pattern questionnaire is 94.23. Meanwhile, the mean value of the gadget use questionnaire is 90.70. So it is concluded that the social interaction pattern questionnaire is greater than the average value (mean) of the gadget use questionnaire. The normality test of this research data is seen from the Asymp.Sig value. (2-tailed). If Asymp. Sig. (2-tailed) > 0.05 then the data is said to be normally distributed. The

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data normality test uses the Kolomogorov-Smirnov test with the aim of evaluating whether the data on a variable has a normal distribution or not (Umar, 2011). The results of testing the normality of the data for the questionnaire value of social interaction patterns are 0.229 and learning motivation is 0.582 and the gadget use questionnaire is 0.306. Therefore, the three data are normally distributed because the Sig value> 0.05. After testing the normality requirements, the next test is the linerity test. In testing the linerity of the X_1Y relationship. The results of data analysis using spss show the results of the linerity test for gadget use with social interaction patterns of 0.364> 0.05. This states that both variables are linear. Data that is normal and has linearity is then tested with Manova test analysis. The result for the calculation of the questionnaire value is 0.435> 0.05. So it can be concluded that there is an influence of gadget use on the social interaction pattern of grade five elementary school students.

The results of this research are supported by the research findings of Hizam & Hamdi (2020) on the Influence of Parenting on Learning Motivation and Student Learning Outcomes at Mi Yusuf Abdussatar Kediri and MI Attarbiyah Addiniyah Gersik West Lombok. In their research, the findings revealed that parenting has a significant influence on learning motivation. Therefore, this research is in accordance with the opinion of Merriam Webster (Agusli, 2008), where the gadgets use is the use of a mechanical or electronic device with practical use but is often known as a novelty. In addition, nowadays gadgets are more often a medium used as a modern communication tool. Gadgets are increasingly facilitating communication activities and interactions between humans, because now communication activities are developing more advanced with the emergence of gadgets.

The data analysis in testing the second hypothesis shows that the average value (mean) of the learning motivation questionnaire is 94.23, while the questionnaire for gadget use is 90.70. So it can be concluded that the learning motivation questionnaire is greater than the average value (mean) of the gadget use questionnaire. The normality and homogeneity test of this research data is seen from the Asymp.Sig value. (2-tailed). If Asymp. Sig. (2-tailed). > 0.05 then the data is said to be normally distributed. The data normality test uses the Kolomogorov- Smirnov test. The results of testing the normality of learning motivation data are 0.582 and the gadget use questionnaire is 0.306. So that both data are normally distributed because the Sig value> 0.05. After the data is declared normally distributed, the next step is the linearity test. The result of the linearity test for the relationship between the gadget use variable and the learning motivation variable is 0.956> 0.05. This shows that the data is linear. Data that are normal and have linearity are then tested with Manova test analysis (Tabachnick & Fidell, 2013). The result for the calculation of the questionnaire score is 0.435 > 0.05. So it can be concluded that there is an influence of gadget use on the learning motivation of grade five students at Advent Airmadidi Elementary School.

The results of testing the third hypothesis with the manova test on Multivariate show that the Sig value. 0.037 for the social interaction pattern, based on the criteria shows that (0.037<0.05), and the Sig. 0.027 for learning motivation, based on the criteria shows that (0.27<0.05). So there is a difference between the social interaction pattern and learning motivation that is influenced by the gadget use. So it can be concluded that there is an influence of gadget use on social interaction patterns and learning motivation.

Basically, whether or not a person is mentally healthy is the result of a person's interaction with their environment (Hasanah, 2017). The influence of gadget use on children is felt if it affects children's conditions when learning, such as when children receive lessons at school, children tend to be discouraged. This happens if at home children play gadgets until late at night and parents do not supervise the use of gadgets while at home. On the other hand, by using gadgets, one can find news and even information more easily. Thus, the gadgets use must be used appropriately and as necessary, do not use gadgets excessively because it is not good for children's health and motor development. Based on the explanation above, it can be concluded that the results of this study are in line with the hypothesis (Ha), namely that there is an influence of gadget use on interaction patterns and learning motivation.

CONCLUSION

Based on the research findings and previous discussion, the researcher came to the following conclusions:

1. Social interaction patterns in grade five students at Advent Airmadidi Elementary School are influenced by the gadgets use. This shows that the gadgets use influences the social interaction pattern.
2. The gadgets use has an influence on students' learn interest in grade five students at Advent Airmadidi Elementary School. This result shows that the learning interest is influenced by the gadgets use.
3. There is an influence of gadget use on interaction patterns and learning motivation

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HRM IN DYNAMIC BUSINESS CONTEXT

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ABSTRACT

Among all the resources in an organization, most important are the human resources. HRM basically ls with the efficient management of people to achieve individual and organizational goals. HRM is all about management of employees from recruitment to retirement. Earlier HR was just used to "Hire and Fire employees", but now it is becoming strategic. With different emerging trends reshaping the business these days, the role of HR managers is changing. Due to the various issues like Globalization, work force diversity, cut throat competition old practices are becoming obsolete. Technological advancements at unprecedented rate are adding fuel to the fire. Mundane tasks previously carried out by HR professionals are being automated This paper examines how the role of HRM is changing and what challenges are being faced by HRM?

KEYWORDS: *HRM, Strategic, Globalization, work force diversity, Talent, Artificial Intelligence*

INTRODUCTION

All the resources in an organization are waste if the human resources are not competent. The onus of using all the resources properly and studying of business environment lies with human resources. So, it is necessary that in order to stay ahead of the curve, human resources are managed properly. It is Human resource management that organizes these resources so that they perform effectively and goals of organization are achieved. HRM ensures that the organization has the right people, in the right job, at the right time. It ensures effective utilization of people towards attainment of personal and organizational goals. With the rapid changes in the business environment, the role of HRM is also changing. HRM is moving away from traditional roles which are generally outsourced. Now it concentrates on value added tasks by strategically utilizing people. It not just focuses on functional activities but makes recommendations towards processes in order to improve the ability of employees in the long run. SHRM assures that all the activities directly or indirectly contribute to the achievement of objectives. In the modern era of digitalization, technology is changing the face of HRM also.

Literature Review

Sathyanarayana (2015) focused on the changing dimensions in the global era and pointed out that Globalization in the 21st century presents distinctive HRM challenges to businesses especially those operating across national boundaries as multinational or global enterprises. So, HR professionals must play special roles in dealing with the changes and must develop specific competencies to support these roles.

Sharma (2022) described about HRM practices measures in top IT Companies and analysed the existing retention strategies in IT companies and the factors based on which employee decides to stay with the company or quit.

Angelo, Gazarolli, Corvinno & Gozoli (2022) highlighted that in the current context, it is no longer sufficient to take individual actions (often based on urgency) among the figures in the organisation who are involved in HR management—what is needed are more structured systems of action that allow for the construction of processes and actions at multiple levels in HR management. In other words, it is necessary to build and nurture constant convergence between decisions and actions at the individual, middle and top organisational levels to make them more effective based on a more consistent, sustainable, and conscious approach.

Zhang and Chen (2023) highlighted that HRM digital transformation will bring certain implications, including how to parallel and transit between the old and new HRM systems, what are the challenges of the new digital HRM, the impact on performance, and digital ethics. In the digital era, there is not enough research in the field of HRM digital transformation, which also gives us researchers more opportunities to explore.

Dede (2022) highlighted that In the Human Resources Management (HRM) processes, computers and internet has made it possible for human resources departments to assume more strategic roles to contribute to the operational results. Recruitment, success assessment, in-house transfers, remuneration, work security, personnel affairs, training and development, performance measurements, rewarding and punishment management processes were transferred to electronic systems, and it was possible to manage these processes with a holistic approach.

RESEARCH OBJECTIVE

The aim of this paper is to study how the role of HRM is changing and what are the challenges being faced by HR managers due to dynamic business environment.

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RESEARCH METHODOLOGY

This paper is based on secondary data collected from various sources like books, journals, newspaper, magazines. Different informative websites were also explored.

HRM in the age of AI

As the landscape of business is changing, HR is moving away from the traditional tasks like payroll processing and is becoming strategic. The main function of SHRM is to associate the HR practices with the overall organizational goals and objectives to contribute directly to the business success. SHRM focusses on creating a skilled workforce, cultivating employee engagement, and fostering a strong organizational culture to support overall organizational growth and success. SHRM acts as an interface between employees and objectives and assures that utilization of human assets leads to the achievement of objectives. In today's digital world, all the functions in business are being affected by the technology and HRM is not an exception.HR departments are embracing AI and repetitive tasks like recruitment, Performance Management, Training and Development are left to the care of AI. So, HR managers are left with more time for decision making.AI makes the recruitment and selection easy by quickly filtering, resume, cover letters. Apart from this, AI also takes care of improving the skills of employees .AI driven tools assess the knowledge of the employees and provide the content needed to upgrade their skills. Also they are used to measure the performance of human resources and assist in their career planning.AI has a huge potential in shaping the future of HR but there are a lot of challenges associated with it.

Actually human beings are emotional and social creatures and they need to be understood in order to get the things done from them. When HR activites are left to the technology, humans may feel disconnected and this may lead to loss of emotional connection with the organization. Also, in the age of AI, protection of sensitive data from unauthorized access is a big challenge.

Challenges faced by HRM

Arthur lewis observed "There are great differences in development between countries which seem to have roughly equal resources, so it is necessary to enquire into the difference in human behavior". Physical resources are totally useless without human resource component as these are transformed into productive resources by them. As the business environment is dynamic, so is HR environment. Due to continuously changing business environment, trends in HRM are also changing. It has become necessary for the managers to hire and retain talented employees. Following challenges are being faced by HRM these days.

1**. Workforce Diversity:** Globalisation has made the organisations heterogeneous mix of people due to entrance of workforce with different backgrounds and cultures. Significant changes have also been observed with the entry of SC, ST candidates, thanks to the protective policy of Government. More and more females are joining the workforce due to increased career orientation which further complicates the task of HRM as females have different types of issues. Workforce diversity these days has become a necessity and assists a company to reach more people but it's a big challenge for HR to manage this diversity as Cultures around the world vary widely in their norms, values, and communication styles. It requires complete modification of old HR practices.

2. **Globalization:** Due to globalization, organisations develop international influence or start operating on an international scale which has increased competition. When the operations are extended beyond borders. It has effect on both current workers and also to new employees. Managers are required to think globally, but act locally. Globalization on one side gives acess a larger pool of labour and on the other hand also increases the chance of linguistic and cultural barriers which creates problems where team work is required. It is a challenging task for HR professionals.

3.**Technological Advancements:** Technology has significant impact on business operations. Keping pace with Technological advancements is a challenge. No doubt it helps in saving time and cost of production. Sophisticated technology obviously brings down the number of employees in the organizations as hazardous jobs as well as repetitive jobs are being handled by AI.This would make HR plan the training of employees in Alternate skills. A new breed of organisations is being developed which is called virtual organization. where employees are spread geographically and communicate via phone, email, and the internet**.** These Jobs in virtual organization require different skills which is a challenge for HR and he needs to update their skills continuously which is an additional burden for them.

4.**Retaining Unique Talent:** Hiring talented employees is not enough. The major challenge is to retain them.Organizations try hard to hire employees from the competitors by providing attractive opportunities to them.In private sector,people leave jobs frequently in search of lucrative jobs and retaining the employees today has become a challenge for HRM. Job satisfaction is a precondition to increase retention rate. Employees should be made to feel an integral part of the organisation.HR should provide them ample opportunities to learn and grow. There should be open communication and their efforts should be recognised. All this put a tremendous pressure on HR.

5. Remote Workforce Management: With technological advancements, remote work is gaining momentum and the Pandemic has made everyone accustomed to it. No doubt, it offers flexibility but it is a challenging task for HR Managers to collaborate with employees working remotely. Not only this, the employees are often in different time zones which further complicates the task. Apart from this,problems with internet connection and other glitches cause delay in completion of work. It is a must that remote work policy in tune with organizational objectives should be framed.

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6. **Stress Management:** In today's worls ,every person is under stress.Stress is a root cause of many problems like fatigue, decreased concentration, loss of memory and most importantly decreased productivity.So to reduce turnover and improve the overall productivity , it is a must that employers should try to keep the workplace stress free which is quite challenging .Besides ,motivating the employees,employers should encourage workplace wellness,arrange counselling sessions and social activites for the.If employess are happy,the achieving organizational goals will become easier and turnover rates will be reduced.

CONCLUSION

Physical resources are totally useless without human resource component as these are transformed into productive resources by them. HRM is about guiding human resources so that they perform to the best of their abilities with a high degree of morale. Management of people has always been difficult but the challenges that have been thrown by dynamic environment Workforce diversity, technological advancements, economic liberalization and globalization have made it even more complicated.Artificial intelligence is transforming the HR function. In order to survive in this competitive era,, Human Resource Managers will have to be well versed with Social ,Technical and Conceptual skills and should frame effective strategies to address these challenges.Old HR strategies need to be redefined and employees well being should be prioritized.Beyond doubt,Technology can take care of repitive tasks but understanding the feelings and emotions of human beings is imperative for the success of business which still needs to be done by humans beings.

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A SCOPING REVIEW TO DETERMINE THE EFFICACY OF MUSCLE ENERGY TECHNIQUE ON LOW BACK PAIN

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ABSTRACT

Background: Low back pain has shown detoriation in patient health. Absenteeism has found to be increased in work place. There is a high need to find a effective treatment for the cause.
Objective: The aim of the study is to find out whether muscle energy technique is effective in case of low back pain.
Study design: Systemic review
Method: Around 65 articles were screened for the study with the help of google scholar, PubMed and Cochrane. Out of which 10 articles were considered for the review on the basis of inclusion criteria. These articles were verified and read thoroughly.
Results: Muscle energy technique came out to be effective in treatment of low back pain. As it aimed to decrease pain and improve functional disability.
Conclusion: This study conclude that the muscle energy found to be effective in individual with low back pain. It helps in improving the joint range of motion, managing the pain, improves stability, strengthening weak muscles. MET has shown effect in LBP in chronic condition, involvement of SI joint, mechanical LBP and also non-specific low back pain.

KEYWORDS: *low back pain, muscle energy technique, non-specific back pain*

INTRODUCTION

One of the most common musculoskeletal disabilities is low back pain. Acute low back pain is considered when the pain is of less than 4-6 weeks. Around 80% individual experience low back pain at some point of time. People with wide variety of profession like heavy labour, repetitive stress and other experience acute low back pain which include labours, teachers, computer professionals and students. There are many factors for low back pain which can be various risk factors such as age, lifestyle, gender, psychosocial profile, pain perception. [1] Mostly acute low back pain results from sprain, strains and mechanical loading in back. Low back pain varies it may be dull, sharp achy or stabbing. For identifying low back pain, we can use questionnaire to identify. It is one of the common reasons for patient to visit to a physiotherapist. [2[

The causes of low back pain can be mechanical, non-specific or can be due to trauma. Overuse of soft tissue is the most common cause of low back pain. Muscles which are associated are mainly quadratus lumborum, iliopsoas, erector spinae group. Piriformis, hamstring, quadriceps and iliotibial band. All these muscles could develop shortening which can be the cause for pain in lower back. Due to stiffness in some muscles also pain is felt while doing movements.

Approaches use by physiotherapist to manage low back pain is to by using a variety of interventions such as various modalities, exercises like resistance training, manual therapy and neuromuscular re-education. [3] Many other techniques are found to be effective in low back pain like myofascial release and interferential modality and TENS but this treatment didn't show a long-term effective improvement in the condition. In manual therapy we have many techniques that are considered to be beneficial in treating low back pain which include soft tissue manipulation, myofascial release technique, functional techniques and strain counterstain technique, muscle energy technique. [4]

Muscle energy technique is a manual treatment that involves voluntary contraction of muscle in a controlled contraction at varying level of intensity against a distant counter force. This is an active technique in which patients also have to actively participate during the treatment unlike static stretching. Autogenic inhibition and reciprocal inhibition are the concepts on which muscle energy technique is based upon. This technique is useful for muscle which are shortened, contracted and spastic. Strengthening a physiologically weakened muscles in reducing localized edema and relieve passive congestion. And also, useful in mobilizing an articulation which has mobility restriction. MET has been found to be effective in lumbopelvic pain. [5]

Muscle energy technique is found to be effective in low back pain but there is no strong study to prove its effectiveness so the study needs to be done to know which all parameter supports the effectiveness of MET in low back pain.

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As no thrusting is used in this procedure, has very low likelihood of producing any complications. It has been stated that MET improves tissue extensibility, strengthen the muscles, stimulated mechanoreceptors and also improves the restricted joints. Strengthening physiologically weakened muscles in reducing localized edema and relieve passive congestion. And also, useful in mobilizing an articulation which has mobility restriction. MET has been found to be effective in lumbopelvic pain.

Methodology

Articles selected for the review were 11.

Source of evidence searched

- Google Scholar
- PubMed
- Cochrane

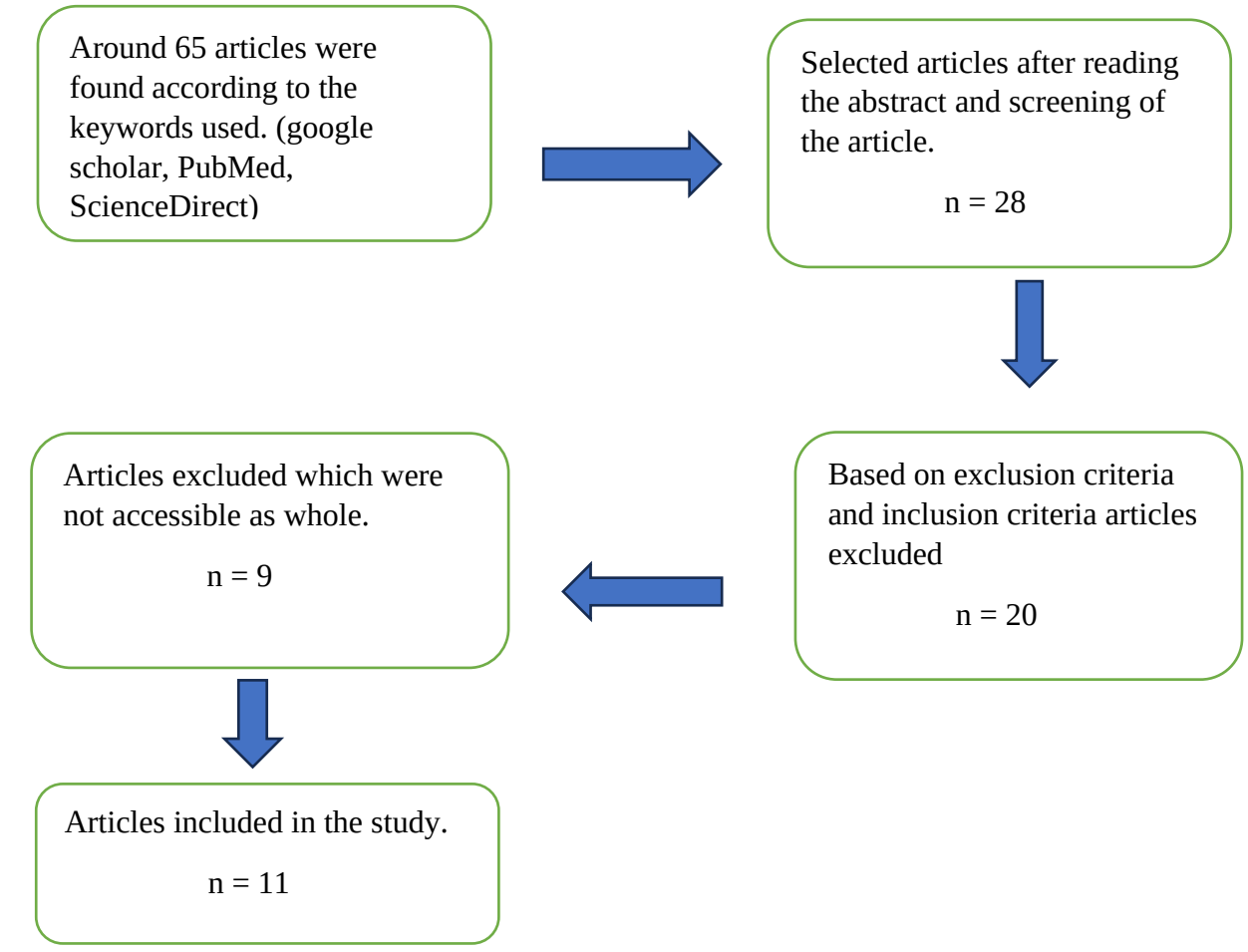
Inclusion criteria

- Articles sorted from year 2004 to 2022.
- Articles included low back pain complaint
- Articles included Muscle energy technique as an intervention.
- Limited to human

Exclusion criteria

- No case report was included.
- No articles included before 2004.
- Articles with low back pain along with lumbar dysfunction were discarded.
- Articles with surgical pain and degeneration pain leading to LBP were not included.
- Muscle energy not a secondary intervention.

FLOW CHART



REVIEW OF LITERATURE

1. TeUaBA, UzorCU, et al. conducted research with the aim of determining the efficacy of positional release technique and muscle energy technique on acute and subacute low back pain. 44 volunteers were chosen for the study, and they were split into two groups: the first group got the MET approach, and the other group got the positional release technique. It was discovered that both strategies worked well for treating low back pain. To treat low back pain, any of the treatments can be utilized on its own. [3]
2. Prachi N. et al did research in which they have used muscle energy technique for quadratus lumborum in patients with acute LBP. 40 subjects who were diagnosed with acute low back pain were included. In which they have included two group in one group that is

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the controlled group received interferential modality and interventional group muscle energy technique with interferential modality. The group with MET + IFT found to be effective statically significant difference showed decreased in pain and increase in spinal range of motion. [5]

3. Priyanka rishi et al. did research on non -specific LBP they included MET along with a supervised exercise and MET on quadratus lumborum and iliopsoas. These two interventions were compared in their research with 30 participants. Significant improvement was found in MET with supervised exercise. [6]
4. Marzouk A. Ellythy et al. they did research on strain counter strain along with muscle energy technique. Their research includes 30 subjects both male and female age ranging from 35 to 55 years divided into half one receiving MET and the other one received strain counterstains for 4 weeks. data was recorded and calculated. According to the data interpretation and analysis it came out that both techniques showed significant results. And are effective in managing low back pain. Great improvement in joint range of motion and muscle extensibility was shown with muscle energy technique. [7]
5. Usman abba Ahmed et al. have done a systemic review on effectiveness of muscle energy technique in mechanical low back pain. They performed a systemic search of online databases with help of keywords and collected the articles. 25 thousand plus articles were selected then screening was done and finally 15 articles were selected in which 11 articles met all the inclusion criteria and eligibility. These 11 articles were used for analysis and discussion. It came out that muscle energy technique is standalone treatment in many articles for treatment of MCLBP. They included further study to be conducted to see long term effect. [8]
6. Capt. Eric Wilson et al. conducted a prospective pilot clinical trial. They carried on this research with 2 group. One group received moist heat + muscle energy technique followed by exercises. And the second group carried on with moist heat and randomized placebo manual therapy followed by exercise. The exercise program they included were drawing hip maneuver, Romanian dead lift, simple supine obliques, standing extension and dumbbell overhead. The result showed that MET group showed supervised as compared to other. [9]
7. Noelle M. Selkow et al. did a pilot study in which their objective was to know the effect of the MET they compared this with other group that is the sham group. It was double blinded study; subjects were randomly assigned by the third party in the group. According to the result the main finding was that the group with MET as intervention showed decreased in VAS score after the treatment. They concluded that MET can be used to treat low level of pelvic pain. There are number of limitations in this research. Further study has to be done with multiple MET treatment in one session to determine how many treatments are effective in pain management. [4]
8. Praveen Kumar et al. did research on 30 subjects with hamstring tightness for chronic LBP. Outcome measures used were pre and post knee range of motion and NPRS. 3 groups were made, in which one received muscle energy technique, second one received PNF stretching and the last one received static stretching for hamstring. These three groups have equal number of subjects. All the three group show significant improvement in NPRS score and Range of motion. And hence these therapeutic manoeuvres can decrease pain, increase range of motion. [2]
9. Wahyuddin et al. did a pilot study on 21 subjects and compared the treatment intervention between muscle energy technique and LSE. The outcome measures were pain intensity, disability level and kinematic changes. This was the first study to compare the immediate changes in subjects after the MET and LSE intervention given. They concluded that the difference in effect were not found. Although the study shows increased in active side bending. Decrease in pain intensity and also in disability level.
10. Supreet Bindra et al. did study on 30 subjects in which 24 were females and 6 males between 30 to 50 years reported with chronic LBP. 2 groups were made group 1 received Muscle energy technique and group 2 received conventional therapy. Outcome measures were Visual analogue scale, Oswestry disability index and limb length measurement treatment were given for 6 days, pre and post measurement were taken. This study show that MET along with conventional therapy shows better management. He concluded it by saying that therapeutic management can help in treating LBP. [11]
11. 11. Ganesh Sundaram Subramanian conducted research to demonstrate the efficacy of MET in conjunction with Tens for treating lumbar strain-related low back pain. Based on predetermined criteria, a total of thirty volunteers—a mix of male and female—without a history of musculoskeletal diseases were chosen. Three groups of participants were created: the first group witnessed TENS treatment, the second group underwent MET treatment, and the third group received treatment that combined TENS and MET. The combined TENS and MET treatment shown significantly higher gains in lowering pain and disability compared to either treatment alone. The results showed a decrease in both pain and disability across all groups. These results imply that using TENS and MET together may be very beneficial. [12]

DISCUSSION

Low back pain occurs in mostly every individual and are often overlooked in youth. This causes more strain over the back muscle which may gets shortened. Low back pain can occur due to many other reasons like sacroiliac joint dysfunction and lumbar dysfunction. Weakening of core muscles also can cause low back pain. Working on quadratus lumborum and iliopsoas can eventually helpful in managing the acute pain. With regard

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to muscle energy technique, it is one of the interventions that is found to effective in managing low back pain, improving disability level. Decreasing the pain intensity and providing stability. Praveen Kumar et al. mentioned that muscle energy technique on hamstring helps in relieving low back pain and increase in range of motion. [2] Noelle M. Selkow et al. concluded that muscle energy technique has a short-term effect, he mentioned further study on long term effect on low back pain in muscle energy technique. The data from the systemic review cleared that muscle energy technique with supervised exercise program is effective. MET is useful in chronic low back pain whether specific or non-specific mechanical low back pain and SI joint dysfunction. There was not much evidence regarding acute low back pain for MET further more studies can be done to show the effectiveness of muscle energy technique on acute low back pain. MET with strain and counter-strain also shows a great outcome. [4] TeUaBA et al. find out that MET is independently enough for the management of low back pain The outcome measures used were VAS, Oswestry disability index and range of motion. All these shows significant improvement after MET. [3] The present study describes the positive effect of muscle energy technique in regard to low back pain. It improves functionality, decrease disability, stability and increase strength to the muscle. Prachi et al. mention that MET on quadratus lumborum in patients with acute low back pain found to be effective and helpful in decreasing pain intensity. MET on quadratus lumborum, iliopsoas and hamstring are more effective in LBP cases. As muscle energy technique is manual therapy training and practicing in this area as physiotherapist can help many individuals with low back pain without wasting much energy. It would be one of that treatment that can be solely effective in case of treating patient with low back pain

CONCLUSION

This study conclude that the muscle energy found to be effective in individual with low back pain. It helps in improving the joint range of motion, managing the pain, improves stability, strengthening weak muscles. MET has shown effect in LBP in chronic condition, involvement of SI joint, mechanical LBP and also non-specific low back pain. The data from the systemic review cleared that muscle energy technique with supervised exercise program is effective. MET is useful in chronic low back pain whether specific or non-specific mechanical low back pain and SI joint dysfunction. There are few articles to support MET in acute condition of low back pain. a study has to be done for acute condition. MET along with the conventional therapy and supervised exercise also has shown good result. Further study can be made for MET along with other manual therapy to show its effectiveness. Also, we need to look for in how many days MET can show a good improvement in an acute case.

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GANDHIAN MANAGEMENT

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ABSTRACT

Scholars from all around the world have always been interested in the life of Mahatma Gandhi since it is a classic and unique subject. They have studied him from a wide range of sources and discussed him in a variety of ways in various contexts. These include articles, special workshops, international or national conferences and symposia, biographies and autobiographies, books by well-known authors, journals, and his works (a publication of the Government of India). The trilithon framework of truth, love, and non-violence that characterizes Gandhian philosophy is how the understanding of Gandhian management is expressed. The good of an individual is contained in the good of all, while the good of all is contained in the good of individuals. "We are developing, 'we are progressing' and 'we are shining' often used synonymously, without any regard to queries.

- *Who is developing?*
- *What is developing?*
- *How are we developing?*
- *How much have we moved towards our destination? and*
- *What means we are using for development?*

This paper is an attempt to apply principles of Gandhian Thoughts, skills, and approaches to manage the organization to make a sharable life world.

KEYWORDS: *Management, Managerial Skills, Self-Search, Principles, Deadly Sins.*

INTRODUCTION

Dispelling contempt for the past and dispensing with arrogance of the present if we look without prejudice into the gestalts of Gandhian management the world can still learn important lessons to avoid pitfalls and avert crisis and catastrophe in the future. He studied the genesis of the problems, the ground realities, and legal implications; only then did he decide methods and means to attend the goal. He always reinvents himself and his environment by applying checks and balances to adapt to the changes without changing the rock-solid premises of his philosophy. His approach to manage men, machine, materials, and methods were not derived from any legislation, force, or fright, but were distillated of humanitarianism and an outcome of his self-searching spirit.

THOUGHTS OF GANDHIAN MANAGEMENT

Human

Gandhi stresses the need for holistic and integrated development of every individual, at a micro level and the macro level development of community and welfare state. He considered no work as inferior and believed that working with dignity should be the only way to make one's dignity of life and work. He realized that human resources are the fountain head of all activities and therefore management must frame people centric policies and the state must promote programmes that support enhance the quality of human life. He relied on intrinsic qualitative worth of human capital.

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Figure 1 Thoughts of Gandhian Management

Self-Search

Self-Search, Gandhi believed, is the first training stage to prepare oneself for service to society. If we cannot perform our own work, how do we serve others? He clipped his hair and washed his cloth not because he could not afford charges of barber or washer man but because he did not want to be helplessly dependent. He willingly cleaned toilets at colonies of lower esteemed inhabitants. No order, only an act for and with inner Sympathy. Disorder can be cured by personal act. One learns to discard the crutches of dependence on others, if one tries to become self-restrained and self-reliant for one which needs to have moral uprightness, intellectual, self-assurance, emotional maturity, and physical fitness.

HR Services

He was seriously concerned with the problems of workers and working class because he was against the mechanistic approach of treating humans as a spare part of a machine. He held that workers need to be trained and retrained to improve their efficiency and thereby productivity in their job. In matter of workers participation in the decision-making process, he believed that management must solicit workers consent on the issues and matters that concerned him directly or even indirectly since they also stake their fate in success and failure of business. Non-violence does not only mean non killing non-aggression or non- injury but also being free from prejudice, jealousy, hatred, pride, and ego mechanism. Since this element can cause some kind of violence towards one's own self and others.

Truth

Science is nothing but a search for truth. Truth not only in the physical world but in the world of logic, psychology, behavior and so on. A manager must manage the affairs of the organization without ego, pride, prejudice, jealousy, hatred, coercion, fear etc. Absence of love and truth on any pretext and the presence of violence in any form would interfere with SWOT analysis and PEST analysis and would jeopardize setting of smart goals.

Without any official position and power, he remained an unchallenged and unmatched leader who controlled the psyche of millions of people from all rungs of society for about half a century.

Ethics

Both macro and micro level ethics would contribute to more secure, secular, and negotiable management. Individuals should practice micro-level ethics, while the entire organization and the community should practice macro-level ethics.

Communicative parlance

The above ethics are possible when there is communicative parlance. It brings out institution from autocratic framework. However, with the help of equity sharing – togetherness and by respecting the spirit of resilience democracy of the institution becomes possible.

Mass Mobilization (Satyagraha)

Gandhi's capacity to convert (arriver) into a navigable canal people through mass movement and protests with minimum collateral damage, arouses as much inquisitiveness as his capabilities to mobilize masses. The purpose of civil disobedience as Gandhi perceived is not to destroy the person but to abolish institutions or systems that work against human values and humans. We are all aware of his large-scale civil disobedience movements across the provinces of Transvaal and Natal. India movement of Dandi yatra against Salt Law. Reaching the Dandi Sea on 5th April 1930 he picked a handful of salt from the seashore, thus breaking the law. This was the beginning of the countdown and the meltdown of British colonial rule in India. He knew that disparity due to differences in wealth and wisdom would continue but he was well convinced that by one's sacrifice and dedication, it would not be difficult to form a cohesive group of people ready to come forward to work for human dignity and rights of the people.

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Gandhian Skills for Managers

Gandhi had extraordinary leadership skills which should be practiced by corporate managers of the 21st Century to ensure sustainable development.



Figure 2 Gandhian Skills for Managers Principles of Gandhian

Management

Mahatma Gandhi gave seven principles of Management which can be applicable for holistic development of an individual, Business Organisation, and society, they are the foundation for effective quality leadership, Service, Team Building, Organisational alignment, and other strategic development. What we need according to Gandhian Principles are depicted below in figure No 3.

Business should be coupled with ethics

Natural resources are limited and under those circumstances anyone possessing more than they require obviously denies others their rightful share. “There is enough for our need but not for our greed.” Its observance can guide one to lead a life of simplicity. It also inculcates in the mind of the follower of this pledge the propensity to develop and the attitude of detachment, one which could gradually be extended to developing greater levels of tolerance, there by extending for harmony and peace. The dream he wanted to realize was not the spoliation of private property owners, but to restrict its enjoyment to avoid all pauperism, consequent discontent and the hideously ugly contrasts that exist today between the haves and have nots. Machinery must have Human face. The present use of machinery tends more to concentrate wealth in the hands of a few in total regards of millions of men and woman whose bread is snatched away. Economics that hurt the moral well-being of an individual or a nation are immoral and sinful. Thus, the economics that permit one country to prey upon another are immoral. It is sinful to buy and use articles made by sweated labor. The economics that disregard moral and sentimental considerations are like wax works that being lifelike still let the life of the living flesh. At every crucial moment, these new-fangled economic laws have broken down in practice and the nation or individuals who accept them guiding maxims must perish.

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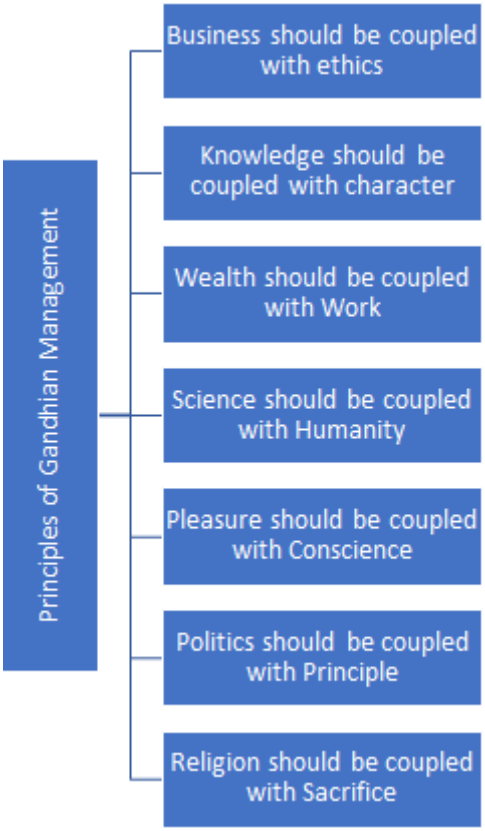


Figure 3 Principles of Gandhian Management

Knowledge should be coupled with character

Knowledge without character is a power for evil only, as seen in the instances of so many "talented thieves and gentleman rascals in the world" when setan comes disguised as a champion of liberty, civilization, culture and the like, he makes himself almost irresistible. All of us of our learning or recitation of Vedas, correct knowledge of Sanskrit, Latin, Greek, and what will not avail us nothing if they do not enable us to cultivate absolute purity of heart. The end of all knowledge must be building up of character and innocent youth is a price-less possession not to be squandered away for the sake of momentary excitement, miscalled pleasure. As per Gandhian scheme of things the hand will manage tools before it draws or traces the writing, the eyes will read the pictures of letters and words as they will know other things in life, the ears will catch the names and meaning of things and sentences. The whole training will be natural, responsive, and therefore, the quickest and the cheapest in the world. If we are to reach real peace in this world and if are to continue a real war against war, we shall have to begin with children; and if they will grow up in their natural innocence, we won't have to struggle, we won't have to pass fruitless idle resolutions, but we shall go with love to love and peace to peace, until at last all the corners of the world are covered with that peace and love for which consciously or unconsciously the whole world is hungering. Real education consists in drawing the best out of yourself. What better book can there be than the book of humanity?

Wealth should be coupled with Work.

Gandhi was regarded as a social scientist, for he never used any Adhoc method in his search for solution the problems which he has not encountered in his own life. He studied the genesis of the problem, ground reality and legal implications; only then he decided methods and means to act and attend the goal. His approach for managing men, machine, materials, and methods were not derived from any legislation, force or fright but were the distillate of humanitarian thrust and an outcome of self-reflection, self-actualization and introspection sustained by inner force and inner self discipline. Every man has an equal right to the necessaries of life even a bird and beasts have and since every right carry with it a corresponding duty and the corresponding remedy for resisting any attack upon it, it is merely a matter of finding out the corresponding duties and remedies to vindicate the elementary fundamental equality. The corresponding duty is to labor with my limbs and the corresponding remedy is too non-cooperate with them who deprives me for the fruit of my labor. America is the most industrialized country in the world and yet it has not banished poverty and degradation. That was because it neglected a universal workforce and concentrated power in the hands of the few who amassed fortunes at the expense of many. The result is that its industrialization has become a menace to its own poor and the rest of the world. If India must escape such disaster it had to imitate what was best in America and other western countries and leave aside its attractive looking but destructive economic policies. Therefore, real planning consisted in the best utilization in the whole workforce of India and distribution of raw products in India in her numerous villages instead of sending them outside and rebuying finished articles at fabulous prices. If true and non-violent combination of labor would act like a magnet attracting to it all needed capital, Capitalist would then exist only as trustees, when that joyful day dawns, there would be no difference between capital and labor. The labor

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will have ample food, good and sanitary dwellings, all necessary education for their children, ample leisure for self-education and proper medical assistance.

Science should be coupled with Humanity

The world has changed drastically in the last sixty years. An objective view of this issue will convince one that while the external circumstances have undergone sea change, mankind's essential tendencies, aspiration, reaction, desire, cravings, including instincts have continue to be doggedly unchanged. While inventions and discoveries have changed the face of the world for the better, they have also exponentially increased the potential for the disaster and untold harm.it is from this viewpoint that science without

Humanity and its relevance directly address the core of human nature, and will forever be valid, relevant, and enlightening to those who follow. It provides an all-time blueprint for happiness, joy, peace, love, and truth to prevail over all humankind with its diverse communities, beliefs, and weaknesses. Gandhi objects to the craze for machinery, not machinery as such the craze is for what they call labor saving machinery. Men go on „saving Labor", till thousands are without work and thrown on the open streets to die of starvation.

Pleasure should be coupled with Conscience.

An innocent youth is a priceless possession not to be squandered away for the sake of momentary excitement, miscalled pleasure. Drugs and drinking are the two arms of the devil with which he strikes his helpless victims into stupefaction and intoxication. People drink because of the conditions to which they are reduced. It is the factory laborers and others that drink. They are forlorn, uncared for and they take to drinking, smoking is a vice. It deadens One's conscience and is often worse than drinking that it acts imperceptibly. It is a habit which is difficult to get rid of when it seizes fold of a person. It fouls the breath, and sometimes even causes cancer. Drinking, Smoking, Prostitution, drugs all these vices are for momentary excitement and root causes of all physical problems. Everyone indulged in these vices is aware of the fact. One should never act against self-conscience for momentary enjoyments. You should always respect your inner voice.

Politics should be coupled with Principle.

Power is of two kinds; one is obtained by the fear of punishment and the other by the arts of love. Power based on love is a thousand times more effective and permanent than one derived from fear of punishment. In matters of consciousness, the law of majority has no place. Possession of power makes man blind and deaf; they cannot see things which are under their very nose and cannot hear things which invade their ears. There is thus no knowing what power intoxicated governance may not do. So patriotic man ought to be prepared for death, imprisonment, and similar eventualities. Whilst power, super imposed, always needs the help of police and military, power generated from within should have little or no use for them. All is well with you even though everything goes deadly wrong if you are spare for yourself. Reversely, all is not well with you although everything outwardly may seem to go right if you are not spare with yourself.

Religion should be coupled with Sacrifice

The one religion is beyond all speech. Imperfect men put it into such language as they can command, and their words are interpreted by other men equally imperfect. Whose interpretation is to be held to be the right one? Everybody is right from his own standpoint, but it is not impossible that everybody is wrong. Hence the necessity of tolerance, which does not mean indifference to one's own faith, but a more intelligent and purer love for it. Tolerance gives us spiritual insight, which is as far from the south. True knowledge of religion breaks down the barriers between faith and faith. It is not necessary for toleration that I must approve of what I tolerate. I heartily dislike drinking, meat eating and smoking, but I tolerate theses in Hindus, Mohmendens and Christians, even as I expect them to tolerate my abstinence from all theses, although they may dislike it. Religion which takes no account of practical affairs and does not help to solve them in no religion.

CONCLUSION

Management in all organizational activities is the act of getting people together to accomplish desired using available resources efficiently and effectively. The Management comprises planning, organizing etc., The Mahatma Gandhi knew the importance of management very well. He applied it in his every Ashram and in constructive work. He taught his every associate about management. Mahatma Gandhi wrote about management in this word; "*I am sorry to say that the management of these houses is far from satisfactory and consequently they are not doing a swinging business. And I should like educated traders who have a good knowledge of English to go there, mix with the people, see the secret of their success, and then return to India, open branches in England and India in an improved style. I have been told that we stand a fair chance of doing good business selling carved wood and stones and feathers in England. Everyone knows how many feathers are daily wasted away in every part of India. Since they are a saleable commodity in Europe, we are wasting away real wealth simply through sheer ignorance or indifference attitude. And he regards as soldiers in this campaign. It is not possible for you to reason things for yourselves. You have come to the Ashram because you have faith in the management. That does not mean faith in me. I am not a manager. I am directing the movement as far as ideals and general direction are concerned. Your faith therefore must be in those who are managers for the time being also*."

To apply the Gandhian model would require a revamping of current management practices. This is true that Gandhi has nowhere formulated a theory of management as such. Hence, a model can be evolved from his social philosophy, Principles, Ethics, and his thoughts.

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PHARMACEUTICAL STUDY OF GUDA AMALAKA YOGA

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ABSTRACT

The aim of this study is to prepare Guda amalaka Yoga as per classical methods and to do its organoleptic and Physico-chemical analysis. Guda amalaka yoga was prepared as per the classical method of Modaka Kalpana and was evaluated for its organoleptic and Physico-chemical characteristics. The final product Guda amalaka yoga was of desirable consistency and quality. The general method of preparation of both Vati and Modaka are similar, but they do differ in the size. When there is a need of administration of more quantity of medicine, Modaka form is preferred. From the pharmaceutical study of Guda amalaka yoga, it can be concluded that, the proper Paka Lakshana for attaining Modaka consistency is of 2-3 threads.

KEYWORDS: *Guda amalaka yoga, Gada Nigraha, Pharmaceutical Study*

INTRODUCTION

The basic pillars of Ayurvedic pharmaceutics are Pancha Vidha Kashaya Kalpanas. It includes five main types of pharmaceutical preparations like Swarasa, Kalka, Kwatha, Hima and Phanta. There are various other preparations like Vati, Taila, Avaleha etc.which comes as Upakalpanas to these basic preparations. According to Acharya Sharangadhara, Modaka is considered as asynonym of Vati Kalpana. Drugs taken in the form of Churna along with a base drug like jaggery are the main active ingredients in the preparation of Modaka. It can be prepared withAgni Samyoga in Gudapaka method and without Agni Samyoga by doing Mardana in Khalwa Yantra. The formulations prepared with Agni Samskara will be having comparatively more shelf life than the one without Agni Samskara. Also, formulations preparedwith Agni Samskara will be comparatively lighter for digestion. In the preparation of Guda amalaka yoga, the Guda Paka method was adopted. The appropriate Paka Lakshana for Modakas can be ascertained only after doing pilot studies as it can vary from formulation to formulation based on various factors like ratio of the base with that of powdered ingredients etc. In the present study of Guda amalaka yoga, 2-3 threads consistency was observed as appropriate for obtaining the Modaka consistency.

MATERIALS AND METHODS

Raw drugs required for the preparation of Guda amalaka yoga were collected from Local market of Puri, Odisha and authentified by the experts of Dravyaguna department and Rasa Shastra and Bhaishajya Kalpana Department, Gopabandhu Ayurveda Mahavidyalaya, Puri.

Pharmaceutical study was done in the laboratory of PG Department of Rasa Shastra and Bhaishajya Kalpana, Gopabandhu ayurveda Mahavidyalaya, Puri.

Khalwa Yantra, mixer grinder, sieves, clothes, weighing machine, appropriate vessels, spoons, gas stove as fire source andwide mouthed vessel were used for this practical.

Ingredients of Guda amalaka yoga

Table 1: Ingredients for the Formulation Guda amalaka yoga

Drug	Botanical Name	Family	Part Used	Quantity
Amalaki	*Embilica officinalis*	*Euphorbiaceae*	Fruit	2 kg
Guda	-	-	-	1500 g

The raw drug was removed of impurities, weighed, and then separately crushed in the Khalwa Yantra to make coarse powder.This was again powdered in mixer grinder and sieved to obtain the fine powder which was then weighed, labelled, and stored in air-tight containers forfurther use.

For the preparation of Guda amalaka yoga, the powder of the ingredient was measured as per requirement. The vessel for keeping the final product was removed of moisture content, smeared with ghee, and kept ready. The jaggery was crushed in Khalwa and then melted in sufficient quantity of water, filtered,

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and kept for Paka. Stirring and heating was continued till the jaggery syrup turned thicker and finally attained 1 thread consistency. Immediately flame was switched off and vessel was removed from stove and the finely powdered drugs were added little by little with continuous mixing until homogenous mixture was obtained. Thenwith hands smeared with ghee, it was rolled into Modakas of approximately 6gm size before it cooled down and after drying, stored in air-tight containers.

Precautions to be Taken

One should be keen in observing for 2-3 threads consistency and immediately the flame should be switched off. The powders should be mixed vigorously with minimum spillage. Also, the Modakas should be immediately rolled as it gets hardened on cooling.

RESULT

Table 2: Observations on Powdering of Raw Drugs

Total quantity taken	2000g
Total quantity obtained	1560g
Loss	440 g
Total time duration	2 days

Table 3: Observations on Guda amalaka yoga Nirmana

Total quantity taken	3060 g
Total quantity obtained	3000 g
Loss	60 g
Total time duration	1 hours and 5 minutes

Table 4: Organoleptic Characteristics of Guda amalaka yoga

Colour	Dark brown
Smell	Smell of Guda and Amalaki was prominent
Taste	Bitter and astringent along with Sweet taste
Consistency	Solid with smooth texture

DISCUSSION

While powdering the raw drugs, wastage was seen in Amalaki. When powdering of Amalaki was done, theloss was seen as dusting of the powder in the mixer grinder and while sieving, some parts remained in the form of rough particlesdue to the presence of fibre content in it. The thread consistency observed while preparing Guda amalaka yoga was of 2-3 thread. One should be alert during this stage as,if the Paka is prolonged, it can affect the final consistency of the product. Also, if the flame is switched off before proper 2-3 threads consistency, the final product will be softer, and the firmness won't be there. The Modakas should be rolled immediately after mixing of the powdered ingredients as it gets hardened quickly on cooling. Also, while placing the Modakas, sufficient space should be there between each other. This plate also should be smeared with ghee to prevent the sticking of Modakas to the plate. The final product was dark brown. The usage of Guda and powdered drug like Amalaki may be the reason for this colour. The product had Kashaya-madhura Pradhana Rasa. The Kashaya Rasa might be contributed by Amalaki which is the major constituent of the formulation. Madhura Rasa was faintly noticeable due to the presence of Guda(jaggery). The formulation Guda amalaka yoga had characteristic smell of the ingredients and the smell of Amalaki & Guda was easily identifiable. The consistency of the formulation Guda amalaka yoga was solid and hadsmooth texture which shows the proper binding of the ingredientsin the formulation.

CONCLUSION

The formulation Guda amalaka yoga is mentioned in the text Gada Nigraha, Mutrakruchhra rogadhikar Adhyaya. The present study shows that the proper consistency of Guda amalaka yoga can be obtained by doing the Guda Paka till 2-3 threads consistency and then homogenously mixing the fine powders and rolling into Modakas before cooling. The practical difficulty while preparing Modaka is assessment of Paka Lakshana and the fast hardening of the contents on cooling. Hence, one should be prepared for rolling the Modakas immediately for a successful practical.

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Figures for the Preparation of Guda amalaka yoga







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PANORAMIC REVIEW OF ACUTE SCAPHOID FRACTURES: DESCRIPTION, EPIDEMIOLOGY, ETIOLOGY, PRESENTATION, DIAGNOSIS, TREATMENT AND PROGNOSIS

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SUMMARY

Introduction: *Scaphoid fractures are the most common fractures of the carpal bone and commonly occur in young males. Inadequate treatment of these fractures commonly leads to pseudarthrosis, resulting in pain and significant disability. Tenderness to palpation and/or pain with axial loading of the thumb should be managed as if it were a scaphoid fracture until proven otherwise.*
Objective: *to detail current information related to scaphoid fractures, description, epidemiology, etiology, presentation, diagnosis, treatment and prognosis.*
Methodology: *a total of 37 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 20 bibliographies were used because the other articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish, Portuguese and English were: fracture, scaphoid, carpal bones, trauma, surgery.*
Results: *Scaphoid fractures account for 2% to 7% of all fractures and 60% to 70% of carpal bone fractures. They are infrequent in children with approximately 3% of all pediatric hand and wrist fractures. Non-displaced fractures have high healing rates with cast treatment. Radiographs may miss fractures up to 25% of the time. Physical therapy is important in both operative and nonoperative treatment.*

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Conclusions: *Knowledge of the clinical presentation, diagnosis and treatment of scaphoid fractures is of utmost importance, because sometimes this type of fracture can go undetected on radiographs, which can lead to complications such as pseudarthrosis. The diagnosis of scaphoid fractures is sometimes complicated, so when there is clinical suspicion, appropriate complementary examinations should be performed to better determine the pathological condition, as is the case of computed tomography. Conservative or surgical management will depend on the type of fracture. Smoking cessation is recommended to improve fracture healing and physiotherapy both after surgical and non-surgical treatment.*

KEY WORDS: *fracture, scaphoid, carpal bones, trauma, surgery.*

INTRODUCTION

Scaphoid fractures are the most common fractures of the carpal bone and commonly occur in young men; however, the incidence in women has increased in recent years. Studies show that about 2.4% of all wrist fractures are scaphoid fractures, with an incidence rate of 1.47 per 100,000 people per year. They are infrequent in children with approximately 3% of all pediatric hand and wrist fractures. Tenderness to palpation and/or pain with axial loading of the thumb should be managed as if it were a scaphoid fracture until proven otherwise or the diagnosis is evidenced by serial radiographs or more advanced imaging.Inadequate treatment commonly leads to pseudarthrosis, resulting in pain and significant disability. The diagnosis of fracture may be more difficult at times, mostly when presenting with apparently normal radiographs at the time of diagnosis. Clinical intuition may be augmented by physical examination and complementary tests available at the time, such as ultrasound, in the emergency department, however, definitive diagnosis should be made with CT and MRI to verify the presence of displacement. The vast majority of displaced scaphoid fractures will require surgical treatment to reduce the risk of pseudarthrosis. Non-displaced fractures have high healing rates with cast treatment, however, they require prolonged periods of immobilization(1-7).

METHODOLOGY

A total of 37 articles were analyzed in this review, including review and original articles, as well as cases and clinical trials, of which 20 bibliographies were used because the information collected was not important enough to be included in this study. The sources of information were Cochrane, PubMed and Google Scholar; the terms used to search for information in Spanish, Portuguese and English were: fracture, scaphoid, carpal bones, trauma, surgery.

The choice of the bibliography exposes elements related to scaphoid fractures; in addition to this factor, the description, epidemiology, etiology, presentation, diagnosis, treatment and prognosis of the disease are presented.

DEVELOPMENT

Anatomically, the scaphoid has 2 poles, proximal and distal, and a waist between them. The blood supply to the scaphoid comes mostly from branches of the radial artery, mainly the dorsal carpal branch. These penetrate to the dorsal crest and supply up to 80% of the proximal pole by retrograde flow. The second site of blood supply comes from the superficial palmar arch, a branch of the volar radial artery, which penetrates to the distal tubercle and irrigates the distal pole. The retrograde behavior of the blood supply implies that fractures at the waist of the scaphoid leave the proximal pole at greater risk of avascular necrosis. Ligamentous insertions of the scaphoid include the radioscaphoid ligament, which variably inserts on the ulnar aspect of the scaphoid waist, and the dorsal intercarpal ligament, which provides the main vascularization to the scaphoid(8,9).

The scaphoid, the largest bone of the proximal carpal row, plays an important role in the transfer of compressive loads from the hand to the forearm, as well as being vital in maintaining carpal stability. Scaphoid fractures can be divided according to the main mechanisms and can be traumatic or stress-induced. The origin is usually due to a fall on the outstretched hand, which generates a forceful hyperextension of the wrist(1,10-12).

Scaphoid fractures account for 2% to 7% of all fractures and 60% to 70% of carpal bone fractures. Individuals may have wrist pain following a fall on the outstretched hand. Axial loading of the wrist in forced hyperextension and radial deviation may result in fracture when the scaphoid impacts the dorsal border of the radius. Contact sports and traffic accidents are also common causes. Tumors and infections are infrequent causes of pathological scaphoid fractures (12,13).

Scaphoid fractures can generate pain and swelling at the base of the thumb at the anatomic clog. Affected individuals have wrist pain following a recent history of trauma. The pain is usually located on the radial side of the wrist and is worse with mobility, and there may be decreased range of motion of the wrist. It is recommended that the wrist examination should have the "look, feel, move" pattern. Deformity is unlikely unless a related carpal dislocation is present. The distal radius, ulna and metacarpals should be palpated to assess for associated injury. Occasionally it may also be accompanied by pain on palpation over the scaphoid tubercle on the volar aspect, feeling a bony prominence radial to the radial carpal flexor at the level of the distal palmar crease. The scaphoid compression test is the most sensitive and involves placing the examiner's index finger and thumb on each pole of the scaphoid and compressing, usually this maneuver generates pain in the presence of a fracture. Pain at the anatomical snuffbox with ulnar deviation of the wrist also provides a signal suggestive of a scaphoid fracture(12,14).

The diagnosis of scaphoid fractures is sometimes complicated. X-rays can miss fractures up to 25% of the time, resulting in unnecessary delays and immobilization. Computed tomography, magnetic resonance imaging, bone scintigraphy and ultrasound provide greater accuracy and faster results. Ultrasound is promising because of its availability and accuracy. MRI is considered the best for occult fractures and

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related injuries. MRI or computed tomography (CT) scans may be important for individuals with positive clinical findings. Repeat radiographs can be performed if necessary. CT scans and the use of 3D printing may have an impact on diagnosis and surgical planning(5,15).

Classification

Based on fracture pattern (Russe):

- Horizontal oblique.
- Transverse.
- Vertical oblique.

Displacement based:

- Stable: nondisplaced fractures that do not exhibit any steps in any plane.
- Unstable: joint step displaced 1 mm or more, scapho-semilunate angulation > 60° or radiosemilunate > 15°.

Based on location:

- Tuberosity: 17% to 20%.
- Distal pole: 10% to 12%.
- Waist: 66% to 70%.
  - Horizontal oblique: 13% to 14%.
  - Vertical oblique: 8% to 9%.
  - Transverse: 45% to 48%.
- Proximal pole: 5% to 7%(9).

The differential diagnosis can be made with distal radius fracture, other carpal bone fractures, scapholunate dissociation, De Quervain's tenosynovitis, osteoarthritis, tendinitis, lunate dislocation, carpal radial flexor tendon rupture, carpometacarpal joint arthrosis and Kienböck's disease(9,12,16-18).

Figure1. Anteroposterior, profile and oblique radiograph of the wrist, after surgical treatment of scaphoid fracture with Hebert screw.



Source: The Authors.

Conservative Management

Fractures that are not displaced and are within the distal third of the bone can be managed conservatively with cast immobilization. There is divergence of opinion on whether a long or short arm cast is optimal and whether a thumb spica should be made to immobilize the thumb. However, at present there is insufficient evidence to clarify which alternative is better. Commonly, the cast is worn for six weeks and at this time repeated radiographs are taken to assess healing. The time to heal is different according to the specific location of the fracture. The distal third would be expected to heal within 6 to 8 weeks, the middle third between 8 to 12 weeks and the proximal third between 12 to 24 weeks. The relative increase in time to recovery when moving from distal to proximal is secondary to subdued blood supply and retrograde arterial flow(19,20).

Surgical Treatment

The indications for surgical fixation are:

- Transcaphoid perilunate dislocation.
- Fractures of the proximal pole
- Comminuted fractures.
- Displacement greater than 1 mm.
- An intrascaphoid angle greater than 35 degrees.
- A radiolunate angle of more than 15 degrees.
- Non-displaced waist fractures in people who need to return quickly to work/sport.
- Pseudoarthrosis or avascular necrosis.

Surgical fixation involves the placement of screws or K-wires and can be done percutaneously or through an open procedure. Open fixation is preferred in pseudarthrosis, as well as fractures that have significant displacement.

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Technique

Screw placement is important and should be in the middle third of the central axis of the scaphoid, generating greater stability, as well as decreasing union time and improving alignment.access to the scaphoid can be done through a dorsal or volar approach, depending on the approach, the surgeon's preference, type and location of the fracture. The volar approach goes in the interval between the radial carpal flexor and radial artery and is the effective approach for waist and distal pole fractures. It has benefits such as allowing exposure of the entire scaphoid and radioscapholunate ligament, as well as being less detrimental to the vascular supply. As for the dorsal approach, it is preferred for fractures of the proximal pole, but it places the vascular supply at greater risk of injury, compared to the other access(12).

Treatment of scaphoid pseudarthrosis can be managed in several ways. Initially open reduction and internal fixation with bone grafting may be an alternative. A bone graft can come from the distal radius or the iliac crest. It is important to know that failure of surgical treatment of established pseudarthrosis of the scaphoid bone is more associated with smoking. Alternative treatments include total or partial arthrodesis, excision of the proximal fragment and radial styloidectomy or carpectomy of the proximal row. The latter are considered rescue procedures and are usually considered when there is arthritis compromising the radiocarpal joint(12,14).

Scaphoid fractures with a displacement of less than 1 mm have a healing rate of about 90%. The prognosis is worse when the fracture is displaced, undiagnosed or if the fracture is in the proximal pole. If left untreated, it is possible to generate chronic pain, in addition to a decrease in range of motion and grip strength. Physical therapy is important in both surgical and non-surgical treatment. Physical therapy allows the affected individual to regain range of motion and wrist strength(12).

CONCLUSIONS

Knowledge of the clinical presentation, diagnosis and treatment of scaphoid fractures is of utmost importance, because sometimes this type of fracture can go unnoticed in radiographs, which can lead to complications such as pseudarthrosis. The diagnosis of scaphoid fractures is sometimes complicated, so when there is clinical suspicion, appropriate complementary examinations should be performed to better determine the pathological condition, as is the case of computed tomography. Conservative or surgical management will depend on the type of fracture. Smoking cessation is recommended to improve fracture healing and physiotherapy both after surgical and non-surgical treatment.

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FUNCTIONS OF MYTHOLOGICAL CONCEPT UNITS IN FAIRY TALE DISCOURSE

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ABSTRACT

This article delves into the linguistic functions of mythological conceptual units within fairy tale discourse. It explores the mythologeme as a unit encapsulating the mythological worldview with distinct semantics inherent to the mythological system. Drawing from the perspectives of various scholars, it elucidates the rich and sacred origins of the mythological worldview, intricately intertwined with the cultural contexts in which it is articulated across diverse discourses.

KEY WORDS: *myth, mythological view, mythological concept, fairy tale, discourse, mythologeme, linguoculturology*

INTRODUCTION

In the realm of mythological perspectives, the essence of a myth is articulated through the conceptual units that embody it. Each of these units carries its own purpose, such as depicting objects and events. As our exploration pertains to the realm of language and literature, we shall examine them distinctly.

Within the discourse of fairy tales, mythological conceptual units serve several pivotal roles, facilitating the creation of a distinctive ambiance, unraveling layers of meaning, and exerting influence upon the reader or listener. Stylistic tropes, akin to symbols and metaphors, are instrumental in conveying the essence of these conceptual units. They often serve as poignant reminders, fulfilling symbolic roles while harboring deeper metaphorical significance. For instance, the motif of the "dragon" in fairy tales symbolizes the arduous challenges to be surmounted.

Numerous mythological symbols within fairy tales embody the dichotomy of good and evil, thus injecting tension and dynamism into the narrative, enabling readers to grasp the conflict and its resolution more vividly.

Mythological elements within fairy tale discourse serve a clandestine and elusive function, subtly drawing the reader's attention towards the unexplored and enigmatic facets of mythology.

The mythological framework aids in delineating the thematic elements of fairy tales; for instance, motifs of gods or heroes signify potency and supernatural prowess.

A mythological element often serves as the pivotal twist in the plot, instigating suspense and paving the path for subsequent events.

Hence, these roles can be delineated based on individual fairy tales and their mythological constituents. The alignment of these elements with the narrative is imperative for enriching the story's substance and fostering intrigue within the realm of fairy tales

LITERATURE REVIEW

Mythological concepts serve as building blocks for creating a unique world. They are magical (mythical) creatures, gods, and noble places, and they can be used only if they give a special appearance to the fairy tale. In addition, the problems of verbalization of these cultural changes were also studied in Arnold van Gennep's book "The Rites of Passage". He was a French ethnologist and folklorist who contributed to the study of mythological elements in culture. [Gennep 1999:19].

The importance of education and upbringing is one of the most discussed issues in national pedagogy. At the same time, mythological concepts are often used to introduce ethical lessons and truths of life into the fairy tale discourse. It gives the readers the necessary information to compare the good qualities or bad qualities shown by the heroes of the fairy tales and to train them, and at the same time, it is clear that they should learn to avoid experiencing these negative actions in life. In the scientific work "Morphology of the Folktales" by V. V. Propp, tasks representing educational and upbringing issues in mythological concept units are given.
Characters with mythological characters can develop the taste of the reader. Encounters with surprising creatures or events can change the character, making him stronger, smarter, or kinder. Of course, these issues belong to society. It is closely related to the clarification of social norms. Klaus Schmitt is a German scientist explores this more widely in his work “Critical Communication Studies: Essays on Communications, History, and Theory in America”.

The roles of mythological concepts in the discourse of fairy tales in the linguistic analysis of linguoculturology and

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structural linguistics have been studied by a number of researchers. Some of them are engaged in the tasks of mythological interpretations in literature and fairy tales. It is worth pointing that these issues were studied in English by V. V. Propp, Y. Kampferbek, K. P. Muller, A. van Gennep, K. Schmidt, in Karakalpak J.X. Khoshniyazov, S.S. Kazaqbaev, Sh.M. Kunnazarova and G.K. Kdırbaeva.

RESULTS AND DISCUSSION

Mythological concept units in the discourse of fairy tales perform various linguistic tasks, enrich the language and add semantics to the text. Linguistic functions of such units are as follows:

Vocabulary enrichment: mythological concepts are used to add new terms and vocabulary to the text. This may include wonder, supernatural creatures, artifacts, place terms, and other terms. “The ancient forest was inhabited by mystical creatures known as Sylvanfolk, who guarded the sacred groves.” (The Enchanted Woodland Quest).

Enriching imagery: the use of mythological images gives the text subtlety and an attractive visual appearance. Characteristics of gods, sacred places, and events can create visual images. “The dragon's scales glittered like a thousand jewels as it soared through the starlit sky.” (Starlight Serenade of the Crystal Dragon).

V. V. Propp was the first to interpret the structure of fairy tales in terms of structural technique in his study "Morphology of fairy tales". In this case, the emphasis is on the structural and functional field, and it is possible to define certain functional elements and discuss the structure.

Metaphorization and symbolization: mythological concepts are mostly used as metaphors, symbols or allegories. They can give deeper meaning to the text and express abstract ideas: “The phoenix, rising from the ashes, symbolized the eternal cycle of renewal and rebirth.” (The Phoenix's Lament: A Tale of Renewal).

Identify the theme and ideas: mythological concept units clarify the theme and ideas of the tale. For example, the themes of good and evil, struggle and victory can be embodied with the help of mythological characters: “The phoenix, rising from the ashes, symbolized the eternal cycle of renewal and rebirth.” (The Oracle’s Prophecy: Unraveling Destiny).

Forms linguistic style: the use of mythological concepts can give a story a unique style. For example, depending on the chosen myth, the text may be archaic, familiar, or vice versa, this language may be close to the vernacular: “With a voice as ancient as the hills, the sorcerer chanted the incantation that would unlock the portal to another realm.” (The Sorcerer’s Chant: Echoes of Another Realm).

Mystery and devotion: the introduction of mythological elements into the text of the fairy tale gives mystery to the content of the text and creates dramatic action. Readers or listeners can be introduced to the undiscovered side of mythology with great interest: “As the night descended, the eerie howls of the werewolves echoed through the haunted castle, sending shivers down the spine.” (Moonlit Howls: Secrets of the Haunted Castle).

Plot structuring: it is possible to use mythological concepts in plot construction and development. A set of challenges that contains elements of surprise can also advance the story: “To obtain the Golden Fleece, the hero faced a series of trials, each more perilous than the last, guided by the advice of the wise old centaur.” (The Hero’s Odyssey for the Golden Fleece)

Enrichment of the speech of the characters: it is possible to use a special language to enrich the speech of the heroes who have mythological characters. This includes archaic word phrases, invocations of gods, prayers, etc.: “The elfin princess spoke in a language infused with archaic beauty, her words carrying the grace of ancient poetry” (The Elfin Princess’s Enchanted Dialogue).

Creation of phrases: some mythological concepts can be the basis for idioms and phrases that are recognized in a certain tale, affecting the linguistic richness of the text: “Facing the monstrous challenge, the knight remembered the sage advice of his mentor: 'To conquer the Hydra, strike at its heart.” (Hydra’s Heart: Wisdom of the Knight’s Mentor).

Imparting emotional cues: mythological elements can enhance emotional cues in a story. This can be achieved by using mythological creatures or events that evoke feelings of excitement, pleasure or unease: “As the god of thunder unleashed his wrath, the heavens themselves trembled, emphasizing the cataclysmic power he wielded.” (Thunder God’s Wrath: Tremors in the Heavens).

William Hogarth points out a number of peculiarities of the study of mythological concepts in literature, folklore and culture in his work "The Analysis of Beauty: Written and Illustrated by William Hogarth". It is also possible to analyze the functional aspects of mythological concepts. In addition to studying questions about the impact of mythological concepts on language and culture in this literature, it also mentions researchers in the field of linguoculturology. [Hogarth 1987:54].

These linguistic functions of mythological concepts together help to form a rich, multi-faceted language in fairy tales. These discussed examples are used in place of various linguistic tasks of mythological concepts in fairy tales, adding clarity and depth to the texts. In these examples, it was revealed that some linguistic tasks of mythological concepts in the terms of fairy tales are gathered into mythologemes, in which it was shown that book lovers have the possibility of creating new content from the images of the mystery.

S.A. Kosharnaya pays more attention to the term mythoconcept, and defines it as a creative element of the composition of the mythological view of the universe. The

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uniqueness of the mythological concept is explained by its mythological nature: "Mythological concepts are presented as archaeological evidence, and it is clear that the semantic reconstruction of the ancient cognitive paradigm of the ethnos will not be complete without them". [Kosharnaya 2002: 86].

There are several indicators representing mythological concepts, which describe the cognitive consciousness, knowledge and experience of a certain ethnic group in the mythological worldview. S.A. Kosharnaya used them as an "archaeological" source-mythological concept, later Lévi-Strauss, N.S. Popov, O.I. Bikova and O.N. Rakinina called them miphemas as a denotative component with the displacement of semas, T.V. Tritenko defines this concept as a mythologeme (a unit related to language). According to this researcher, "mythological concept is one of the structural divisions of the general field of understanding of mythology, and it is an intellectual picture determined by how things are connected with each other and how they are grouped." According to the author, the verbalizers of mythological concepts are mythologemes. We, in turn, agree with V. Tritenko's opinion and use the terms mythological concept (mythoconcept) and mythologeme in the following places of our research.

From the special terminological dictionaries and scientific works of researchers, we quote the several definitions of mythologeme that are similar to a certain degree, some of them consist of contradictory opinions. In other words, mythologeme - (ancient Latin μῦθος - narrative, legend, and ancient Greek λόγος - thought, reason) is a term used to describe a mythological plot, scene, image, universal character and a unit that is widely used by the nations of the world.

[https://www.textologia.ru/slovari/literaturovedcheskieterminy/mifologema/?q=458&n=348];

According to K.G. Yung's definition: mythologeme "... permanent and popular constructions that are repeated in social fantasy, which generally represent reality in the form of concrete-sensory symbols and various creatures that are accepted as very real by the archaic consciousness ". [Yung 1991: 31];

According to A.K. Bayburin: mythologeme "... is a term with variable content, used to define a unit of mythological concept. <...> Considered separately from the motif of folklore, mythologeme is a fractional unit with a high taxonomic level. [Bayburin 1991:78];

According to G. I. Isina, a mythologeme is "... a meaningful unit of linguistic consciousness, a product unit of an unconscious society, stored in the national memory of a special ethnic group, and based on the evolution of a specific national culture, it is described separately in the form of its linguistic nature". [Isina 2015: 65];

G.K.Kdırbaeva suggests that the mythologeme is "... an independent unit of the mythological system, on the basis of which sacral, cognitive, symbolic signs are a lexical unit that illuminates the full content". [Kdırbaeva 2022:940].

Verbalization of mythological concepts is carried out by mythologemes, and determining the exact definition of the term "mythologeme" is one of the actual issues in the field of philology, because, as we have seen, there are still ambiguous definitions. The formation of this scientific question is related to the need to form the "mythological worldview of Karakalpak", and on this basis it is clear that national characteristics are defined in cultural type dictionaries.

CONCLUSION

Thus, the discourse surrounding the mythological worldview, mythological cognition, national-cultural concepts, and mythologies' role in shaping linguistic consciousness presents a multifaceted exploration of the intricate interplay between culture and language. We concur with the notion of adopting modern approaches and employing systematic methodologies in research, recognizing the reciprocal influence between them. Consequently, the linguistic consciousness of individuals possessing distinct linguistic backgrounds perceives the world through diverse lenses, thereby revealing both shared commonalities and unique nuances in apprehending the world through language.

To conclude, culture is a complex phenomenon, and it is not only a phenomenon that belongs to society, but also an evaluation system of an individual who owns a special culture. In this, any culture finds its own unique meaning in the language. Mastering only the form of the language, not taking into account the cultural content of the language, causes students to deviate from the norms of the culture they are learning, and as a result, it causes mutual disagreements between the speakers of both languages.

In summary, culture embodies a complex phenomenon, serving not merely as a societal construct but also as an evaluative framework for individuals within a particular cultural milieu. Within this framework, language assumes a pivotal role, imbuing each culture with its distinctive essence. Neglecting the cultural content of language acquisition leads to a divergence from the norms inherent in the culture being studied, potentially fostering discord between speakers of different languages.

In the context of languages originating from disparate cultural contexts, students must cultivate intercultural communication skills sensitively attuned to linguistic and psychological intricacies. Such proficiency entails a nuanced understanding that extends beyond the surface-level attributes of diverse cultures, encompassing their interrelations. Intercultural communication, therefore, necessitates the ability of individuals to transcend their cultural confines and engage in communicative interactions without compromising their cultural identities. The cultivation of such competence hinges upon a profound comprehension of various academic disciplines and the intricacies of cultural-linguistic constructs

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EFFECTIVENESS OF COGNITIVE STIMULATION THERAPY(CST) AMONG PEOPLE WITH DEMENTIA - A NARRATIVE REVIEW

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ABSTRACT

OBJECTIVE: This study explores the effectiveness of cognitive stimulation therapy to improve cognition in people with dementia.
SELECTION METHOD: PubMed, Google Scholar, Science Direct, Cochrane from these databases, articles were searched using keywords.
SELECTION CRITERIA: The articles were collected based on the inclusion criteria focusing on the cognition in people with dementia.
RESULTS: The preliminary results suggested that the tasks like measuring attention, memory, speed processing, executive functions, and speed processing following the cognitive stimulation treatment (CST). Evidence shows that CST promisingly improves people's cognitive functions as measured by the (MMSE) mini-mental state examination. This test investigates memory, orientation, language, and visuospatial abilities. CST has led to significant improvements in quality of life, along with care givers. Analyses suggests CST is equally effective as many dementia drugs.
CONCLUSION: Cognitive stimulation therapy improves cognition in people with dementia and benefits the quality of life. Evidence from several studies indicates that cognitive stimulation therapy along with multiple component interventions improves not only cognition but also the language, behavior, and quality of life of people with dementia. Results from interviews of CST sessions found key themes, including positivity being in the groups, due to a supportive and good environment, improvements in confidence, mood, and concentration.

KEY WORDS: Non-*Pharmacological intervention, Cognitive stimulation therapy (CST), People with Dementia (PwD), Cognition, Older adults, assessment scales, Quality of life (QoL).*

1. INTRODUCTION

Dementia is a progressive neurocognitive disorder that leads to deterioration in cognitive function. It is a global challenge, with increasing life expectancy along with the number of people suffering from chronic health conditions associated with aging. It affects memory, orientation, language, learning capacity, comprehension, judgement, and self-care abilities. (1)

Over 50 million people around the world are now living with dementia, according to World Health Organization (WHO) the number of people living with dementia worldwide is projected to reach 71.2 million (8.1 % of women and 5.4% of men over 65 years) by 2030 and could exceed 106.8 million by 2050.(2) Dementia is characterized by disorders of thinking and consciousness, personality changes, abnormal behavior, and reduced ability to perform daily activities. Additionally, up to 90% of people with dementia exhibit behavioral and psychological symptoms, such as anxiety, depression, agitation, delusions, apathy, wandering, sleep disturbances, and irritability and they negatively affect quality of life, which not only present an economic and social burden, but also a burden for those living with the disease, their family and careers. People with dementia are more likely to suffer depression than other older adults, moreover depression was associated with an increased risk of dementia. (1) Some studies showed that depression is the key factor to progress the mild cognitive impairment to dementia. (3)

As per the evidence suggested, options for treating dementia include pharmacological and non-pharmacological interventions.(1) Efficacy of current pharmacological therapy for dementia is very much limited and hence research focused on non-pharmacological treatment .The practice of physical activity is one of the variables that should not be forgotten in this condition, it has an improvement in the QOL older people as well as a guarantee of good aging in terms of health, yet there is good evidence that some non-pharmacological treatments can improve cognitive functions and physical, social

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interactions, activities of daily living skills and quality of life of PwD, with the benefit of some being cost-effective.[4] Therefore, social psychological interventions have attracted the attention of many researchers because of their efficacy and low cost. Among the various cognitive interventions available in dementia cognitive stimulation therapy is the intervention with the most robust. [3]

Cognitive stimulation therapy (CST), which originated in the UK, is a people –oriented social psychological, kind of group-based intervention on the principle of "use it or lose it". The central assumption underlying cognitive stimulation is that a lack of cognitive stimulation can hasten the decline in both normal aging and dementia. First developed in 2001, CST was designed to improve the cognition of people with dementia through experiential learning, recognizing people, objects, and remembering the past. CST has been the focus of many recent studies of dementia interventions. Therefore, people with dementia can benefit from CST due to its adaptive and long-term use nature. Cognitive stimulation therapy is a brief, evidence- based group programme developed for people with mild to moderate dementia. [3]

According to Spector et al, in the year 2003 evaluated a group CST programme in a single- blind, large multi- centre, randomized controlled trial and demonstrated the importance of two measures of cognitive functions in the Mini-Mental State Examination (MMSE) and cognitive subscale of the Alzheimer's Disease assessment scale (ADAS- Cog). CST provides a stimulating environment for dementia patients. The activities are chosen for participants according to their needs and ability and their interest is stimulated so they can participate actively. CST can delay further decline of cognitive function and improve the patients through stimulation. CST involves a series of engaging activities carried out in small groups that stimulate memory, thinking, and orientation, including 14 structured thematic cognitive stimulation activities, (two per week, each 45 min in duration). Each activity includes 10 minutes warm up and 10 minutes conclusion (class summary), and 25 minutes of cognitive stimulation.[2] A wide range of activities are included to ensure cognitive stimulation, such as mental stimulation, thoughts, promoting new ideas, associations, a focus on rather than facts, respect and person centredness, and maximising the potential of people with dementia. [14]

Currently, CST is the only psychosocial intervention recommended by the NICE Guidelines in the UK. CST has been translated into atleast eight languages and used in 24 countries, indicating its efficacy. In a Cochrane review, Aguirre et al; confirmed its positive impact on cognitive function, depression, activities in daily life (ADL), and behavior of people with dementia. Subsequently, evidence showed that CST is associated with changes in patterns of neural activation in cognitively important brain regions among healthy older adults and in people with mild cognitive impairment. [12]

2. METHODOLOGY

SEARCH METHOD AND ELIGIBILITY CRITERIA

A thorough literature search was carried out using PubMed, Google Scholar, Science Direct, Sage Journal, Research Gate. Unpublished English articles were removed. Dementia, Cognition, Older Adults, Cognitive stimulation therapy were the keywords used in this search to find relevant articles. The articles were collected in full text. A total of 36 articles were collected and only 16 articles are used in this study for the research.

STUDY SELECTION

INCLUSION CRITERIA

- Articles explaining about Dementia, Cognition and Cognitive stimulation therapy were included.
- Older adults.
- Articles published in recent years.
- Full text articles.
- Articles published in English.

EXCLUSION CRITERIA

- History of recent trauma and fracture

3. REVIEW OF LITERATURE

SI NO	AUTHOR AND YEAR	TITLE	METHODS	STUDY RESULTS	CONCLUSION
1	Renata Naylor, et al. 2024	Experience of Cognitive stimulation Therapy (CST)in Brazil: A qualitative study of people with dementia and their caregivers	The interviews were conducted with the participants of the group of twelve and caregivers of eleven. The framework analysis was used to inspect the data.	The result indicates that CST groups had perceived personal benefits for the people among dementia and caregivers that there are changes for the participants group.	The authors concluded that CST brings changes in people with dementia and caregivers, and there are many improvements. Furthermore, the results of this study have evidence with previous qualitative findings indicating that CST is

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					beneficial for people with dementia.
2	Yanan Cao, et al. 2023	Effects of cognitive stimulation therapy on patients with dementia: An umbrella review of systematic reviews and meta-analysis.	A total of 14 systematic reviews and meta-analyses were included in the study. They searched in Cochrane Library, PubMed, Web of Science, China national knowledge infrastructure, and VIP databases from inception to December 31,2022	The result suggested that out of 14 reviews eleven studies with low to high rating reported that CST could significantly improve cognition of people with dementia.	The authors stated that current reviews support CST as an effective treatment for improving cognitive functions in people with dementia and multicomponent interventions are more effective than single components to be delivered regularly.
3	Yue Sun, et al. 2022	Comparative effectiveness of 3 settings of Cognitive Stimulation Therapy on Cognition and Quality of Life for People with Dementia: A systematic review and network Meta-analysis.	Search database, including PubMed, Embase, Cochrane Library, Web of Science, were systematically searched from inception to March 2021. RCT's compared the differences among three different settings of CST in treating people with dementia were included. A meta-analysis was conducted to evaluate the effect of CST settings.	A total 17 studies were included, enrolled 1680 participants. Compared to control group the mean difference showed low quality evidence and CST group could significantly improve cognitive function.	The authors concluded that both CST and MCST seems to promote more consistent benefits in cognition, QOL. Further MCST likely to be most effective CST settings.
4.	Elena Carbone, et al. 2021	Cognitive Stimulation Therapy for Older Adults with Mild to Moderate Dementia in Italy: Effects on Cognitive Functioning, and on Emotional and	At 16 residential care homes, older adults with mild to moderate dementia were randomly allotted to a CST-IT group with 123 and control group with number of 102. They were examined by MMSE, ADAS-	The results suggested that both long- and short-term assessments, the CST-IT group's MMSE scores remained stable, the control group's score decreased slightly. The CST-IT group also had short term benefits in	The authors stated that CST is a promising option for the long-term treatment for people with dementia.

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		Neuropsychiatric Symptoms.	Cog and Narrative language test, disability assessment for dementia and quality of life-Alzheimer's scale	other cognitive measures (ADAS-Cog and Narrative language test)	
5	Luke Gibbor, et al. 2021	A feasibility randomized control trial of individual cognitive stimulation therapy for dementia: impact on cognition, quality of life and positive psychology.	Thirty-three PWD were taken from care homes and randomly assigned with iCST 14 session with 45mins or treatment as usual TAU over seven weeks.	The result indicated feasible with high attendance to sessions, with significant improvement in iCST compared to TAU.	The authors concluded that with 14 session programme of iCST delivered a feasible benefit to cognition.
6	Eederica Piras, et al. 2017	Efficacy of cognitive stimulation therapy for older adults with vascular dementia	They were two groups, one group of 21 attended 14 sessions of CST-IT program and other active control group with 14 of them took part in alternative activities.	The result indicated that compared to active control group, the CST-IT group showed a greater improvement in cognitive functioning after intervention i.e., score increase in MMSE scale	The authors concluded that the present results support the efficacy of CST in people with vascular dementia.
7	Emanuela Capotosto, et al. 2017	Cognitive stimulation therapy in the Italian context: its efficacy in cognitive and non- cognitive measures in older adults with dementia	They included 39 older adults with mild to moderate dementia and randomly assigned to two programs: one group CST-IT 14 sessions, twice a week for seven weeks and control group took part in alternative general activities. The outcomes measures were MMSE, ADAS-Cog, digit span test, narrative language test.	The results suggested that only CST-IT group maintained its MMSE score, control group showed deterioration.	The study concluded that efficacy at least in short term of CST in sustaining cognitive functions and perceived quality of life in older adults with dementia.
8	Katsuo Yamanaka,et al. 2013	Effects of cognitive stimulation therapy Japanese version (CST-J) for people with	A single blindness CST-J consisting of 14 sessions to a treatment group of 30, twice a week for 7 weeks. The	The results indicated; they were a significant improvement in cognition, for the treatment group	The authors concluded that CST-J shows improvements in cognition, mood, and aspects of QOL for

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		dementia: a single-blind, controlled clinical trial	treatment group was compared with control group with 30, and cognition were evaluated.	compared with control group.	people with dementia
9	E Aguirre, et al. 2013	Cognitive stimulation therapy (CST) for people with dementia.	The study included 272 participants with dementia took part in a seven-week CST program. It was carried out by pretest and posttest, and contributing factors that predicted change in outcomes were examined.	The result showed that the benefits of CST whether people were taking acetylcholinesterase inhibitor (AChEIs) medication. CST improved cognition and quality of life. Care home residents improved more than community residents.	The authors stated that CST improves cognition and quality of life for people with dementia including with AChEIs.
10	Bob Woods, et al. 2012	Cognitive stimulation to improve cognitive functioning in people with dementia.	They searched from the database of Cochrane dementia and cognitive improvement. The search included Cognitive stimulation, reality orientation, memory therapy, memory stimulation, memory support, cognitive psychostimulation. The search was up to date and comprehensive.	The result indicated by the data with meta-analyses for 718 participants (407 receiving cognitive stimulation, 311 in control groups) Two analyses: primary analyses – that they were evident immediately at the end of the treatment period. In secondary analyses the benefits were not noted on self-reported quality of life and well-being.	The authors concluded that they were promising evidence from multiple trials that cognitive stimulation therapy benefit cognition in people with dementia from mild to moderate.
11	Aimee Spector, et al. 2011	The impact of Cognitive stimulation therapy groups on people with dementia	They conducted a qualitative interview and focus groups with people attending CST groups, data were recorded and transcribed, analyzed using framework analysis	Two themes emerged, positive experiences of being in the group and changes experienced in everyday life, overall, the results suggested that CST of being emotionally positive and most of them reported some cognitive benefits.	The authors concluded that the further findings lend support to previous quantitative findings, as well as providing information about CST.
12	Robert F Coen, et al. 2011	Efficacy of a cognitive stimulation therapy programme for	The participants were selected by mild to moderate dementia with MMSE score range	The results indicated that 14 CST and 13 control participants completed the study. Between the two	The authors concluded, even though the sample size is small the current study is

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		people with dementia.	10-23, randomized to CST group. The pre and posttest was undertaken by the assessors who were blind to the condition. Measures included MMSE, CDR, ADAS-Cog, GDS depression, QOL-AD.	group CST group showed a promising improvement. The therapist noted that CST group demonstrated good interaction and enthusiasm in the group.	consistent with the Spector et al's findings in 2003 of beneficial effects in people with mild to moderate dementia following CST.
13	Sarah Tardif, et al. 2011	Cognitive stimulation therapy programs in healthy elderly: A review.	The database was searched in PsycINFO and PubMed in the following, cognitive training, cognitive stimulation, elderly and aging. Along with 14 studies were in the community.	The study indicates out of 14, nine studies were targeted memory as the principal of cognitive function to train or stimulate. Improvements observed on at least one outcome measure in each study.	The author reviewed that nine-study targeted with memory as the cognitive principal, showed improvement in one of the outcomes used in the study.
14	Aimee Spector, et al. 2010	Cognitive stimulation therapy (CST); effects on different areas of cognitive function for people with dementia.	They evaluated a single blind, multi center, randomized controlled trial, with CST a 14-session group treatment. The outcome measures were ADAS-Cog compares with treatment group and the control group.	The results showed that a significant difference noted between treatment group and the control group in total ADAS-Cog score and in language subscale.no significance changes in memory and praxis.	The authors concluded that CST appears to have particular effects in promoting language function, with a generalize benefits
15	Aimee Spector, et al. 2003	Efficacy of an evidence based cognitive stimulation therapy programme for people with dementia: a randomizes controlled trial.	They conducted a single blind, multi centre, randomized controlled trial, along with 201 older adults with dementia. An intention to treat analysis used to analyses of covariance to control for potential variability in baseline measures.	The results showed among 201, one hundred and fifteen people were randomized with the intervention group and 86 were control group. The intervention group improved significantly relative to control group.	The author concluded by CST group may have worthwhile benefits of many people with dementia.

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16	Veronique Breuil, et al. 1994	Cognitive stimulation therapy of patients with dementia: Preliminary results.	They were 56 subjects with randomized group, assessment was blind for the main criteria. 29 patients were stimulated and compared with 27 non stimulated patients. The stimulated group attended 10 stimulation sessions over 5 weeks. Each group was assessed on first and seventh session.	They were significant improvement of MMSE scores and increased performance.	The authors concluded that global stimulation of cognition functions improve certain parameters among dementia patients.

4. DISCUSSION

The aim of the review was to explore the effectiveness of cognitive stimulation therapy in patients with mild to moderate dementia. Evaluating the number of studies included in this review, there is a need for additional research in the use of CST in different cultural setting and in the use of CST. It is an evidence-based intervention for dementia that is widely implemented in the health care settings. The practice of physical activity is one of the variables that should not be forgotten in this condition, it has an improvement in QOL older people as well as a guarantee of good aging in terms of health, yet there is good evidence that some non-pharmacological treatments can improve cognitive functions and physical, social interactions, activities of daily living skills and quality of life of PwD, with the benefit of some being cost effective. The results are promising on the tasks measuring attention, memory, speed of processing, executive functions following the cognitive stimulation programs. For instance, some intervention programs were administered in groups along with structured sessions targeted a specific cognitive function whereas other programs were unstructured format sessions and targeted multiple cognitive functions.

The findings showed that 40 sessions (8weeks) of cognitive stimulation therapy resulted in a significant improvement of behavioral symptoms and cognitive in patients with mild to moderate dementia (Spector et al.,2001) After 8 weeks of cognitive stimulation treatment, the patients showed the decrease in dementia severity, a better outcome results in memory, planning, abstraction, and visuospatial ability. Thematic activities like physical games, sound, word association, childhood, using objects, word and team games etc. When implementing CST, multi-component interventions should be used whenever possible, which will be more effective than single- component interventions. CST usually includes 14 group sessions, twice a week for about 45min each, (Rai et al.,2018) however treatment outcomes achieved by longer duration programs appear to be better (Sun et al., 2022), such as maintenance cognitive stimulation therapy, which continues for an additional 24 weeks of CST sessions after completing a 7-week CST program (Orrell et al., 2014)

Xue Chen Mmed et al., in the year September 2022 studied about the effectiveness of cognitive stimulation therapy (CST) on cognition, quality of life for patients living with dementia. The authors carried out a randomized control trial; The study was to assess the effectiveness of CST for improving cognition, quality of life (QoL) people with dementia. Totally 10 studies CST for improving cognition, QoL, behavior, language and activities of daily living were evaluated. The authors concluded that CST improved the cognitive ability, QoL, language and activities of daily living of dementia. However, the effect of neuropsychiatric symptoms on dementia requires further exploration.

A feasibility randomized control trial of individual cognitive stimulation therapy for dementia, (Luke Gibbor et al.,2021) identified with 33 PwD were taken in the study and randomly assigned with CST of 14 session with 45mins of treatment as usual TAU over seven weeks, and the results indicated with high attendance to sessions, with significant improvement in CST compared to TAU. So, the authors concluded that with 14 session programme of CST delivered a feasible benefit to cognition and improved the quality of life in people with dementia. Adelina Comas-Herrera et al., in the year May 2016 studied about the Cognitive Stimulation Therapy (CST), a summary. The authors carried out randomized controlled trial (RCT). The first trial found that CST worked as well as standard anti-dementia medication and the second study found that CST had benefits for people in addition to those from the anti-dementia medication, they were taking CST has also been evaluated in an RCT in which 236 people with dementia, who had previously completed 14 sessions of standard CST, took part. MCST helped improve the quality of life of those taking part: this was observed from self-reports by people with dementia at 6 months, from reports by their family or other at 3 months. This may be for improvements in cognition already having been achieved by CST.

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LIMITATIONS

Limited generalizability of the findings to a broader in cognitive deficits in dementia population.

In addition, few studies reported follow up data, so there is no high-quality evidence to corroborate the long-term benefits of CST on cognitive function, to provide a reliable reference for improving the quality of life of dementia patients.

CONCLUSION

Research from multiple studies suggested that Cognitive stimulation therapy improves the cognition in people living with dementia. The result showed that CST can improve the cognitive ability and QOL of PwD and reduce their depression. It also had a significant effect on ability to perform daily living activities and language in PwD, so the articles supported the feasibility and effectiveness of CST for PwD. Therefore, more rigorous and in-depth studies are needed.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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POSITIVE PSYCHOLOGY, POSITIVE SCHOOLING AND RABINDRANATH TAGORE'S EDUCATIONAL IDEAS

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ABSTRACT

The concept of Positive Psychology is comparatively new in the realm of psychology. It is related to the happiness of an individual or a group. Happiness or the frequent positive affective state of mind also impacts mental well-being and, hence, an individual's mental health and development. The educational system developed by Rabindranath Tagore in Santiniketan dated back to 1901 in the form of a Brahmacharya Vidyalaya had the prime aim of "joy of mind" of the students. Closeness to nature, classes in the open air, multidimensional curriculum were some of the significant principles of the educational institution established by a Rabindranath Tagore. All these principles certainly aim to strengthen the students' happiness base. More than a century before, Tagore had applied these principles of positive psychology to his educational experiments. The present study is a humble effort to trace Tagore's educational efforts related to happiness, positive psychology, and positive schooling.

KEYWORDS: *Positive Psychology, Positive Schooling, Rabindranath Tagore's educational Practices*

INTRODUCTION

Nowadays, education in almost all nations is developing based on the principles of educational psychology. Various psychological theories and principles are applied to make the educational system more effective and fruitful. At the same time, the student's achievement is also being focused on while using psychological approaches in education. Curriculum development, teaching methods, selection of books, evaluation process, grading system, remedial lessons, and other fields of education are developed based on the principles of educational psychology to make education joyful and effective. Mainly in the early days of learning, the principles of positive psychology are being emphasized for developing a positive attitude toward education.

Followers of positive psychology generally advocate for three fundamental pillars of positive psychology: positive experience, individual traits, and positive institutions. (https://mu.ac.in/wp-content/uploads/2022/05/Positive-Psychology-English-Version.pdf). Positive schooling emerged based on these principles and pillars of positive psychology. Positive schooling is an applied part of positive psychology that focuses on the student's overall development rather than addressing their weaknesses. Positive schooling from childhood is also effective for developing trust, care, team effort, respect for other members of the group, respect for diversity, responsibility, creativity, courage, leadership qualities, work ethic, self-discipline, integrity, critical thinking ability, different skills, perseverance, honesty, kindness, modesty, humanity, passion, social intelligence, emotional control, diligence, self-monitoring, bravery and other vital traits of personality. So, positive schooling is positively correlated with the student's cognitive, affective, and psycho-motoral development. At the same time, it must be mentioned that positive schooling directly affects the mental health and well-being of the students. Therefore, to strengthen the future generation of any society or Nation, positive social and educational institutions and positive schooling are of paramount importance.

In *Santiniketan*, which was established by Mahrshi Devendranath Tagore in 1863, Rabindranath Tagore, in 1901, established a *Brahmacharya Vidyalaya* in, the lab of the nature, which was probably his answer to his dissatisfaction about the educational system that he had to face during his childhood and the educational system that was in practice in the during Colonial India. However, the *Brahmacharya Vidyalaya*, as an Ashram, was a unique example of positive schooling. A multidimensional curriculum with a range of extra-curricular activities has been incorporated into the educational system to prioritize students' interest in learning. Teaching and learning in the open air added a new dimension to the educational system. The main aim of education in this educational institution, as set by Tagore, was the "joy of mind" of the students. Tagore adopted the principle of free discipline in educational institutions. The educational experiments by Tagore in Santiniketan were based on scientific approaches, while the principles of educational psychology, child psychology, and positive psychology were equally emphasized.

A blend of naturalism and pragmatism was perfectly planned and implemented to nurture, grow, and develop young minds from their childhood and ensure the overall development of the

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student's personalities. Tagore also followed the ancient Indian educational tradition in the educational practices at Santiniketan. So, at the beginning of the 20th century, the educational experimental executive and practiced by Tagore informed of a *Brahmacharya Vidyalaya* was a revolutionary and innovative educational effort which, over time, was acclaimed by the entire world.

Positive psychology is essential and related to the mental well-being of an individual by providing positive experiences. Positive schooling during the initial days of formal learning helps develop a positive attitude among the students toward the teaching and learning process. It strengthens the foundation of the Nation's future generations. Tagore's educational institution started as a *Brahmacharya Vidyalaya,*which today is popularly known as "*Patha Bhavana*," also practiced the same from its inception. On the other hand, positive psychology was come in to light as a formal discipline in 2000. This study attempts to study whether or how far a century back the educational system synchronizes with the concept of positive schooling or, in a broader sense, with positive psychology.

Aims of Education

Tagore defined education as *"The highest education is that which does not merely gives information but brings our life in harmony with all existence."(*Tagore.R,1917,p.116*)*

Through this definition, Tagore had fixed a very simple but high aim of education, which not only ensured individual development but also emphasized the symbiotic relationship of the students with nature as well as with society. According to Tagore, the main aim of education must be the "joy of mind," and he advocated for the spontaneous participation of the students in the educational system. From the inception of the *Brahmacharya Vidyalaya* or Patha-Bhavana, closeness to the natural environment had been one of the prime aims of the educational system. Closeness to nature ensures happiness and helps develop the students' free-thinking ability. It also has a positive correlation with the mental well-being of the students. For this reason, Tagore believed in the burden-free learning of the students was mainly during the early days of their education. Developing creativity within the students through a well-planned positive schooling system was another aim of his educational practice. Accordingly, Tagore adopted a multidimensional curriculum in his educational system with many co-curricular subjects equally important to traditional school subjects. Another important aspect that needs to be mentioned in this context is the principle of choice and the demands of the students in the selection of subjects. Tagore adopted this practice almost a century before, and it is equivalent and pertinent in modern times too.

Tagore's educational philosophy also emphasizes the development of different social, cultural, moral, and environmental values through education. *"Ashram Sammilini*," a unique form of student self-governance, was introduced by takers in 1912 in his educational institution, which ultimately aimed to develop the student's personalities. Different activities were arranged to involve the students in various social, cultural, and literary activities. Spontaneous engagement of the students in the different types of activities has added an extra dimension to Tagore's educational practices.

A range of co-curricular subjects was also incorporated into the school curriculum to orient students to different kinds of vocational skills and trades. "*Ananda Mela*" is an event where students can exhibit creativity and sell their products. "*Ananda Mela*," the fair of joy, from its name itself, can be realized how eager the student is for this day of the year.

Nurturing immature minds with freedom in a fearless natural environment with the prime objective of "joy of mind" was set as the main aim of education by Tagore in his educational institution. Positive psychology and positive schooling advocate for the mental well-being of the students during the early days of their learning by providing relevant real-life experience in a positive environment, which will ultimately motivate the students to acquire their life skills and overall personality development. In this context, it can be said that Tagore educational practice in Santiniketan is a living example of such positive schooling.

Developing responsible and sensitive future generations for the Nation was another important objective of Tagore's education. Orient in the young minds, with the different kinds of constructive, organized, valued, rich group efforts, etc., were planted by Tagore in his educational experiment to ensure the overall development of the students. *Ashram Sammiliani* was initiated by Tagore in 1912, and it was probably the first organized form of student self-governance. The students organize different kinds of activities like cultural, literary, social work, games, sports, health and hygiene, environmental awareness, and various occasions mainly initiated by Tagore, like *Anand Bazar*, *Sarad-Utsab*, etc. Organizing and participating in these activities around the year is a source that plays an essential role in the student's mental well-being and cognitive development.

So along with the regular school subjects, a range of co-curricular subjects, activities of *Ashram Sammilini*, different functions, and festivals around the year, admiring the various seasons and the changes in nature were the main four pillars of the curriculum of Rabindranath Tagore, which were developed and practice in his educational institution in Santiniketan.
In this context, two kindergarten schools of Visva Bharati must be mentioned, namely *Anand Pathshala* and *Santosh Pathshala*. Two schools are entirely in the lap of nature where, till today, the play-way method of education is being followed to transition the entire curriculum. Singing, dancing, clay modeling, nature study, acting, etc., have occupied a vital position in the curriculum, along with the contents of the early days.

It is evident enough that Tagore's educational practice indirectly strengthens the foundation of an ideal concept of positive schooling and positive psychology. Tagore fixed the child's

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harmonious development as the main aim of education in his educational practice.

Curriculum

The curriculum in any educational system is the most important part as it is the road map to reach or achieve the goals of education. Different principles are followed while framing the curriculum to ensure the physical, mental, social, cognitive, emotional, moral, or, better to say, the overall development of an individual or an entire generation. The curriculum is the tool that bridges the gap between theoretical knowledge and practical experience in a controlled environment with real-world situations and in the development of different life skills. The principles of positive psychology play an important role in curriculum design as they ensureburden-free learning for students and maintain their mental health and well-being. So, curriculum design is an essential area of positive schooling.

Rabindranath Tagore, in his educational experiments and later in practices from the very inception, had implemented a multidimensional curriculum. The important dimensions are as follows.

- The regular school subjects
- Compulsory co-curricular subjects with games and sports
- *Ashram Sammiliani* and its activities
- Functions and festivals

Alone with the regular conventional School subjects, activities of the other three parts of the curriculum are equally emphasized by Tagore in his educational practices after several experiments.

From Tagore's different writings, mainly about his childhood, it was clear enough how he was mentally disturbed by the educational pattern in practice during that time. *Brahmacharya Vidyalaya*, in the form of the *Tapovan Ashram*, was established by Tagore in 1901 in Santiniketan, which answered his childhood displeasure and dissatisfaction. This displeasure with the educational process is a potential factor for developing a negative attitude within the students toward their early childhood or the early days of learning. This part was possibly most meticulously taken by Tagore in his educational practices, and this is probably the reason behind determining “joy of mind” as the prime in education. To ensure the achievement of such an aim, Tagore designed and executed a multidimensional curriculum in his school.

Regular school subjects like Bengali, English, Mathematics, Life science, Physics, Chemistry, History, Geography, Hindi, Sanskrit, Economics, Home science etc. compose one part of the curriculum. These subjects strengthen the theoretical base of the students and provide them with essential knowledge of their lives. Contents are selected according to the age of the students, but at the same time, it must be mentioned that these conventional subjects formed only a part of the entire curriculum. The mother tongue, mainly Bengali, the regional language, was also adopted with a particular focus on teaching these subjects, and the principle of burden-free learning was practiced from the beginning so as not to stress the students. Classes are organized in the open air, in the lab of nature, so that the students can visualize and connect their lessons with nature's happenings.

Another uniqueness of the schooling system is that despite sitting in a particular place or a particular classroom, the students have to go to different places to attend their classes. So the time to reach a class from another class is arranged carefully to refresh the students for their next class. The grading system was implemented in the evaluation process from the very early stage of its journey. Tagore followed a continuous and comprehensive evaluation process in his educational experiment, and most importantly, no detention policy was adopted up to a certain standard.

So, the entire formal educational system was designed and implemented according to the principles of education and Child Psychology. Every step in executing this part of the curriculum set almost a century ago was the best example and practice of positive schooling. Nurturing young minds in a burden-free, fearless natural environment to enable them to find absolute joy in their mind can be referred to as the best practice or the principle of positive schooling. All these practices of the century before are highly recommended and followed widely by almost all the conscious nations in the present era.

The second important part of Tagore’s educational curriculum is the principle of a wide range of co-curricular subjects in the formal educational process. A wide range of co-curricular subjects of equal importance were incorporated into the curriculum. Painting, clay modeling, singing, dancing, origami, playing different Indian musical instruments, weaving, woodwork, leatherwork, etc., are some extra-curricular subjects almost compulsory for all students. So, a wide range of choices to date is being provided to the students to enable them to develop their inner potential according to their own choices, interests, and demands. Participation in all these-curricular activities ensures the development of various skills within the students and develops good habits for managing their free hours effectively. It refreshes the students' minds for their studies and helps them develop a positive attitude towards the different vocational activities. Co-curricular subjects are an essential part of the total educational system of Santiniketan, and this is the unique character of the educational experiment and practice of Tagore that made the difference and is widely admired. The National Education Policy-2020 mentions the importance of incorporating co-curricular subjects at the school level. Educational psychology also advocated incorporating co-curricular subjects along with conventional School subjects. Participation in such different activities reduces the negative emotions within the students. It accelerates the process of positive emotion, hence happiness and mental well-being, which are the main objectives of positive schooling and positive psychology. According to the concept of positive psychology, happiness, and mental well-being have a

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positive impact on the cognitive development of the students, which enhances their quality of life. It also is a significant source of motivation and self-expression for the students. It can be said that incorporating co-curricular subjects or activities in the educational system, mainly at the school level, has multiple benefits. Almost the century before, Tagore, in his educational system, had implemented this principle of incorporating a wide range of co-curricular activities, an example for the educational psychologist and the entire world.

The third important pillar of Tagore's educational curriculum for the school level was *Ashram Sammilani*, which has different activities. *Ashram Sammilani* was introduced by Tagore in 1912 in Patha Bhavan and later in Sikha Satra. *Ashram Sammilani* was possibly the pioneer form of student self-governance in the formal educational system. *Ashram Sammilani* has is a well-defined constitution with specific constitutional provisions and sub-sections explaining different rules and regulations related to the formation of different groups, different activities of this Vibhag, selection or election of the secretary or the *sampadak* for the different groups, provisions for General Meeting, Cabinet formation, revisions of rules, account rules and others. The different Vibhags of *Ashram Sammilani* are as follows:

- Sahitya Vibhag
- Seva Vibhag
- Swasthya Vibhag
- Aharjya Vibhag
- Krira Vibhag
- Bichar Vibhag
- Sakha Sangha
- Paribesh Vibhag

Each Vibhag has a male student representative as a *sampadak* and one female representative as *a sampadika*, except the Bichar-Vibhag, which has around eight members. All the representatives of the *Ashram Sammilani* form the Cabinet which is popularly known as *Protinidhi Sabha.* The other students select or elect the student representatives through a well-defined democratic voting system. All the Vibhags have a set of well-defined activities around the year. All the school's students are directly or indirectly involved or participate in these activities. The tenure for one cabinet is for one year. After that, the cabinet is reconstructed with new sets of student representatives. One term is divided into two sessions, and at the end of each session, all the representatives of different Vibhags have to present an account of the different activities they organize. These details are presented in a general meeting, which is presided over by an invited external member, and in the general meeting, all the students are allowed to raise any question. One school teacher is appointed as a Proctor or *Chatra-Sanchalak* of *Ashram Sammilani* and for each Vibhag or group. One teacher in charge, or *Adhyapak*, is appointed to advise the representatives of the concerned Vibhag. *Adhyaksha*, or the Principal of the school, will be the Hon'ble President of *Ashram Sammilani* by virtue of the chair.

Ashram Sammilani was a unique creation of Tagore with multiple goals: development of democratic awareness, responsibility, decision-making ability, administrative skill, leadership quality, development of team effort, organizing different events, respect for hard work and others, self-dependency, active agent of the society, disciplined behavior and most importantly harmonious development of the personality.

So, a significantly positive correlation exists between the philosophy of introducing *Ashram Sammilani* and the positive schooling practice. Instead, it would be more appropriate to say that the different activities of *Ashram Sammilani* provide ample practical opportunity to grow in a balanced, harmonious, and probably in the best possible way. *Ashram Sammilani* was an exemplary educational creation of Tagore. In the present-day context, in almost all societies and different schools, students' self-governance and youth parliament are being practiced to ensure the development of democratic awareness, dutifulness, responsibility, and sensitivity to future generations of the Nation. In this context, the role of *Ashram Sammilani*, initiated almost a century ago, must be mentioned with importance and respect.

The fourth important pillar of the curriculum developed by Tagore was introducing and incorporating different functions and festivals with education. Functions and festivals around the year in Santiniketan are like the heartbeat of the entire university campus and the community. Around twenty eight different festivals are celebrated in Visva-Bharati during the year. Students are the main participants in these functions and festivals. The students, even the school students, also lead in organizing of such functions. The functions and festivals related to the change in the seasons, remembering the different eminent personalities, celebrating the days with national and international importance, organizing different fairs, organizing dramas, exhibitions, and many more are the important functions of this university. Some of these festivals like Ananda mela, Basant-Utsav, Sarad utsav, Poush-Utsav, Gandhi Purnaho, Ritu-Utsav, Barsha Mangala, Briksha Ropan, Nanden Mela, Shilpo Utsav etc. are important.

Creativity, cooperation, leisure hour management, leadership quality, attitude towards social equilibrium and residence, aesthetic sense, management, ability exposure to the greater world, environmental sensitivity and awareness, cultural development, respect for cultural diversity, knowledge about the cultural heritage, attitude towards the social services, practical experience for organizing different events, development of social and model values, self-discipline, vocational attitude, etc. are some of the crucial traits that are targeted to develop in the personality of the students through these function and festivals. Apart from the functions and festivals of Santiniketan, they also play a significant role in mass education. Tagore consciously organized these functions and festivals and incorporated them with the formal educational system to achieve the educational goals he envisaged.

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Adopting this particular principle in formal education was a master stroke by Tagore for the effective development of the student's personality through education. Positive schooling nowadays is being practiced to ensure the happiness and mental well-being of the students on the school premises, mainly for their development. Different kinds of activities are also arranged and organized in this concern. Still, the creative and intellectual practice Tagore developed in this context was unparalleled and instant to society.

The four-fold curriculum of Tagore was based purely on the principles of educational psychology. Tagore's educational experiments and practices in Santiniketan strengthen the foundation, concept, and practice of positive schooling, especially in the context of Indian society. Keeping the importance of such educational planning, the National Education Policy 2020 also incorporated some of the principles from the Educational Philosophy of Tagore while paving the way for national development through education.

Teachers in Tagore Educational Practices

Teaching and learning are the main two activities in the educational process. Especially in formal educational systems, the conventional form of face-to-face classroom teaching and learning process is still widely practiced worldwide. Teachers and students are the main living components of this process in the classroom. In a conventional classroom, the active role of a teacher is more than that of the students. Classroom teaching requires an ideal situation for accessible communication between the teachers and the students. Any hurdle in this process can hamper the total teaching-learning environment. Therefore, it is essential to have a genuine teacher who can play an effective role in the child's learning process.

"*Ashram-er-Rup-O-Bikas*" (1416 Bengali Year) was an essay by Rabindranath Tagore in which he put his view forward about the quality of an ideal teacher. In his educational system, Tagore recommended an intimate relationship between the student and the teacher. According to him, this intimate relation in the natural environment will ultimately be the key to achieving the highest goal of education. To establish this bonding, the teacher has to take the leading role. For this reason, Tagore mentioned that the teacher must be a human being, not a machine, to deliver information only. He also noted that the teacher will be an energetic and active agent of nature and perform the teaching passionately. A teacher's vast knowledge and thinking ability can answer all the students' queries, satisfy the young inquisitive minds in the early days of life, and inspire them to think beyond boundaries. Tagore also mentioned that the teacher would be an active agent of nature, and all the happenings of nature would attract the teacher equally as they attract a child. The teacher will motivate the students to explore their immediate surroundings and gain theoretical knowledge. In his writing, Tagore explicitly mentions that a child's innocence must be there in a teacher, which will be the key factor in the intimate relationship between the teachers and the students.

Positive schooling has specific reservations about the quality and role of a teacher in school education. The teacher has to play the most vital role in inspiring the child to the education process and their mental well-being. Therefore, in positive schooling, the teacher is considered the most important biological factor of education as they are assigned to nurture young minds through direct contact. Even the lack of infrastructure can also be overcome with the help of an active, sensitive, inspiring motivator as a teacher.

In this context, it can be mentioned that Tagore, in his educational philosophy, perfectly drew the character of an ideal teacher. The characteristics of a teacher, highlighted by Tagore, are very significant psychologically and are according to the principles of positive psychology and positive schooling for ensuring the holistic development of the students.

Discipline

The approach to student discipline in any educational philosophy and practice is one of the important parameters for the analysis and evaluation of the educational system. In the present era, any punishment or harsh discipline is strictly prohibited and discouraged in the educational system as it is not psychologically accepted, mainly in the early days of learning. Equally, any physical and mental punishment stands in the way of a positive environment and schooling. A fearless environment is highly recommended for the mental well-being of the students in the school setup, as it will positively motivate the students.

Rabindranath Tagore had established his *Brahmacharya Vidyalaya* in the lab of nature where freedom was the central pillar of the entire educational practice. Tagore recommended self-discipline in his educational system, where discipline in an automated way will develop within the students according to the demands of the situation. Therefore, in view of Tagore, in a well-structured educational system, freedom and discipline complement each other, ultimately providing a fearless environment for the students in their schooling process.

CONCLUSION

The application of psychological principles in education, mainly in the school educational system, has brought radical changes in the present time. More significantly positive schooling, a major branch of positive psychology, emerged as the formal discipline in 2000 and has more intensely focused on making school education more effective for the holistic development of the student in the school premises by ensuring their mental well-being and mental health. A good state of mind all along is a significant factor in the development of a balanced personality. It is essential to have a positive environment as a part of positive schooling to develop a positive attitude towards education in the early days of life. Happiness is the prime objective of positive psychology. Positive schooling is also based on the principle of learning in a joyful environment that can create happiness within the students.

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Rabindranath Tagore, in 1901, had established *Brahmacharya Vidyalaya* under, the roof of the open sky in the lap of nature. “Joy of mind” was education's prime aim, as Tagore defined in his educational institution. Along with it, the harmonious development of the students' personality was also fixed as an objective of education. Accordingly, minor aims, four-fold curriculum, different activities of *Ashram Sammilani*, Co-curricular activities, functions and festivals, teachers student positive relation, freedom, self-discipline etc., were planned meticulously by Tagore to achieve the objective as framed by him at the early stage of this journey. The educational system in the schools of Visva-Bharati is widely appreciated by all the educated societies in the world. Its richness and fundamental principles followed in the educational system were a source of different educational research over the decades.

The multidimensional and multi-disciplinary education developed for school by Tagore was unique in many senses. The openness in the outer setup and the inner structure of the educational system is the most essential characteristic of Tagore’s educational model. It significantly reduces the load of formal education and enables students to actively participate in learning according to their choices, demands, and interests. The concept of a choice-based learning system was implemented in Tagore-designed educational institution possibly for the first time. Therefore, it can be said that Tagore perfectly follows the spirit of burden-free learning in his educational system.

Burden-free learning, fearless environment, positive environment, freedom with self-discipline, choice-based educational system, positive teacher-student relationship, closeness to nature, participation in different kinds of co-curricular activities, functions, and festivals, participation in different social activities, respect for cultural diversity, etc. are the major principles of any form of positive schooling. Considering the uniqueness and relevance of Rabindranath Tagore's educational system, National Education Policy- 2020 in India also emphasized Tagore's Educational Philosophy while drafting the Educational policy for the Nation. Therefore, in the concluding remarks, the educational system developed by Tagore in 1901 was based on the principles of Sociology, Child Psychology, and Social Psychology. Moreover, it also merged with the basic principles of positive psychology. Hence, it can be concluded that a school in a rural setup, surrounded by the natural environment, away from the artificial urban environment established a century before, to find the “joy of mind" is a perfect and extraordinary example of positive schooling.

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LEADERSHIP STYLES AND PERFORMANCE OF ROAD PROJECTS UNDER KENYA RURAL ROADS AUTHORITY IN KENYA

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ABSTRACT

Road infrastructure drives global economic growth by facilitating the movement of goods, services, and people, enhancing trade and regional integration; recent improvements in developing countries have reduced cost overruns, highlighting the importance of effective strategy implementation, stakeholder engagement, and sustainability considerations for project success. The aim of the study was to establish whether leadership styles influence the performance of road projects by Kenya Rural Roads Authority. The study sought to establish whether leadership styles influence the performance of road projects by Kenya Rural Roads Authority. The study employs multiple theories, including Resource-Based Theory, Agency Theory, and others, within a mixed-methods approach guided by pragmatism. Focused on 140 Development Road Projects by KeRRA, it includes 104 Strategy Implementation Officers, Contractors' CEOs, and KeRRA officials. Data, gathered through questionnaires and interviews, underwent statistical analysis revealing a significant positive correlation ($r = 0.508$, $p < 0.05$) between leadership styles and project performance, using SPSS Version 27. The study suggests that project managers at the Kenya Rural Roads Authority demonstrate positive leadership qualities, such as agreeableness and visionary leadership, which are linked to timely completion of road construction projects, although challenges like resistance to change and laissez-faire leadership tendencies may impede project success. Recommendations include reinforcing and promoting positive leadership qualities among project managers at the Kenya Rural Roads Authority, focusing on aspects such as agreeableness, visionary leadership, and developmental leadership, while addressing challenges related to laissez-faire and resistance to change through training and support initiatives, and emphasizing the importance of directive leadership to improve project outcomes and ensure successful completion of road construction projects.

KEY WORDS: *Leadership Styles, Performance of Road Construction Projects, Kenya Rural Roads Authority*

INTRODUCTION

Road infrastructure is integral to economic growth and development globally, facilitating the movement of goods, services, and people, thus enhancing trade and regional integration. Notably, road projects in developing countries have shown significant performance improvements, with cost overruns decreasing from 35% to 18% over the past decade (World Bank, 2020). Effective strategy implementation is crucial for project success, involving stakeholder engagement, risk management, and performance measurement (UNECE, 2020; World Bank, 2019). Sustainability considerations, encompassing social, economic, and environmental aspects, are also essential for road projects, requiring the adoption of performance indicators, risk assessment, and stakeholder engagement (IMF, 2018).

In African nations like Ghana, Nigeria, and Kenya, road construction projects are vital for economic growth, commerce enhancement, and poverty reduction (World Bank, 2020). Studies underscore the importance of effective project planning, implementation, stakeholder involvement, and risk management for the success of road initiatives (Osei-Kyei and Chan, 2015; Oladapo et al., 2017; Kigera and K'Obonyo, 2016). Organizations like the UNECA (2019), IMF (2018), and World Bank (2020) emphasize the critical role of strategy implementation in fostering economic development across these African countries.

Project Performance of Road Projects

Several international studies have examined the performance of road projects across different regions and countries. Ismail et al. (2020) focused on Malaysia, finding that inadequate planning, project design, management, and construction quality

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significantly affected project success. Notably, China leads in road infrastructure projects globally, driven by extensive government spending. Advanced technology, efficient management, and quality materials are crucial for project success in China. However, the COVID-19 pandemic has hindered road project development in Iraq, leading to delays and increased costs (Ayed & Albadri, 2021). In India, poor management, funding, and land acquisition delays affect road project performance (Singh & Sharma, 2022). African road projects have shown relative success compared to developed economies, despite challenges such as cost overruns, disease outbreaks, and conflicts (Andrić et al., 2019; Mushato et al., 2020). These findings highlight the need for effective planning and management strategies to mitigate risks and ensure project success.

Strategy implementation and Performance of Road Projects

Effective strategy implementation is crucial for the successful execution of construction projects, encompassing strategic planning, project management, resource allocation, and risk management (Shen et al., 2020). Road construction projects play a vital role in national development, requiring robust strategic management practices including planning, resource allocation, risk management, and stakeholder engagement. However, inadequate strategy application often leads to project delays and cost overruns (Liu & Chen, 2020). Studies emphasize the significance of strategic planning and project management in enhancing project performance by improving project quality, reducing delays, and enhancing communication among stakeholders (Al-Fadhli et al., 2021).

In Africa, effective strategy implementation is pivotal for road project success, evidenced in studies from Ghana and Uganda. Effective implementation involves clear vision development, planning, monitoring, stakeholder engagement, and risk management (Asare, Agyapong, & Owusu, 2021; Kavuma, 2019). Indicators of successful strategy implementation include project planning, risk management, stakeholder engagement, and resource allocation (Fawzy et al., 2016; Olomolaiye et al., 2019). Strategic planning, monitoring, evaluation, and communication are critical components for successful road project management (Abdullahi et al., 2021). The application of effective strategy implementation positively impacts project quality, timeliness, and cost-effectiveness in road construction projects in Uganda (Kavuma, 2019).

Effective leadership is crucial for project success, impacting safety, quality, cost, and timeliness. Li et al. (2019) found transformational leadership positively impacted safety in Chinese road projects, while Li et al. (2021) noted its favorable effect on cost effectiveness. Zhang et al. (2022) observed transactional and transformational leadership's effectiveness in Chinese road construction. Dhakal & Poudel (2019) found in Nepal, transformational leadership improved performance, contrasting with authoritarian leadership's detriment. Murimi (2016) identified transformational leadership traits in Kenya, including proactive problem-solving and positive relationships, contrasting with autocratic leadership's delays and poor relationships, and permissive leadership's engagement issues leading to delays and corruption. Leadership styles profoundly impact project outcomes, necessitating careful consideration in project management.

According to research by Mwathi and Mwenda (2017), poor performance of road projects is a major challenge facing Kenya's infrastructure sector. The study, which was conducted in 20 road projects across the country, revealed that many road projects were characterized by poor quality work, delays, cost overruns, and poor stakeholder engagement. Another report by the Kenya National Highways Authority (2019) confirmed the findings of the study by Mwathi and Mwenda, which revealed many road projects in the country were behind schedule and over budget. The report attributed the poor performance to corruption, inadequate funding, poor planning, and weak project management. A report by the African Development Bank (2018) identified weak institutional capacity, inadequate maintenance, and poor project preparation as major elements for Kenya's road projects to perform poorly. The report recommended the need for a more effective and efficient procurement process, improved project preparation, and increased stakeholder engagement to improve the performance of road projects in the country.

Kenya's rural roads are developed and maintained by the KeRRA. Over the years, KeRRA has faced numerous challenges in implementing road projects, including inadequate resources, poor planning, and project delays. The literature suggests that the adoption of effective strategy implementation and leadership styles can enhance project performance. However, there is a dearth of research on the connection between project performance, leadership philosophies, and strategy execution in KeRRA's context (Kenya Rural Roads Authority, 2021).

The study was driven by the disconnection between strategy implementation and road project performance at Kenya Rural Roads Authority (KeRRA), leading to concerns about road quality, delays, and increased costs. Previous studies suggest a link between strategy implementation and road project performance, but geographical variations and methodological limitations hinder generalizability, necessitating further research to identify improvement areas and enhance road project implementation in Kenya.

General Objective

The general objective of this research was to establish whether leadership styles influence the performance of road projects by Kenya Rural Roads Authority.

Research Hypothesis

H_{O1} Leadership styles have no statistically significant influence on the performance of road projects by Kenya Rural Roads Authority.

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LITERATURE REVIEW

Theoretical Review

The influence of leadership styles on the performance of road projects is crucially examined through various theoretical lenses. The Agency Theory highlights the importance of effective governance measures, such as board independence and accountability, in enhancing oversight and financial reporting accuracy, thus influencing project success (Jensen & Meckling, 1976). Additionally, leadership styles, particularly transformational leadership, can impact employee motivation and project outcomes. The Resource-Based Theory emphasizes the significance of resource administration, including technology and leadership, in influencing project performance (Barney, 1991). Legitimacy Theory underscores the role of effective governance and technology adoption in maintaining organizational legitimacy and influencing project outcomes (Scott, 2004). These theoretical frameworks collectively inform the study's exploration of factors influencing road project performance, providing a comprehensive understanding and guiding strategic resource allocation for enhanced effectiveness..

Empirical Review

Leadership Styles on the Performance of Road Projects

A study by Li, Wang, and Liu (2019) in China found that transformational leadership had a positive impact on project performance through enhancing team learning and team creativity. They also found that transactional leadership had a negative impact on project performance by reducing team learning and team creativity. They suggested that project managers should adopt a more transformational leadership style to foster a learning-oriented and creative team culture.

A study by Raziq, Borini, Malik, Ahmad, and Shabaz (2018) in Pakistan found that goal clarity partially mediated the relationship between transformational leadership and project success. They also found that contingent reward, a component of transactional leadership, was positively associated with project success, while active management by exception, another component of transactional leadership, was negatively associated with project success. They recommended that project managers should use transformational leadership and contingent reward to enhance goal clarity and project success.

In their 2019 study, Biaousz and Szafra-Bohdan looked at how leadership philosophies affected the success of Polish road projects and the link between strategy implementation and it. Project managers and team members participating in road building projects in Poland were surveyed for the study's data. 267 respondents from various Polish organizations and areas made up the sample. Structural equation modeling (SEM) was used to evaluate the data and test the hypotheses and correlations between the variables. According to the report, strategy implementation has a beneficial impact on how well Polish road projects perform. The study also showed that different leadership philosophies affected the connection between strategy execution and project performance. Particularly, transformational leadership style had a favorable impact, whereas autocratic leadership style had a negative impact, on the link between strategy execution and project performance.

The impact of leadership styles on the link between strategy execution and performance of road projects in India was examined by Kumar et al. (2019). The effectiveness of leadership styles and strategy execution on the performance of road projects in India was investigated in this study using a survey questionnaire and multiple regression analysis. 102 project managers from diverse public and commercial companies were included in the sample. The results showed that project performance was greatly impacted by strategy implementation. The association between strategy implementation and project success was also positively moderated by transformational leadership style, whereas transactional and laissez-faire leadership styles had the opposite impacts. The study also identified specific indicators of leadership styles, such as vision, communication, and delegation, that were significant predictors of project performance.

Goh et al. (2021) investigated leadership style and its effects on strategy execution in Malaysia's construction sector. A survey questionnaire and semi-structured interviews were used in this study's mixed-method approach to examine the connection between leadership style and strategy execution in Malaysia's construction sector. 211 construction industry experts from various organizations were included in the sample. The results demonstrated that, in contrast to transactional and laissez-faire leadership styles, transformational leadership style had a considerable beneficial influence on plan execution. The study also identified specific indicators of strategy implementation, such as goal setting, performance measurement, and risk management, that were significantly related to leadership style.

Ahmad and Zailani (2019) examined the effect of leadership styles on the relationship between strategy implementation and the performance of road projects was conducted by Ahmad and Zailani (2019) in Malaysia. The study utilized a survey questionnaire distributed to 380 road project managers and engineers across Malaysia. The questionnaire assessed their perceptions of strategy implementation, leadership styles, and project performance indicators. Structural equation modeling was used to assess the data that had been obtained. The study's conclusions showed that the link between strategy execution and the success of road projects was positively impacted by the transformational leadership style. Conversely, the relationship suffered from the transactional and laissez-faire leadership philosophies. Indicators of project success, such as project quality, completion date, cost performance, and customer happiness, were also found by the study's findings.

In Bangladesh, road project performance and the link between strategy implementation and it was examined by Kazi and

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Rahman (2019). Data from 120 road development projects in Bangladesh were obtained for the study using a quantitative research methodology. Data on the four leadership styles were gathered through the use of a standardized questionnaire. The findings indicated that whereas transactional and autocratic leadership styles had a detrimental impact on the connection between strategy execution and project success, transformational leadership style had a considerable positive impact. The connection was unaffected significantly by the laissez-faire leadership style. The study also discovered that project performance was significantly improved by strategy implementation.

Owusu-Frimpong, Adjei, and Agyei (2019) investigated the effect of leadership styles on the relationship between strategy implementation and the performance of road projects in Ghana. The methodology involved a quantitative survey of 127 road construction project managers, engineers, and contractors. The participants' assessments of project performance, leadership philosophies, and strategy execution were the subject of data collection by the researchers. The results showed that transactional leadership was not substantially associated to either variable whereas transformational leadership was favorably related to the usage of strategy implementation and project performance. The study also showed that transformational leadership significantly impacted the connection between strategy execution and project performance. The authors came to the conclusion that leaders that exhibit transformational leadership traits can increase the efficiency with which strategies are implemented and the success of road projects.

The impact of leadership styles on the link between strategy execution and performance of road projects in Ghana was examined by Kwame, et al. (2019). The study focused on how leadership styles affected the success of road projects in Ghana and the link between strategy implementation and it. 155 road project managers in Ghana were given a standardized questionnaire as part of a quantitative research strategy. The study's conclusions showed that the link between strategy execution and road project performance was significantly and favorably impacted by transformational leadership style Autocratic leadership style had a negative and significant effect on the relationship between strategy implementation and road project performance. The study also identified effective communication, participative decision-making, and shared vision as the critical indicators of transformational leadership style, while control, rigidity, and centralization were the critical indicators of autocratic leadership style. The study concludes that the adoption of transformational leadership style is crucial for improving the performance of road projects in Ghana.

Research on leadership styles and their moderating impact on the execution of road projects in Ghana, Nigeria, and Kenya was undertaken by Oduro et al. in 2021. 230 participants in road projects in Ghana, Nigeria, and Kenya provided data for the study, which employed a cross-sectional survey approach. The survey's questionnaire included questions on project performance, leadership styles, and plan execution. The data were examined using hierarchical regression analysis, and the Multifactor Leadership Questionnaire (MLQ) was used to measure the leadership styles. The results of the study showed that the performance of road projects in Ghana, Nigeria, and Kenya was significantly improved by the use of the method. The study also discovered that the connection between strategy implementation and project performance was significantly improved by transformational leadership.

With a focus on leadership styles, strategy execution, and the performance of road projects in Nigeria, Adeleye et al. (2021) investigated leadership styles and the performance of road projects in that country. The study included both qualitative and quantitative data gathering techniques as part of a mixed-methods research design. According to the study's findings, laissez-faire leadership style had a detrimental impact on the performance of road projects, whereas transformational and transactional leadership styles had a good impact. The study identified effective communication, employee motivation, and vision sharing as the critical indicators of transformational leadership style, while reward and punishment, delegation, and monitoring were the critical indicators of transactional leadership style. The study concludes that the adoption of transformational and transactional leadership styles, as well as effective strategy implementation, is essential for improving the performance of road projects in Nigeria.

Owusu-Frimpong, Adjei, and Agyei (2019) investigated the effect of leadership styles on the relationship between strategy implementation and the performance of road projects in Ghana. The methodology involved a quantitative survey of 127 road construction project managers, engineers, and contractors. The participants' assessments of project performance, leadership philosophies, and strategy execution were the subject of data collection by the researchers. The results showed that transactional leadership was not substantially associated to either variable whereas transformational leadership was favorably related to the usage of strategy implementation and project performance. The study also showed that transformational leadership significantly impacted the connection between strategy execution and project performance. Idealized influence (attributed and behavioral), inspiring motivation, intellectual stimulation, and customized attention were the leadership style markers employed in the study. The authors came to the conclusion that leaders may improve the performance of road projects and increase the efficacy of strategy execution by exhibiting transformational leadership traits.

A study by Pretorius, Steyn, and Bond-Barnard (2018) in South Africa found that leadership styles in projects were influenced by the project characteristics, such as complexity, uncertainty, and novelty. They found that project managers used different leadership styles depending on the project phase and the project

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team composition. They also found that project managers used a combination of transformational, transactional, and situational leadership styles to achieve project success. They proposed a framework for selecting the appropriate leadership style for different project situations.

A study by Asiedu-Appiah, Agyapong, and Lituchy (2016) in Ghana found that culture and its effect on leadership styles influenced project success. They found that Ghanaian project managers adopted a paternalistic leadership style, influenced by the traditional rule system where the chief is seen as the father of the community. They also found that effective leaders were perceived as being achievement-oriented, focused, committed, courageous, hardworking, and having integrity. They also found that gender, religion, and humor were important factors in leadership effectiveness

Kiama et al. (2019) conducted a study on leadership styles, strategy implementation and performance of road projects in Kenya. A total of 163 road development projects in Kenya were chosen for this study's cross-sectional survey design using a stratified random selection technique. To evaluate the hypotheses, the data was examined using structural equation modeling. The study discovered that the connection between strategy implementation and road project success was positively moderated by transformational leadership style. The same connection, however, was negatively impacted by a transactional leadership style. Additionally, it was discovered that approach implementation improved project performance. The Multifactor Leadership Questionnaire (MLQ), created by Bass and Avolio (1995), served as the basis for the leadership style indicators employed in this study. Through elements including motivational inspiration, idealized impact, customized concern, and intellectual stimulation, the MLQ assessed transformational leadership. On the other side, management-by-exception and contingent compensation were used to gauge transactional leadership. The study emphasizes how crucial leadership qualities are to the accomplishment of road building projects and contends that transformational leadership is superior to transactional leadership in terms of encouraging plan execution and project performance.

A study by Muthike (2016) in Kenya found that different leadership styles influenced the timely completion of road construction projects. He found that transformative and democratic leadership styles were preferred by the respondents, while autocratic and permissive leadership styles were least preferred. He also found that transformative and democratic leadership styles had a positive correlation with timely completion of road projects, while autocratic and permissive leadership styles had a negative correlation. He advised that project managers should adopt transformative and democratic leadership styles to improve project performance.

Performance of Road Projects

A study by Kumar et al. (2019), evaluated the effectiveness of India's national roads. The study employed a case study methodology. Six Indian national highways were evaluated for performance using a variety of metrics, including travel time, safety, road quality, and serviceability. The authors come to the conclusion that while performance on India's national highways has improved, there is still a need for greater maintenance and safety measures.

Aremu et al. (2021) performed research on how well Nigerian road projects performed. The study's main objective was to assess the government of Nigeria's road development initiatives during the previous ten years. The writers combined quantitative and qualitative methodologies to examine the projects' performance. The completion rate, building quality, adherence to environmental rules, and cost effectiveness of the road projects were all considered as performance factors in the research. The study's findings showed that although the road projects' completion rates were high, sometimes poor construction quality and insufficient respect to environmental standards occurred. The analysis also discovered that the projects' general cost effectiveness was low.

Oluwajana et al. (2022) evaluate the variables influencing the project cost and timely completion of roads in the Nigerian states of Ondo and Ekiti. The study's findings indicate that insufficient equipment, poor planning, and other factors were the main reasons why road projects in Nigeria didn't finish on time. poor managerial abilities, the complexity of the project's development, equipment failure, and a lack of supplies. Inflation, inaccurate estimates, dishonest business practices, contractors' lack of project knowledge, insufficient planning, and overdesign were other key factors that had an impact on the expense of road building projects.

The prompt completion of a project is the one goal that clients and contractors have in common. This is due to the likelihood that potential income will be lost, and additional expenses will arise. Construction projects around the world, especially in Developing Nations, are plagued by the same issue of time and cost overruns (Oluwajana et al. 2022). However, schedule and expense overruns are frequent in Nigeria's construction sector and have continued unabatedly, according to Oluwajana et al. (2022).

When it comes to the planning and management of construction projects, three factors of time, cost, and quality play a major role (Oluwajana et al. 2022). Meeting output quality standards as well as the timeline and financial goals are all part of Oluwajana et al. (2022) concept of the success of the project. The main challenges to its success are therefore project changes that compel trade-offs in terms of cost, time, and quality. Oluwajana et al. (2022) claim that recent increases in public investment have been made to refresh and revive the existing networks of highways and roads, which are quickly growing old and degrading and require prompt restoration efforts

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Additionally, government organizations have lately started employing novel contracting strategies that aim to accomplish numerous objectives, reduce project costs and timelines, and maximize quality and long-term return on public investment. As a result, for new and rising contracts, there is increasing need to identify an ideal resource utilization approach that minimizes construction costs and time while optimizing quality.

METHODOLOGY

Research Philosophy

The study utilized a mixed-methods approach, blending qualitative and quantitative methods to comprehensively explore the link between leadership styles, road project performance, and strategy execution (Tashakkori & Teddlie, 2010). Pragmatism served as the optimal research philosophy, prioritizing real-world application of knowledge to address practical issues, allowing for flexibility in data collection and analysis techniques (Creswell, 2014). This approach facilitated the collection of both quantitative data, such as surveys and statistical analyses, and qualitative data, including case studies and interviews, enabling a nuanced understanding of the contextual factors influencing the relationship between leadership styles, road project performance, and strategy execution.

The research utilized a sequential explanatory design, to explore the relationship between strategy implementation, leadership styles, and road project success. This design allowed for both qualitative and quantitative data collection, with the qualitative phase providing deeper insights and the quantitative phase measuring the extent of their relationship. Creswell and Plano-Clark's methodology guided this process, leading to a comprehensive understanding of the study topic and potential implications for industry decision-making.

Target Population

The entire number of phenomena under examination was referred to as a population, often known as the universe in the area of inquiry (Zikmund et al., 2010; Kothari, 2010). Lavrakas (2008) defined population as a collection of distinct elements that could be finite or infinite, while Hyndman (2008) defined population as the entire set of "things" that a researcher was interested in. The target population was 140 road projects from which an accessible population of 208 Strategy Implementation Officers (SIOs) in Charge was obtained. The SIOs included 140 Strategy Implementation Officers (SIOs) in Charge at KeRRA and 140 Contractors' Chief Executive Officers (CEOs) or their equivalents. The Director General at KeRRA was also considered part of the target population. These professionals were responsible for strategy implementation in road projects.

Sampling Technique and Sample Size

The study employed various sampling techniques, including cluster sampling, stratified random sampling, and purposive sampling, to select a representative sample of KeRRA's SIOs and Contractors' SIOs. The combination of these techniques facilitated efficient data collection while ensuring adequate representation of different subgroups within the population. The sample size for road projects was determined using Slovin's formula, resulting in a total sample of 208 SIOs. Data was collected using questionnaires with Likert-style questions to gauge respondents' opinions on various aspects related to road project performance. Additionally, interviews were conducted with the Director General to gather more detailed insights into the challenges and successes of road engineering projects. These data collection methods were chosen for their reliability, scalability, and ability to capture nuanced information essential for the study.

Data Collection Procedure

In order to gather data, the researcher physically distributed questionnaires to respondents, accompanied by 4 research assistants. To increase the response rate, the researcher made follow-up calls and handed out the letters of reference from Kenya Methodist University and the National Commission for Science, Technology, and Innovation (NACOSTI). By keeping a registry of all the questionnaires that were sent out to respondents, the researcher took great care to ensure that they were all returned. Pilot testing of research instruments involved 10% of the sample size, comprising 10 SIOs from KeRRA and 10 from contractors, ensuring methodological robustness and feasibility. Reliability analysis, based on Cronbach's alpha, confirmed the consistency of data collection instruments, aligning with Oson and Onen's reliability criteria, and ensuring dependable results. Pre-testing of questionnaires was conducted to establish validity, incorporating both content and criterion validity principles, as advocated by Cable & DeRue (2002) and Golafshani (2003). The study's research design encompassed meticulous piloting, reliability assessment, and validity confirmation, following established methodological guidelines and ensuring the integrity and accuracy of data collection procedures.

Data Analysis and Presentation

The researcher utilized both quantitative and qualitative data analysis approaches to examine data from various groups of respondents. Statistical analysis of the quantitative data gathered through questionnaires, including descriptive statistics, correlation analysis, and regression analysis, was performed using the SPSS program version 23. Descriptive statistics were employed to compile responses to Likert scale questions, offering an overview of respondents' perceptions regarding the relationship between road project success and strategy execution. Correlation analysis determined the intensity and direction of the association between independent variables (strategic implementation and leadership styles) and the dependent variable (performance of road projects). Regression analysis was utilized to establish how effectively the independent variables predicted the dependent variable. Results were presented using tables, percentages, and test statistics, along with any necessary explanations.

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Ethical considerations in the study emphasized confidentiality and respect for respondents, ensuring their anonymity and avoiding inappropriate questioning. With approval from KeRRA and voluntary participation from respondents, the study maintained ethical standards, fostering willingness and objectivity among participants.

RESULTS AND DISCUSSIONS

The response rate for the study among SIOs at KeRRA and those with contractors exceeded 86.5% and 95.2%, respectively, indicating high participation levels. Demographic characteristics of the respondents, including gender, age, educational qualification, tenure with the organization, involvement in road development projects with KeRRA, and positions within their organizations, were analyzed to ensure diverse representation. The majority of respondents were male (61.9%), aged between 28 to 37 years (50.8%), holding college-level qualifications (66.1%), and having tenure with their current organization for 4 to 8 years (51.9%). Additionally, all respondents reported involvement in road development projects with KeRRA, with positions primarily held by Road Engineers (47.6%) and Chief Executive Officers (52.4%), ensuring varied perspectives and reducing potential biases.

Descriptive Statistics for Leadership Styles

Table 1 shows the descriptive statistics for the leadership styles of the project managers of the Kenya Rural Roads Authority. The table includes the sample size (N), the minimum and maximum scores, the mean and the standard deviation for each statement that measures a leadership style. The statements are based on a 5-point Likert scale, where 1 means strongly disagree and 5 means strongly agree.

The project managers exhibited a moderate to high level of agreeableness, with a mean score of 3.66 and minimal variation in responses. This suggests they are perceived as friendly and supportive, enhancing team morale and performance. Visionary leadership, with a mean score of 3.55, indicates moderate agreement among managers in communicating goals clearly. Intellectual stimulation, with a mean score of 3.55, implies managers encourage innovative problem-solving. Developmental leadership, scoring 3.57, suggests managers moderately support team growth. Contingent reward, scoring 3.58, indicates moderate agreement in clarifying expectations. Compliance, scoring 3.60, suggests moderate satisfaction when rules are followed. Laissez-faire leadership, scoring 3.59, indicates moderate willingness to let teams work independently. Trustworthiness, scoring 3.55, suggests moderate establishment of trust. Inspirational leadership, scoring 3.55, suggests moderate use of vivid examples to engage teams. Intellectual stimulation, scoring 3.68, indicates a high level of agreement in providing fresh perspectives. Feedback provision, scoring 3.64, suggests moderate to high agreement in giving constructive feedback. Recognition, scoring 3.65, suggests moderate to high acknowledgment of team achievements. These findings align with Muthike's (2016) study, indicating various leadership aspects positively influence timely completion of road projects in Kenya.

The thirteenth statement assesses project managers' resistance to change, indicating a moderate level of agreement with a mean score of 3.63. This suggests a balanced approach between maintaining stability and fostering innovation, although excessive resistance may hinder responsiveness and competitiveness (Goh et al., 2021). The fourteenth statement evaluates managers' flexibility, with a similar mean score of 3.63, indicating moderate agreement. While openness to others' ideas promotes inclusiveness, excessive flexibility may compromise direction and control, potentially affecting team coherence and effectiveness (Oduro et al., 2021). These findings underscore the need for balanced leadership approaches to navigate change and foster team dynamics effectively within the Kenya Rural Roads Authority.

Table 1: Descriptive Statistics for Leadership Styles

	N	Mean	Std. Dev
I am a pleasant person to be around.	189	3.66	0.81
I sum up what we could and ought to accomplish in a few straightforward lines.	189	3.55	0.80
I help people come up with fresh solutions to long-standing issues.	189	3.55	0.84
I assist others in growing.	189	3.57	0.85
I advise others on what to do in order to receive compensation for their labor.	189	3.58	0.82
When people adhere to the norms set out, I am satisfied.	189	3.60	0.82
I'm happy to let people carry on doing things the same way they always have.	189	3.59	0.78
Others have full confidence in me.	189	3.55	0.81
I show enticing illustrations of what we can do.	189	3.55	0.76
I provide folks fresh perspectives on perplexing issues.	189	3.68	0.78
I express to others my opinion of their performance.	189	3.64	0.78
When people accomplish their goals, I praise them.	189	3.65	0.82
I don't attempt to modify anything as long as it's working.	189	3.63	0.86
I'am okay with anything others want to do.	189	3.63	0.82
People are pleased to associate with me.	189	3.57	0.79
I support people in finding purpose in their job.	189	3.60	0.87

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I cause people to reconsider things they had never given much thought to before.	189	3.68	0.80
I pay close attention to people who seem to have been ignored.	189	3.65	0.79
I draw emphasis to the rewards that others might receive for their efforts.	189	3.68	0.82
I inform people of the standards they must adhere to in order to do their duties.	189	3.62	0.81
I don't expect anything more of others than what is absolutely necessary.	189	3.57	0.79
Valid N (listwise)	189		

Correlations

There is a significant positive correlation between Leadership Styles (X1) and Performance of Road Projects (Y) with a correlation coefficient of 0.508 ($p < 0.05$). The correlation coefficient of 0.508 indicates a moderate positive correlation between leadership styles and the performance of road projects, suggesting that as leadership styles within road project management become more effective or favorable, project performance tends to improve. This finding highlights the importance of leadership in influencing the success of road projects, indicating that the manner in which leaders approach their roles and interact with project teams can significantly impact project outcomes. The statistically significant correlation ($p < 0.05$) reinforces the reliability of this relationship, suggesting that it is unlikely to have occurred by chance. Therefore, investing in leadership development and fostering leadership styles that prioritize collaboration, motivation, and effective decision-making may lead to enhanced performance and success in road projects.

Table 2: Association between Strategy Implementation and performance of Road Projects

Position			X_1
SIOs at KeRRA	Leadership Styles	Pearson Correlation	1
		Sig. (2-tailed)	
		N	90
	Performance of Road Projects	Pearson Correlation	**.508**
		Sig. (2-tailed)	.000
		N	90
SIOs with Contractors	Leadership Styles	Pearson Correlation	1
		Sig. (2-tailed)	
		N	99
	Performance of Road Projects	Pearson Correlation	**.652**
		Sig. (2-tailed)	.000
		N	99

**. Correlation is significant at the 0.05 level (2-tailed).

Regression Analyses

The regression model demonstrates a significant relationship between Leadership Styles and the Performance of Road Projects, with an R-squared value of 0.658, indicating that approximately 65.8% of the variance in project performance can be explained by variations in leadership styles. The adjusted R-squared value of 0.656 indicates that this model accounts for the sample size and the number of predictors adequately.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811[a]	.658	.656	.33732

a. Predictors: (Constant), Leadership Style

The ANOVA table further confirms the significance of the regression model. The F-statistic of 359.431 is highly significant ($p < 0.001$), indicating that the regression model as a whole is a good fit for the data. This suggests that Leadership Styles significantly predict the Performance of Road Project

Table 4: Analysis of Variances

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.898	1	40.898	359.431	.000[b]
	Residual	21.278	187	.114		
	Total	62.176	188			

a. Dependent Variable: The Performance of Road Projects
b. Predictors: (Constant), Leadership Styles

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The coefficients table shows that Leadership Styles have a significant positive effect on the Performance of Road Projects. The unstandardized coefficient (B) is 0.650, indicating that for every one-unit increase in Leadership Styles, there is a corresponding increase of 0.650 units in the Performance of Road Projects. The standardized coefficient (Beta) of 0.811 suggests that Leadership Styles have a strong positive impact on project performance. The regression analysis reveals that Leadership Styles strongly influence Road Project Performance, as evidenced by a high R-squared value indicating significant variance explanation. Effective leadership fosters collaboration, motivation, and decision-making, underscoring its pivotal role in project success, urging organizations to prioritize leadership development for improved outcomes.

Table 5: Beta Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.065	.194		-.338	.736
	Leadership Styles	1.012	.053	.811	18.959	.000

a. Dependent Variable: The Performance of Road Projects

Hypothesis Testing

Based on the $p < 0.05$ rule for statistical significance, let's evaluate each research hypothesis using the results from Table 4.14

HO1: Leadership styles have no statistically significant influence on the performance of road projects by Kenya Rural Roads Authority.

HA1: Leadership styles have a statistically significant influence on the performance of road projects.

The p-value for leadership styles is 0.000, which is less than 0.05. This indicates that leadership styles have a statistically significant influence on the performance of road projects. The Beta coefficient is 0.129, suggesting a positive relationship. Therefore, we reject HO1 and accept HA1. This decision implies that on the performance of road projects do have a statistically significant positive influence on the performance of road projects. The findings are in agreement with those in a study by Ahmad and Zailani (2019) who found that the link between strategy execution and the success of road projects was positively impacted by the transformational leadership style.

Conclusion

In conclusion, the study indicates that project managers at the Kenya Rural Roads Authority generally exhibit positive leadership qualities, with moderate to high levels of agreement in various leadership aspects. These qualities, including agreeableness, visionary leadership, and developmental leadership, are positively related to the timely completion of road construction projects. However, potential drawbacks are observed in high scores for laissez-faire and resistance to change aspects, which may have adverse effects on project completion. Directive leadership, while moderately agreed upon, also seems to positively impact project outcomes. These findings provide insights into the leadership landscape at KeRRA and its potential impact on project success.

Recommendations

Based on the findings from the study, it is recommended that the Kenya Rural Roads Authority (KeRRA) consider reinforcing and promoting leadership qualities that have been positively associated with timely project completion. This include further developing and encouraging agreeableness, visionary leadership, and developmental leadership among project managers, as these aspects exhibit moderate to high levels of agreement and have demonstrated a positive relationship with project outcomes. Additionally, it is advisable to address potential drawbacks by providing training and support to mitigate high scores in laissez-faire and resistance to change aspects, as these could have adverse effects on project completion. Furthermore, the organization may benefit from emphasizing and encouraging directive leadership, which, despite moderate agreement, appears to positively impact project outcomes. These recommendations can help KeRRA enhance its leadership landscape and, in turn, contribute to the successful completion of road construction projects.

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THE EFFECTIVENESS OF BODY WEIGHT SUPPORTED TREADMILL TRAINING IN IMPROVING THE LOWER LIMB FUNCTIONS IN ACUTE STROKE PATIENTS

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ABSTRACT

Background: *A stroke can profoundly affect the functionality of the lower limbs. It can greatly influence a person's ability to walk and maintain balance. disruption of the brain's ability to control muscle movements, which is often a consequence of a stroke. No published studies focused on Body weight-supported treadmill training in improving lower limb functions. However, body weight treadmill training has proven successful in improving the lower limb functions of acute stroke patients.*

Aim: *To examine the effects of body weight-supported treadmill training in improving the gait and balance in acute stroke patients.*

Methods: *A comprehensive research on Pubmed, Medline, Google Scholar, and Science Direct databases using specific keywords stroke, interventions used in stroke, lower limb functions, and physiotherapy evidence-based database was utilized for quality assessment.*

Results: *This review included ten studies; the findings of this review demonstrate that body weight-supported treadmill training will improve the lower limb functions of acute stroke patients.*

Conclusion: *The results of this review offer abundant proof that body weight-supported treadmill training improves lower limb function in patients suffering from acute stroke.*

KEYWORDS: *Treadmill training with weight support, stroke, evidence-based practice, lower limb functions, and evidence-based physiotherapy*

INTRODUCTION

A stroke is commonly characterized as a neurological impairment resulting from a sudden, localized injury to the central nervous system. This injury can be vascular events are cerebral infarction, or intra cerebral Hemorrhage is a medical term that refers to excessive bleeding, either internally or externally. (ICH), or subarachnoid Hemorrhage is a medical term that refers to excessive bleeding, either internally or externally. (SAH). It stands as one of the foremost reasons for disability and mortality on a global scale. [(1)] Stroke is a significant and escalating global health issue. It stands as a leading cause of physical disability acquired in adulthood globally, and it holds the second position as a cause of death in middle- to high-income nations. In these countries, the total incidence of ischemic and hemorrhagic stroke has increased over the past decade to 85–94 per 100,000, but it is substantially higher (1151–1216 per 100,000) in individuals aged over 75 years. Furthermore, low-income countries account for 85% of all stroke-related deaths and 87% of disability-adjusted life years related to stroke. [(2)]

The incidence of stroke is on the rise, from 0.84 out of every 1,000 individuals are at a high risk of experiencing a stroke. This can result in conditions such as hemiplegic and hemi paresis. Following a stroke, the resulting weakness can make daily activities challenging and significantly impact the individual's quality of life. [(3)]

Stroke often leads to a variety of pathological symptoms that result in functional disorders, including disturbances in gait. Consequently, a primary objective of rehabilitation is to restore optimal gait. The abnormal gait observed in stroke patients is influenced by several factors such as asymmetrical stride time and length, reduced speed, poor control of joints and posture, Weakness in muscles and irregular muscle tone, and irregular muscle activation patterns. Among these, muscle weakness is a common impairment following a stroke and is a significant contributor to abnormal gait patterns in patients. The strength of the lower limbs is intricately connected to walking capability. Consequently, a primary objective of stroke rehabilitation is to bolster muscle strength, thereby enhancing the patient's walking capacity.[(4)]

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Body weight-supported treadmill training represents a task-oriented approach to gait restoration following stroke. It provides clear benefits over traditional therapy by enabling higher intensity, more repetitive, and task-specific practice within the same duration. Numerous studies have illustrated the superiority of BWSTT in enhancing gait speed compared to traditional physiotherapy. Additionally, BWSTT brings about changes in cortico motor excitability, leading to improved balance and gait performance in acute stroke patients. Some studies suggesting that BWSTT does not surpass conventional gait training. BWSTT can improve walking endurance in the sub acute stage post-stroke, enhancements in balance and 10-meter gait speed may not be substantial.[5]

However, there remains a dearth of studies employing gait analysis to elucidate the mechanisms underlying improvements in gait parameters following BWSTT or conventional therapy. A fundamental understanding of how gait training impacts lower limb motor patterns is crucial, given that gait impairments stem from deficient neuromuscular control. Improvements in specific biomechanical aspects of walking, such as leg swing and balance control, correlate positively with overall walking performs. [6]

Body weight supported (BWS) treadmill training is a rehabilitation technique aimed at retraining walking abilities. During BWS, individuals are supported either by a metal frame or suspended from the ceiling, reducing the weight borne by their feet while walking on a treadmill. The level of support can be adjusted gradually based on individual requirements. For instance, if the treadmill speed increases, more support may be needed momentarily to maintain balance and posture. This approach is especially advantageous for individuals experiencing difficulties with walking after a stroke. BWS treadmill training offers a safe starting point for walking when independent walking is not yet feasible. It enables some individuals to initiate walking sooner after a stroke, especially those who currently rely on assistance from two individuals for over-ground walking. Additionally, it provides an opportunity for practice when walking over ground is not yet achievable. [7]

METHODOLOGY

Study Design

Search Methods and Eligibility Criteria

A thorough literature search was conducted; the search engines used were Pub Med, Google Scholar, Medline, and Pedro. Based on the available study there is an improvement of lower limb functioning by body weight supported treadmill training. Keywords used are stroke, lower limb rehabilitation, and body weight supported treadmill training. The study encompassed solely articles that focused on enhancing lower limb function through Body weight-supported treadmill training assistance, while excluding articles not published in English.

Sample Size

A sample size of 30 articles was searched with the keywords of stroke, lower limb rehabilitation, and body weight supported treadmill training. Out of these articles, papers obeying the criteria for inclusion and exclusion were filtered and finally, 10 were obtained for the review.

Inclusion Criteria

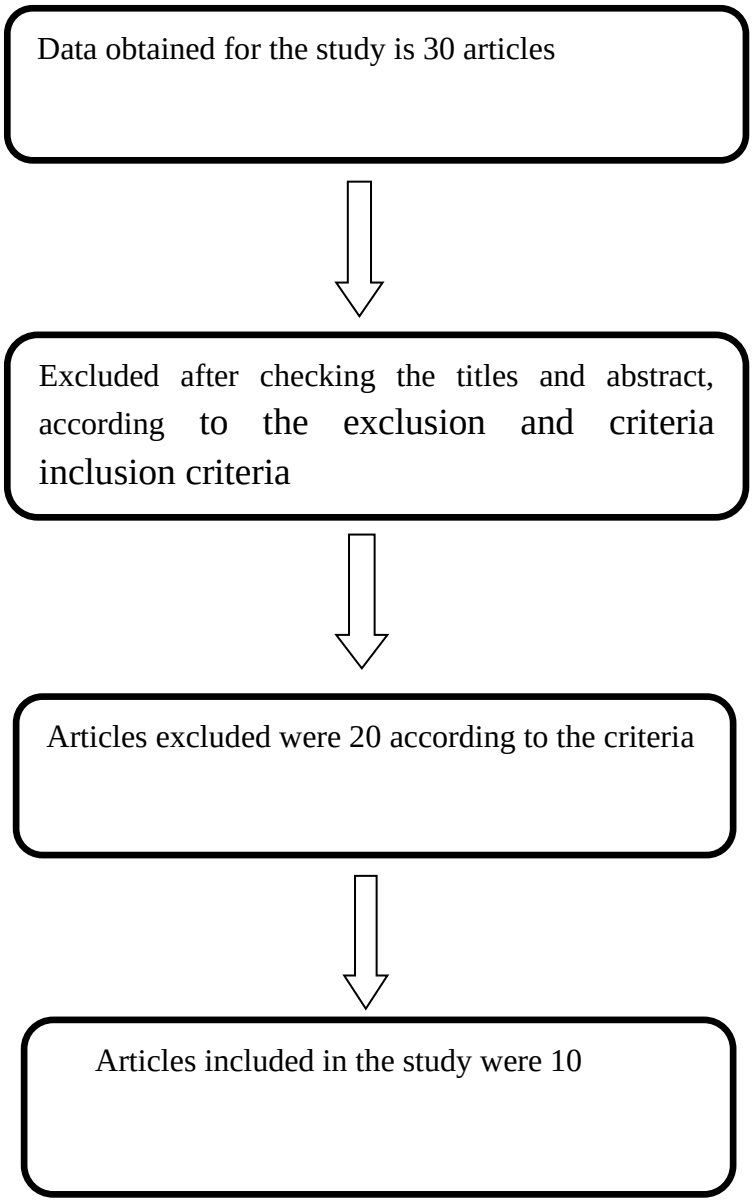
Articles explaining stroke Rehabilitation were included.
- Articles published in recent years.
- Full-text articles.
- Articles published in English.

Exclusion Criteria

- Articles of past 2014.
- Articles explaining other than stroke were excluded.
- . Articles addressing subjects beyond than body weight-supported treadmill training were excluded.
- Articles not containing relevant discussion were excluded.

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Flow Chart



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LITERATURE REVIEW

S No.	Author\ year	Title	Study method	Study design	Conclusion
1.	Elif Tarihci Cakmak 2024	The Effectiveness for Training on the treadmill with body weight support. In Stroke Patients.	The patients were divided into two groups: (1) a control group undergoing conventional rehabilitation (CR) only, consisting of 14 individuals, and (2) an experimental group undergoing CR along using body weight support during treadmill training, comprising 16 individuals. Both groups underwent CR for 3 weeks continuously, with sessions held 5 days per week, each lasting 30 minutes. In addition to CR, the experimental group received an extra 30 minutes of BWSTT per session. Prior to and following the intervention, patients underwent assessments using various measures including the 10-meter walk test (10MWT), the six-minute walk test (6MWT) the Tinetti Balance and Gait	Randomized control trail	In summary, integrating traditional physiotherapy with gait training conducted on over ground presents a comprehensive method to improve mobility in various aspects. This approach provides a cost-efficient and equipment-free option compared to treadmill support, requires specialized treadmill and support systems, leading to increased expenses. Nonetheless, incorporating BWSTT as a supplementary therapy may entail additional costs but offers extra advantages in enhancing functional mobility.

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			Assessment, Timed Up and Go (TUG) test, Rivermead Mobility Index (RMI), and Stroke-Specific Quality of Life Scale (SS-QOL).		
2.	Abdullah Ibn Abul Fazal 2022	Effectiveness of body weight supported treadmill training among Patients with Stroke	The study aimed to assess the effectiveness of body-weight-supported treadmill training (BWSTT) for stroke patients through a review of relevant literature. Five articles were examined to achieve this aim. Participants underwent BWSTT sessions lasting an average of 30 minutes per day, conducted five days a week, over a period of three weeks.	A review study	To ascertain the optimal intensity and frequency of training sessions necessary for restoring normal gait, Both study groups demonstrated enhancements in lower limb motor function and improved balance measures ($P < 0.05$), with kinematic improvements notably observed in the BWSST group ($P < 0.05$). This review underscores the significant effects of BWSTT on aspects related to balance, mobility, and fear of falling. Notably, infrequent isolated BWSTT sessions were found to be equally beneficial as more frequent conventional therapy sessions for ambulatory.
3.	Ponnada Ramakrishna 2021	Effect of Body Weight Support Treadmill Training on Gait Speed in Acute Stroke Rehabilitation	A quasi-experimental study involved screening 25 stroke patients, of which 20 willing participants were recruited. These individuals were segmented into two groups randomly.	A Quasi Experimental Study	The quasi-experimental study revealed that incorporating 30 minutes involving treadmill Training with support of body weight alongside regular conventional physiotherapy over a span of 4 weeks was both feasible and safe, demonstrating significant improvements in gait

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			Group A (n=10) underwent regular individual physiotherapy, while Group B (n=10) underwent only regular individual physiotherapy. The outcome was measured using the 10-meter walk test.		speed during acute stroke rehabilitation.
4.	Yu-Rong Mao 2015	The Effect of G Treadmill Training with Support of Body Weight Recovery, Motor Patterns of the Proximal Lower Limb and Balance in Subacute Stroke Patients	Participants with sub acute stroke (18 to 76 days post-stroke) were enrolled study and randomly assigned to either the BWSTT or CT groups (refer to Figure 1). Inclusion criteria for hemi paretic individual were as stated : (1) confirmation of stroke through computed tomography or MRI; (2) unilateral hemi paresis lasting no more than 3 months following the initial stroke; and (3) presence of residual gait impairment, as indicated by abnormal 10-meter walk times adjusted for age.	RCT	In patients with sub acute stroke, BWSTT shows potential for enhancing gait quality compared to conventional gait training. Both approaches demonstrate the ability to enhance balance and motor function.
5.	Kyunghoon Kim 2014	Effects of Progressive	Thirty-six chronic stroke, Patients were	RCT	The study results indicate noticeable alterations in the

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		Body weight-supported treadmill training Walking Ability of the Lower Extremity Affected by Stroke	assigned to three groups each consisting of 12 subjects. Every group participated in progressive body weight-supported treadmill training methods for 30 minutes, six times per week, spanning three weeks. Subsequently, they underwent general physical therapy without further intervention until the follow-up evaluations.		traits Across all three groups, the mobility of the lower extremity that was affected was evaluated. Following the three-week training period. Although among the affected side's support, and symmetry index, significant disparities were noted in the affected side's step length and step time in the PBWSTFBWP group compared to the PBWSTFWT and PBWSTBWT groups after completing the three-week training.
6.	Lee H-J 2013	The Impact of Treadmill training with support from body weight. Power Assisted Functional Electrical Stimulation on Functional Movement and Walking in stroke patients	Thirty stroke patients were randomly assigned to two groups: the experimental group (n = 15) and the control group (n = 15). All participants underwent the same standardized rehabilitation program. Additionally, engaged in BWSTT with Functional electrical stimulation assisted by power for 30 minutes daily, five days per week, over a span of 4 weeks, whereas the control group	RCT	The objective of the study was to investigate impact of BWT-PAFES on functional Movement and walking patterns in stroke were assessed following a 4-week period of Body Weight Support Perturbation Assistance and Functional Electrical Stimulation. Notable enhancements in both functional movement and gait were noted when comparing the BWT-PAFES group with the BWSTT group.

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			underwent BWSTT equal duration and frequency.		
7.	Catherine M Dean 2010	Walking on the treadmill with support of body weight in Sub acute non-ambulatory Stroke improves g Enhanced walking ability compared to traditional round walking	Inpatient rehabilitation comprised 126 stroke Patients who were unable to walking within 4 weeks after their stroke. The experimental group engaged in treadmill walking with received body weight support utilizing an overhead harness for a maximum of 30 per day, whereas the control group engaged in up to 30 minutes of walking on over ground.	RCT	Treadmill-based training with support for body weight leads to enhanced walking capacity and perception In comparison to walking on the ground, without any adverse effects on the quality of walking.
8.	Louise Ada 2010	Randomized Trail of Walking on the Body weight-supported treadmill to Establish Walking in Subacute stroke Patients	A study employing concealed allocation, blinded assessment, and intention-to-treat analysis was carried out. One hundred and twenty-six stroke patients, all unable to walk, were enrolled and randomly divided into either an experimental or control group within 4 weeks of their stroke onset. In the experimental group,	Randomized control trail	Proves to be feasible and safe, with a tendency to facilitate earlier and increased independent walking post-stroke.

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			participants engaged Walking on the treadmill with support from body weight support via an overhead harness for up to 30 minutes daily, the control group participated in up to 30 minutes of walking on regular ground.		
9.	Marco Franceschini 2009	Walking After Stroke: What Does Training on a Treadmill with Support for Body Weight Add to Training in Over ground Gait for Patients Early After Stroke	This study was conducted to single-blind, randomized, controlled trial spanning a 6-month follow-up period. Ninety-seven participants were enrolled within 6 weeks of experiencing a stroke and The participants were randomly assigned to two groups: one receiving conventional rehabilitative treatment combined with gait training One group solid ground without additional support (control group; n = 45). Participants attended 60-minute sessions on weekdays for a duration of 4 weeks. Assessments were conducted at	Randomized control trail	For individuals experiencing sub acute stroke, gait treadmill-based Training with support from body weight is both feasible and comparably effective to traditional gait training methods. Nevertheless, the requirement for additional personnel during treadmill training emphasizes the growing appeal of utilizing robotically assisted systems.

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			the beginning and after completing 20 treatment sessions, 2 weeks post-treatment, and at the 6-month mark following stroke onset.		
10.	Marc C. Kosak 2015	Comparing Partial Body Weight Supported Treadmill Gait Training versus Aggressive Brasing Assisted Walking post Stroke	Patients received treatment sessions lasting up to 45-minute sessions daily, occurring five days per week, based on their tolerance level, throughout their inpatient stay or until they could walk over ground unassisted. Additionally, all patients underwent a 45-minute session of functionally oriented physical therapy each day, with or without bracing, as deemed suitable by their individual therapist.	Randomized control trail	Both PBWSTT and ABAW demonstrate comparable effectiveness in gait training, except for a specific group of significant hemispheric stroke who present challenges in mobility solely with ABAW.

DISCUSSION

Elif Tarihci Cakmak et al 2024: This research investigated of conventional rehabilitation (CR) alone versus CR combined with treadmill training with support from body weight. (BWSTT) on mobility and the quality of life in individuals recovering from stroke. The research revealed that incorporating BWSTT into the therapy regimen resulted in more substantial enhancements in comfortable walking speed, evaluated through the 10-Meter Walk Test (10MWT), and functional mobility rehabilitation alone. Furthermore, in a study examining In sub acute stroke patients, improvements were observed in lower extremity motor functions, balance, and gait parameters with both body weight-supported treadmill training (BWSTT) and over ground gait training. However, the BWSTT group exhibited notable enhancements in kinematic parameters of lower limb joints and gait patterns, a distinction not observed in the control training group.[8]

Ponnada Ramakrishna et al 2021: The study aimed to gauge the efficacy of treadmill training supported by body weight improving gait speed among ambulatory stroke patients. All 20 subjects successfully completed the entire four-week training protocol. Assessment of treatment impact prior to and following the intervention, conducted using paired t-tests, ten meter walk used as the outcome measure. Comparison between body weight and conventional physiotherapy was administered using

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paired sample t-tests, revealing a significant enhancement with treadmill training supported by body weight in comparison to traditional physiotherapy. Stroke patients underwent progressive body weight-supported forward and backward walking training, and the impact of these programs on their walking abilities was evaluated. Significant improvements were observed in training period, with notable differences noted in affected walking time among the groups.[10]

After reviewing these articles, it's evident treadmill training with support from body weight Proves effective. Research indicates that in post-stroke patients, traditional physiotherapy, BWSTT, and a combination therapy group all enhance balance and mobility while reducing fear of falling. Particularly, the combination therapy demonstrated superior performance In comparison both CT and BWSTT terms of balance and mobility. Despite CT and BWSTT having different training frequencies, both positively impacted the measured outcomes. In a study by after 30 sessions, there was no notable distinction in balance function between the CTG (five times per week) and the BWSTTG (three times CT plus two times BWSTT per week). However, in our present study, we observed that the Combination therapy (five times CT per week + twice BWSTT per week over 30 sessions) significantly surpassed the CTG in enhancing balance.

CONCLUSION

The articles referenced above have demonstrated the significant the efficacy Treadmill training supported by body weight assistance and modified therapy in enhancing gait, balance, motor functions, and ambulation among acute stroke patients. Therefore, it is recommended that therapists incorporate treadmill training with support from body weight into their treatment plans for acute stroke patients.

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HEDGING AND FIRM VALUE IN INDIAN MANUFACTURING COMPANIES

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ABSTRACT

The practice of hedging using derivatives by firms and its impact on the value of the firm has received much attention in the last few years. Its main motive is to study the relationship between hedging and firm value. This study focuses on the hedge effectiveness of financial derivatives used by BSE500 listed Indian manufacturing companies. The entire sample for the study was made up of 1845 firm year from 2016-2022. It also focuses to conclude if the results are consistent among the subsamples of large & small companies. Using Tobin's Q as a measure of firm value and by employing different models; we find a positive and significant impact of derivatives use (hedging) on the firm value. We also find that within the subsamples the hedgers have a higher hedging premium as compared to the non-hedgers.

KEYWORDS: *Hedge effectiveness, firm value, derivatives, Tobin's Q.*

INTRODUCTION

Corporate Risk Management (CRM) has emerged as a very important practice among companies for assessing, managing and optimizing risks. It also resulted in the development of various risk management techniques which could add value to the firm. Almost all firms make use of financial contracts as a part of corporate risk management. They enter into contracts that can fix the price of raw materials, output, the foreign exchange rate, etc. Such financial contracts are collectively known as 'derivatives' and such instruments derive their value from their underlying assets. It is seen that out of the world's 500 largest companies, most of them made use of derivatives to manage different types of risks. Majority of them use derivatives for hedging currency risks, followed by interest rate risks and commodity risk.

However, a classical finance theory given by (Modigliani & Miller 1958) posits that financial transactions undertaken solely for reducing risk will not add any value to the firm in the presence of perfect capital and efficient market conditions. Yet, some evidence has shown that in the real world with imperfect market conditions, such derivative contracts can add value. Conditions like presence of taxes, agency problems, financial distress, underinvestment, etc. can help in value addition. Many previous works have focused on the effect of the use of derivatives and the value of the firm but the results are mixed as well as conflicting. Through this particular study, we are reassessing the effect of derivatives use on the value of the firm in the Indian context. Most of the previous studies were conducted in the developed countries like U.S., U. K., China, etc. and very little evidence is available focusing on developing nations including India.

The Indian Derivatives Market has also evolved a lot in the last few decades as it gave a new investment options for people. Originally the farmers were in need of such derivative instruments to protect themselves from the risk of fluctuations in the price of their crops. Later on a number of organised commodity future exchanges were set up. However, in the year 1952 government put a ban on the trading of options and other derivative instruments. It was in the last two decades that the government has liberalized the futures trading and also introduced the national electronic exchanges. After the liberalization, the derivatives market has grown rapidly.

The annual reports of the Indian companies are the main source of derivatives information useful for various shareholders, investors, financial analysts, etc. However, the disclosure of such financial derivatives instruments is not done in a detailed and consistent format. The disclosures mostly appears in the notes to financial statements. Moreover, complete disclosure of derivative position is not a mandatory requirement for firms in India and firms do it voluntarily. Even though there is no obligation on the part of Indian firms for disclosures but still it was seen that over the years the financial derivatives disclosure has increased a lot. Many countries around the world have introduced Accounting Standards for derivatives in order to improve the disclosure process. For example- in United States (US) the Financial Accounting Standards Board (FASB) issued statement 133 and 137 in this regard, United Kingdom (UK) issued FRS 13, etc. After the introduction of such mandatory standards, the disclosure of derivatives process has improved in those countries. TheIndian government is also now working on to align our accounting standards with global standards and improve the overall disclosure and reporting norms.

REVIEW OF LITERATURE

According to Modigliani and Miller (1958) in the presence of perfect capital market conditions, risk management has no value addition, as the shareholders can manage their risks themselves. An alternate view (e.g. Smith and Stulz 1985) states that corporate hedging can enhance firm value by reducing the risk of cash shortfalls or financial stress, reducing

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the bankruptcy costs, asymmetric information, costly external financing, taxes and agency costs. Empirical tests on this topic have given conflicting results.

Early evidence (Allayannis and Weston 2001) has shown the positive effects of the use of Foreign Currency Derivatives (FCD) for hedging on the firm value. The paper revealed 4.87% higher firm value for non-financial firms which have foreign sales and undertake hedging activities as compared to firms without foreign sales. It was also found that firms that begin hedging exhibit a higher value than the non-hedging firms. Bartram et al (2006) used a sample of 6888 non-financial companies and found that the use of FCD and Interest Rate Derivatives (IRD) increases the firm value. Adam and Fernando (2006) reveal positive cash flows for gold mining firms from the use of derivatives, which would result in increased shareholder value. However, there is no evidence of reduction in the systematic risks of such gold mining firms. The use of derivatives to hedge fuel price risk by the airline industry has also been shown by Carter et al (2006) to increase the firm value. In the study conducted by Bartram, Brown, and Conrad (2011) it was found that after employing the propensity score matching technique hedging increases the firm value. The study initiated by Bae, Kim & Kwon (2017) focused on Korean firms. They found that firms with low exposures and manageable risk undertaking FCDs for hedging experience an increase in the firm value. However, there is not much significant reduction in the risks of those firms. Operational hedging along with the financial hedging activities also increases the shareholder's value of firms as is revealed by Allayannis & Weston (2001). Other studies which show the positive impact of derivatives use on the firm value include the works of Clark & Judge (2009), Zhou & Wang (2013), Leland (1998) &Froot, Scharfstein and Stein (1993). Clark & Judge (2009) states that hedge with financial derivatives taken against foreign currency debt increases firm value. The work of Zhou & Wang (2013) revealed that hedging activities when numerically disclosed to investors reduces the risk exposures and raise the value of the firm. Leland (1998) found that hedging increases a firm's debt capacity and thus it ultimately increases the firm value by increasing the debt tax shield. Froot, Scharfstein, and Stein (1993) also studied that hedging by reducing the costs of external financing also increases firm value.

But in contrast to this positive impact of derivative usage on the firm value some studies have concluded a negative or insignificant impact of hedging and firm value. Jin & Jorion (2006) by taking a sample of firms from the oil & gas industry found that there is no significant impact of hedging on the firm value. Firms with higher basis risk (arising due to imperfect hedging) or financial distress undertaking hedging activities face a reduction in the overall firm value that was revealed by Gilje and Taillard (2017). Santos, Lima, Gatsios and Almedia (2017) also revealed through their study that hedging does not add any value as companies use derivatives not for adding any value to the firm but rather for managing the cash flows. Again Fauver & Naranjo (2010) revealed that a firm with higher agency and monitoring problems faces a negative impact of hedging on the firm value. The work of Belghitar, Clark & Mefteb (2013) also showed that hedging has no significant impact on firm value. Nguyen and Faff (2010) concluded that there is a negative impact of derivative usage on firm value and is more significant for Interest Rate Derivatives.

Some of the studies also revealed ambiguous or conditional positive results. The study initiated by Law, Chee &Kwong (2016) revealed that hedging activities had a negative impact on the firm value measured by Tobin's Q but had a positive impact on Return on Equity (ROE) and Return on Assets (ROA). Bae, Kim and Kwon (2017) also concluded that hedging with more derivative use does not reduce any risk but it increases firm value. While for firms having high exposures, high foreign sales and foreign debt when undertake hedging activities experience lower firm value. The work of Jankensgard (2015) also said that centralised hedging activities lead to a higher firm value while decentralised results in no value addition. Treanor, Rogers and Carter (2014) found that in the airline industry hedging with more exposures experience no significant impact on the firm value. While on the other hand firms hedging with no exposure increases the firm value.

Thus, many articles have shown a positive impact of derivative use on the value of the firm which indicates that hedgers have a higher value as compared to the non-hedgers. While there are other articles that have concluded either a negative, insignificant or conditional positive relationship between the two.

Hypothesis Development

After going through the literature, we find that the impact of derivatives use on the value of the firm has not been conclusively determined. There can be a number of reasons for such conflicting and different results, such as incorrect set of control variables, differences in risks faced by firms, endogeneity issues in the model, choice of methodology, etc. This paper empirically investigates the same objective. We re-examine the impact of derivative use on firm value while attempting to avoid a recurrent issue in past studies, that of endogeneity and control variables. We do this by using different models to study the same underlying objectives. It may be hypothesized that:

Hypothesis 1: Hedgers have a higher firm value as compared to the non-hedgers.

Size has been known to influence the value creation by hedging (Nance et al. (1993), Geczy et al. (1997)). Mostly the larger firms are able to undertake more hedging activities by bearing the cost of hedging. Such firms by identifying and assessing the risks are able to hedge accordingly and have higher Tobin's Q as compared to smaller firms. Thus, it may be hypothesized that larger hedging firms have higher firm value as compared to smaller firms undertaking hedging activities. This leads us to the following hypothesis:

Hypothesis 2: Hedging adds more value to larger firms, than to smaller firms.

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METHODS OF STUDY

The scope of this study was restricted to BSE500 companies, as on financial year 2019. Out of those companies, only the manufacturing companies were selected for the study. From National Industries Classification 2008, industry codes 14 to 34, except 1412 (Production of milk from cows or buffaloes), 1410(Manufacture of wearing apparel) and 17093 (Manufacture of printing, writing and photocopying paper) were taken. A total of 205 companies were found appropriate for the study out of the top 500 companies. The data for these companies from 2016 to 2022 was considered for the study. So a total of 1845 firm years form a sample of the study.

The financial statements and the annual reports of the companies were obtained from ProwessIQ and BSE websites. Data related to the use of derivatives, types of derivatives used, etc. was extracted manually from the special notes of such annual reports. As in the Indian context, it is not a mandatory requirement for the companies to reveal the notional value of derivative contracts and to disclose the mark- to- market profits or gains arising out of such transactions so, many companies did not disclose the same. So there were companies who had revealed the use of derivatives for hedging as well as its different types but without any notional value of the contracts. So there is still a lot to develop in the information disclosure process of risk management. The rest of the data related to the companies was obtained from the ProwessIQ website. We employed a number of combinations of different variables in order to study the impact of derivatives use in the presence of different control variables. A variety of such models were studied in all the subsamples, however, for lack of space, we report only the following 5 models:

Model 1: $Leading\ Tobin'sQ(t+1)\alpha\ \beta_1 \cdot ROA + \beta_2 \cdot ROE + \beta_3 \cdot Leverage + \beta_4 \cdot Size + \beta_5 \cdot R\&D\ ratio + \beta_6 \cdot Dummy\ derivatives\ use$

Model 2: $Leading\ Tobin'sQ(t+1)\ \alpha\ \beta_1 \cdot ROA + \beta_2 \cdot Leverage + \beta_3 \cdot Size + \beta_4 \cdot R\&D\ ratio + \beta_5 \cdot Dummy\ derivatives\ use$

Model 3: $Leading\ Tobin'sQ(t+1)\ \alpha\ \beta_1 \cdot ROA + \beta_2 \cdot ROE + \beta_3 \cdot Leverage + \beta_4 \cdot Dummy\ derivatives\ use$

Model 4: $Leading\ Tobin'sQ(t+1)\ \alpha\ \beta_1 \cdot ROA + \beta_2 \cdot Leverage + \beta_3 \cdot Dummy\ derivatives\ use$

Model 5: $Leading\ Tobin'sQ(t+1)\ \alpha\ \beta_1 \cdot Tobin'sQ + \beta_2 \cdot Leverage + \beta_3 \cdot R\&D\ Ratio + \beta_4 \cdot Foreign\ sales\ to\ assets + \beta_5 \cdot Dummy\ Derivatives\ use$

For studying the relationship between the usage of derivatives (hedging) and firm value we have used variables similar to some of the previous studies. They are stated as below:

Dependent Variable: Leading Tobin's Q(t+1) is used as a measure of firm market value which is the leading year's Tobin's Q. Tobin's Q is calculated as a ratio of the (Market value of Equity + Book Value of Assets - Book Value of Equity) to the Book Value of Total Assets. It is selected as a measure of firm value as it is very simple, accurate and a very popular measure of representing the same. Tobin's Q = (Market Value of Equity + Book Value of Assets - Book Value of Equity)/ Book Value of Assets

Independent Variable: We have used a dummy variable as a proxy for measuring corporate hedging or the use of derivatives. [1] A dummy variable (1) for the use of either Foreign Currency Derivatives (FCD) or Interest Rate Derivatives (IRD) or Commodity Derivatives for hedging and (0) otherwise. We have used the dummies for measuring this variable because it is a more reliable proxy for measuring the use of derivatives for hedging.

Control Variables: There are also a number of control variables which can have an impact on the value of the firm. The details of such variables are stated below:

Profitability- Return on Equity (ROE) and Return on Assets (ROA) are taken as two proxies for measuring profitability or the financial performance of the companies. ROE = Net Income/ Total Equity. ROA = Net Income/ Total Assets

Size of the Firm- We have used natural log of total assets as a measure of firm size. Size= Natural log of total assets

Leverage- In our study we have used the ratio of total debt to total assets as a measure of leverage. Leverage= Total Debt/ Total Assets

Research & Development Expenses- The Research & Development (R&D) ratio is measured as a proxy for future or upcoming investment opportunities and identification of various possible risks. R&D Ratio= Research and Development expenses / Total Assets

Foreign Sales- The foreign sales to total assets ratio is taken as a proxy for measuring foreign sales of firms. Foreign Sales -to-Assets Ratio= Foreign Sales/ Total Assets

EMPIRICAL RESULTS AND DISCUSSION

The Table 1 gives summary statistics of main variables used in the study. It shows the mean values of all variables for the entire sample. It also reveals the means values for hedgers and non-hedgers separately. In addition to this the values of standard error of mean is mentioned within the brackets below each mean value. The last column reveals the t-statistics for both hedgers and non-hedgers. We perform our analysis separately by dividing the entire sample on the basis of size i.e., large (natural log of total assets > median) and small (natural log of total assets < median) companies.

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Table 1: Descriptive Statistics (Full Sample)

		Full	Hedgers	Non-hedgers	t-statistics
	N	Statistic	Statistic	Statistic	
Return on Equity (ROE)	1773	0.127	0.086	0.161	.696
		(0.038)	(0.065)	(0.006)	
Return on Assets (ROA)	1754	0.253	0.364	0.109	-.608
		(0.145)	(0.250)	(0.008)	
Size (Natural log of assets)	1813	10.443	10.669	10.336	-4.313
		(0.034)	(0.041)	(0.062)	
Leverage	1564	0.384	0.506	0.133	-.807
		(0.157)	(0.264)	(0.011)	
R&D Ratio	1845	0.011	0.014	0.010	**-2.201***
		(0.001)	(0.001)	(0.001)	
Foreign sales-to-assets ratio	1845	0.816	1.324	0.103	-.639
		(0.646)	(1.147)	(0.014)	
Tobin's Q (Firm Value)	1813	3.768	3.525	3.784	.236
		(0.387)	(0.657)	(0.213)	
Leading Tobin's Q(t+1)	1611	4.071	4.024	3.737	-.427
		(0.247)	(0.388)	(0.235)	

We started our hypotheses tests by comparing mean firm values of hedgers and non-hedgers. For large companies, it can be seen from the Table 2 that the hedgers have a significantly (t= 2.7) higher firm value (Tobin's Q) than the non-hedgers. For small companies also the mean firm value of hedgers was higher as compared to non-hedgers but it was not statistically significant. It ultimately shows that whether it is a case of small or large companies the hedgers have a higher firm value (Leading Tobin's Q) as compared to that of non-hedgers. But when compared between large and small companies, the small companies have a higher firm value compared to the larger ones. The possible reason for this is that as small firms have smaller risk exposures and manageable risks, so hedging becomes more effective in adding more value to smaller firms.

Table 2: Descriptive Statistics (Large Companies) and (Small Companies)

	LARGE			SMALL		
Derivatives Dummy	**Hedgers**	**Non Hedgers**	**t-statistic**	**Hedgers**	**Non Hedgers**	**t-statistic**
Return on Equity (ROE)	0.024	0.139	0.511	0.160	0.179	1.207
Return on Assets (ROA)	0.086	0.060	**-1.798****	0.710	0.146	-0.68
Size (Natural log of assets)	11.566	11.442	-1.454	9.568	9.545	-0.409
Leverage	0.191	0.111	**-5.071***	0.903	0.151	-0.8
R&D Ratio	0.015	0.009	**-1.345***	0.013	0.011	-0.75
Foreign sales- to- assets ratio	0.141	0.058	-1.28	2.803	0.137	-0.708
Tobin's Q Firm Value	2.926	1.890	**-2.784*****	4.261	5.138	0.413
Leading Tobin's Q(t+1)	2.723	1.714	**-2.472****	5.538	5.092	-0.368

Finally, in order to study the relationship between the derivative's use and firm value we have used five different models by using different combinations of control variables. Table 3 shows the results of regression analysis showing the impact of the use of derivatives on the value of the firm using the full sample. It reveals that in all the first four models there is a positive and significant impact of the use of derivatives on the leading Tobin's Q. The coefficients state that the hedging contributes positively to firm value.

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Table 3: Regression of derivatives use (dummy) on Leading Tobin's Q (t+1)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Return on Equity (ROE)	-0.047		.021		
	0.165		.166		
Return on Assets (ROA)	**9.089*** **	**8.993*** **	**2.656***	**2.679***	
	1.919	1.888	1.127	1.111	
Size (Natural log of assets)	**0.180** **	**0.179** **	**.228*** **	**.228*** **	-.007
	0.063	0.063	.063	.063	.026
Leverage	-1.811	-1.757	**-2.737***	**-2.761***	**2.157*** **
	1.168	1.152	1.165	1.148	.034
R&D Ratio	13.548	13.688			**-7.940***
	9.172	9.155			3.387
Foreign sales- to- assets ratio	**-1.564*** **	**-1.555*** **			
	0.335	0.333			
Tobin's Q (Firm Value)					**.930*** **
					.012
Dummy Derivatives Use	**0.537***	**0.536***	**.640***	**.641***	-.011
	0.257	0.256	.260	.259	.104
Adjusted R^2	0.129	0.130	0.102	0.102	.854

The coefficients of some of the control variables are also significant. It is seen that the more profitable firms i.e., the firms with high ROA have a higher value of leading Tobin's Q; size also has a positive and significant coefficient with leading Tobin's Q stating that larger firms have a higher firm value; firms with more amount of leverage have a lower firm value due to the increase in the financial distress of firms; negative and significant coefficient of foreign sales ratio and firm value states that firms with more foreign exposures have lower firm value; current year's firm value is related to last year's firm value as seen from the coefficient of the last model 5. But only in case of R&D ratio, we have a very contrasting and opposite results i.e., the negative impact of R&D expenses on the firm value.

We conducted the same analysis again by undertaking the subsamples of large and small companies and also controlling the same set of control variables. The results of the analysis are reported in Table 4 and Table 5, respectively.

Table 4: Regression (Large Companies) of derivatives use (dummy) on Leading Tobin's Q (t+1)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Independent Variable	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q_{t+1}
Return on Equity (ROE)	**-.204*** **		**-.170*** **		
	.044		.046		
Return on Assets (ROA)	**23.565*** **	**22.497*** **	**18.519*** **	**17.908*** **	
	1.075	1.069	.857	.850	
Leverage	-.234	.325	-1.080	-.561	-.399
	.695	.696	.716	.710	.511
R&D Ratio	**-24.715*** **	**-23.068*** **			**-9.465*** **
	3.349	3.390			2.129
Foreign sales- to- assets ratio	.152	.151			.045
	.146	.149			.110
Tobin's Q Firm Value					**.926*** **
					.026
Dummy Derivatives Use	**.346*** **	**.330** **	**.417*** **	**.401*** **	.099
	.066	.068	.069	.069	.051
Adjusted R^2	0.618	0.604	0.582	0.573	.783

The results of the subsample of large companies are somewhat similar to that of the full sample. It also reveals that large hedging firms using derivatives have a higher firm value as compared to large non-hedging companies. It is also found that large profitable companies with higher ROA have a higher firm value; R&D ratio is again negatively and significantly related to the firm value. But there was a contradicting result stating a negative relationship between the ROE and firm value. The possible explanation for this is that ROE (control variable) and

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leading Tobin's Q (dependent variable) are arithmatically related, giving rise to co-linearity.

Table 5: Regression (Small Companies) of derivatives use (dummy) on Leading Tobin's Q (t+1)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Independent Variable	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q_{t+1}
Return on Equity (ROE)	3.924		**6.457***		
	3.111		3.015		
Return on Assets (ROA)	5.380	6.925	-.289	.365	
	4.204	4.024	1.913	1.895	
Leverage	.020	-.462	.281	-.387	-.078
	1.999	1.964	1.977	1.959	.616
R&D Ratio	44.398	43.218			5.067
	24.947	24.944			8.329
Foreign sales- to- assets ratio	-1.155	**-1.384***			**.464****
	.719	.696			.128
Tobin's Q Firm Value					**.934****
					.017
Dummy Derivatives Use	**1.331*****	**1.533*****	**1.570*****	**1.945*****	.134
	.337	.297	.330	.281	.118
Adjusted R^2	0.115	0.114	0.096	0.090	0.864

In case of small companies also we found that the use of derivatives has a positive impact on the value of the firm. Small profitable companies having higher ROE also have a higher firm value which is as expected initially in our study. The positive coefficient of Tobin's Q and leading Tobin's Q states that current year's Q is affected positively by the last year's Q. So the above stated results in all the various tests are consistent with the initial hypotheses that hedgers have a higher firm value as compared to the non-hedgers.

CONCLUSION AND POLICY IMPLICATIONS

This paper studies the relationship between the use of derivatives for hedging and the value of the firm of BSE500 listed Indian manufacturing firms. The study was conducted for a period ranging from 2016-2022. Using leading Tobin's Q as measure of firm value, we found a positive and significant impact of derivatives use on value of the firm. The results were also significant and consistent within the subsamples of large as well as small companies. We also found that small companies using derivatives have a higher firm value as compared to the large companies. As they are small and have manageable risk exposures, the use of derivatives ultimately adds value to the firm. The results are also robust to various control variables (profitability, size, foreign sales, leverage, and R&D expenses). Thus, the paper sheds light on the consistency of basic fundamental hedging theory and reveals the positive relationship between hedging and firm value.

According to the Companies Act, 1956 the risk management of enterprise was not mandatory. However as per the new law enacted in 2013, all the firms were required to comply with the specific requirements related to risk management. It also specified the framework and provided guidelines to define, measure, report, control and mitigate the identified risks. As the Companies Act mandates risk management and reporting, we investigate whether there is a need to prescribe hedging (risk management) to companies, when investors themselves can take a hedge. In India firms are able to hedge over and above what the investors can. It may be partly due to the restrictions imposed on the use of contracts such as FCDs by entities and individuals not directly exposed to foreign currency risks. There is also a large amount of transaction costs involved in undertaking such contracts which again restricts the investors from hedging. The presence of information asymmetry among the investors also limits the ability of individual investors to hedge of their own. Until these asymmetries between investors and firms remain, it may be prudent to prescribe risk management through regulation such as Companies Act 2013.

FUTURE GUIDELINES

We plan to empirically investigate the explanations stated in the above section as well as a few other unanswered questions. We also want to explore more on auto regression of Tobin's Q and the possible methods of dealing with such issues. The reasons for completely conflicting results for various control variables such as R&D expenses, foreign sales ratio, etc. can also be studied. It can also be seen if the results are consistent with in other industries too.

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EXPLORING THE ASSIMILATION OF SELF-LEARNING & INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN HIGHER EDUCATION: COVID-19 PANDEMIC PERSPECTIVE IN INDIA

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ABSTRACT

This article delves into the evolving landscape of 'Self-learning' within the area of higher education in India. With the proliferation of technology and digital resources, 'Self-learning' has emerged as a prominent alternative or complement to traditional classroom-based education. The article reviewed and examines the drives behind the rise of self-learning, including the accessibility of online platforms, the demand for flexible learning opportunities, and the need for continuous skilling in a rapidly changing world. Furthermore, it explores the challenges and opportunities associated with self-learning in the Indian context, such as issues of digital divide, quality assurance, and recognition of self-taught skills. Now-a-days Distance mode of education (non formal education) in Higher Education is very much popular and effective in India and the Self-learning concept is very much essential for achieving the goal. This paper reviews the existing literature on the connection of self-learning and Information and Communication Technology (ICT). With the proliferation of digital tools and platforms, ICT has significantly influenced self-learning practices, enabling learners to access resources, collaborate with peers, and personalize their learning experiences. Reviewing previous empirical studies, theoretical frameworks, literatures this study is aimed on the impact of ICT on various aspects of self-learning, including accessibility, engagement, effectiveness and inclusivity. Additionally, it explores the barriers hindering effective implementation, including issues of accessibility, digital literacy, and privacy concerns. The COVID-19 pandemic has disrupted education systems worldwide, prompting a rapid shift towards remote and self-directed learning modalities. In India, where the pandemic has exacerbated existing educational inequities, self-learning has emerged as a critical strategy to ensure continuity of education. This paper also discussed the impact of the COVID-19 situation on self-learning in India, exploring the challenges faced by learners and educators, as well as the opportunities for innovation and suggestions for enhancement.

KEYWORDS: *Self-learning, Higher Education, ICT, COVID-19, Online-Learning, Digital Resource, Digital divide, Distance Education*

INTRODUCTION AND EMERGENCE

The traditional paradigm of higher education in India, articulated by classroom-based instruction and rigid curricular structures, is undergoing a profound transformation propelled by advancements in digital technology. In recent years, the background of higher education in India has been a notable shift towards 'self-learning' methodologies facilitated by online platforms and digital resources. This shift is driven by a confluence of factors, including the escalating require for flexible learning options, the imperative of continuous skilling in a rapidly evolving job market and the widespread accessibility of digital learning resources. 'Self-Learning' as a Process by which self responsiveness, critical thinking of learning will be shaped in the 21st century skills. It helps one's deep strategic understanding in a concept or subject and builds insight in a fundamental concept. 'Self-Learning' as a concept is not new. Terms analogous with Self-learning include, self-directed learning, self-designed learning, self-regulated learning, lifelong learning, self-directed learning (SDL) has its roots in the concept of adult education, while self regulated learning (SRL) on the other hand, is mostly studied in the educational environment (Loyens, et. al., 2008). 'Higher education' in India refers to the education provided at colleges, universities, and other tertiary institutions beyond the secondary level. It encompasses undergraduate, postgraduate, and doctoral programs, as well as professional and vocational courses, aimed at preparing students for specialized careers and advanced research (University Grants Commission, 2008). Higher education institutions in India offer a diverse range of disciplines and fields of study, including arts, sciences, engineering, medicine, commerce, and humanities, catering to the diverse academic and career aspirations of students across the country.

The dawn of 'Information and Communication Technology (ICT)' has revolutionized the way individuals engage in 'learning' activities, particularly through self-learning initiatives. ICT encompasses a wide range of digital tools and platforms,

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including online courses, educational apps, social media, and collaborative learning environments. This introduction sets the stage for the review by highlighting the growing significance of ICT in self-learning contexts and outlining the objectives and scope of the paper.

Moreover, in the 'COVID-19', global pandemic and lockdown situation all over the world as well as in India had affected the 'formal education system'. Because of this 'COVID-19 pandemic situation', nearly all of the schools and colleges were closed to maintain 'social distancing' from the month of March, 2020 in India for a long time and 'formal Higher Education system' is affected and need for another remedy for the students in 'learning'. The COVID-19 pandemic has triggered the espousal of online learning, prompting educational institutions to embrace digital platforms to ensure stability of education. The shift towards online and hybrid learning models has not only reinforced the importance of self-learning but has also highlighted its potential to enhance learning outcomes and promote lifelong learning habits among students. In this study, analysed the various aspects of 'Self learning' its challenges faced by the students and teachers. As per the instructions of the Union Ministry of HRD (Human Resource Development) has made several arrangements for conducting classes for the students through the online portals and through the educational channels to continue the learning. In other hand through 'Self-learning' in 'distance Education' learning practices now are highly adapted for completion of people's further education after engaging in any profession or any other reason for incompletion of degrees and achieving the same after a duration of time. It outlines the objectives of the paper and highlights the importance of thoughtful the 'challenges and opportunities' associated with self-learning in the current context. The growing importance of self-learning and ICT assimilation in the education system is a crucial factor for now-a-days.

Aspects of Self-Learning

Self-learning, also known as self-directed learning or autonomous learning refers to the process by which individuals take responsibility for their own learning experiences, actively seeking out and engaging with educational resources, materials, and activities without direct supervision or guidance from traditional instructors (Knowles, 1975). In self-learning, learners set their own learning goals, manage their time and resources, and monitor their progress, thereby fostering autonomy, self-motivation, and lifelong learning habits (Siemens, 2005).

Self-learning is defined as "a method of garnering information and after processing and retaining it without taking the help of another individual. It is the responsibility of the learner to learn and hold on to the knowledge without the help of another human resource. It is a modern way of learning that helps a person to teach himself skills and knowledge that will prove relevant to his daily activities" (Skilling India, 2020). The theoretical framework of 'Self-learning' is the guides of review, drawing upon theories of self-regulated learning, Social Constructivism, and technology acceptance. The framework elucidates the mechanisms through which ICT influences self-learning processes and outcomes, providing a conceptual lens for analyzing the literature. Any knowledge getting outside of a 'formal educational' setting, like through self-study or experience, is called 'self-driven learning'. This approach can be beneficial for people who prefer learning at their own pace or who don't have sufficient time to accomplish academic courses or programmes.

Drives of Self-Learning in Higher Education

The accessibility and affordability of digital technology have played a pivotal role in the proliferation of self-learning in India. Various 'Online platforms' offer a huge range of courses and resources across an assortment of disciplines, enabling learners to achieve education at their individual pace and expediency. Additionally, the advent of 'Massive Open Online Courses (MOOCs)' has vast access to higher education, allowing individuals from 'diverse socio-economic backgrounds' and in the higher education landscape, enabling 'millions of learners to engage in learning experiences offered by prestigious institutions worldwide to acquire knowledge and skills previously beyond their reach.

The proliferation of self-learning in India can be attributed to the accessibility and affordability of digital technology, which have empowered the learners democratically to achieve knowledge at their own pace and needs. The 'COVID-19 pandemic' has triggered the adoption of online learning and to clinch digital platforms to ensure stability of education.

OBJECTIVES OF THE PRESENT STUDY

1. To comprehend the 'concept of 'Self-Learning' in education system.
2. To study the needs of 'Self-Learning' and 'information and communication technology (ICT)' in higher education.
3. To identify the issues, opportunities and challenges of Self-Learning and its assimilation with ICT in the educational institutions chiefly at time of COVID-19 pandemic situations.
4. To propose or suggests some measures for implementation of 'Self-Learning' assimilation with ICT in Higher education system in India.

METHODOLOGY

This is a descriptive qualitative study. For this study secondary data was composed. To assemble data for the study reports, books, periodicals, research papers, journals, and peer-reviewed articles were retrieved and reviewed for comprehensive and holistic analyses.

Challenges of Self-Learning and ICT assimilation in Higher Education during COVID-19

Despite its transformative potential, self-learning in the Indian context faces several challenges. The proliferation of unaccredited or substandard courses undermines the value of online education, raising concerns among posing challenges for

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learners. The challenges faced by learners and educators in adopting self-learning modalities during the COVID-19 pandemic, including:

Digital Divide: One of the most significant challenges facing self-learning is the 'digital divide', which means to the disparities between individuals who have access to digital technologies and those who lack such access. This divide shows existing inequalities in access to technology and internet connectivity in education, hindering the participation of marginalized communities in self-learning initiatives (Warschauer, 2003 & UNESCO, 2020).

Lack of Structure and Guidance: Unlike traditional classroom-based instruction, self-learning often lacks the structured guidance provided by educators. Without clear learning objectives and feedback mechanisms, learners may struggle to navigate the vast array of online resources effectively (Knowles, 1975).

Motivation and Self-Discipline: Self-learning requires a high degree of self-motivation and discipline. Learners must proactively set goals, manage their time effectively, and stay motivated to complete courses or projects independently (Deci & Ryan, 2000).

Quality Assurance and Credibility: Ensuring the quality and credibility of self-learning resources and credentials remains a challenge. With the proliferation of online courses and platforms, there is a lack of standardized quality assurance mechanisms, leading to concerns about the authenticity and recognition of self-taught skills (Daniel, 2012).

Isolation and Lack of Social Interaction: Self-learning can be isolating, as learners often study alone without the social interaction and peer support typically found in traditional classroom settings. This lack of social interaction can impact motivation and engagement, particularly for learners who thrive in collaborative environments (Garrison, Anderson, & Archer, 2000).

Digital Literacy: Lack of digital literacy skills among learners and educators hinders effective utilization of ICT tools and platforms for self-learning (Hargittai, 2010).

Privacy and Security Concerns: The collection and use of learner data by ICT platforms raise privacy and security concerns, necessitating robust policies and safeguards to protect sensitive information (Selwyn, 2010).

Lack of Infrastructure: Limited access to digital devices and inadequate infrastructure in rural and remote areas pose challenges for learners and educators attempting to engage in online self-learning (Kumar & Vigil, 2012).

Pedagogical Issues: The sudden transition to self-learning modalities has highlighted pedagogical challenges, including the need for effective instructional design, learner support mechanisms, and assessment strategies (Chen et al., 2020).
However, these challenges also present opportunities for innovation and collaboration, including the development of accessible and user-friendly technologies, the promotion of digital literacy initiatives, and the establishment of partnerships between educational institutions, governments, and technology providers (Pimmer et al., 2016).

Opportunities of Self-Learning with assimilation of ICT in Higher Education & Innovation

Despite the challenges, the COVID-19 situation various opportunities afforded by the incorporation of self-learning and ICT in education for innovation and improvement in self-learning practices including:

Convenience: Digital user-friendliness features make learning materials more reachable to learners with disabilities, ensuring inclusivity and equal access to educational opportunities (Burgstahler, 2003). Self-learning offers numerous opportunities for learners to enhance their educational experiences and achieve their academic and professional goals.

Personalised Learning Experiences: ICT tools enable learners to access personalised learning materials and resources tailored to their individual needs and preferences (Picciano, 2017). With the help of adaptive learning technologies self-learning platforms can modify learning experiences to individual learner preferences, abilities, and learning styles, enhancing engagement and retention (Brusilovsky, 2001).
Flexibility: 'Self-learning' provides learners with the flexibility to convert their learning experiences according to their interests, pace, and preferences (Singh & Thurman, 2019). Learners can choose from a wide range of online courses, resources, and learning pathways adapted to their individual needs (Siemens, 2005).

Lifelong Learning and Skill Development: Self-learning promotes 'lifelong learning' habits by empowering individuals to take possession of their learning drive beyond formal education. Learners can continuously acquire new skills, update their knowledge, and adapt to evolving industry trends and technologies (Kirkwood & Price, 2014). ICT provides opportunities for continuous skill development and lifelong learning, empowering individuals to stay abreast of industry trends and pursue personal and professional growth (Dennen et al., 2007). Self Learning provides that age is no bar for learning.

worldwide Access of Education: Online platforms and digital resources ease global access to education, facilitate collaboration allowing learners from diverse geographical locations to access quality educational content and interact with experts and peers worldwide (Ally, 2004). Through online forums, group projects and collaborative assignments, learners can engage in cross-

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cultural dialogue, gain new perspectives and develop intercultural competence (Kanuka & Garrison, 2004).

Cost-effectiveness: Self-learning can be a cost-effective alternative to conventional classroom-based instruction, as learners can access many online resources for free or at a fraction of the cost of traditional tuition fees (Bonk & Graham, 2006).

Diverse Learning Resources: Self-learning platforms offer admittance to a diverse range of learning resources, including multimedia content, interactive simulations, and 'Open Educational Resources' (OERs). This variety of resources enhances learning engagement and caters to different learning preferences (Conole & Alevizou, 2010). By harnessing the collective expertise of educators and learners worldwide, self-learners can access a wealth of free, high-quality educational materials and contribute to the creation of new knowledge (Wiley & Hilton, 2009). In this day and age Distance mode of education i.e. non formal education in Higher Education is very much accepted and effective in India and the Self-learning concept is very much essential for continuing this aspiration.

Immediate Feedback and Assessment: Self-learning platforms often incorporate the process of receiving feedback on their progress in real-time. This timely feedback promotes reflection and facilitates continuous improvement (Narciss, 2008).

Employability and Career Advancement: Self-learning equips learners with in-demand skills and competencies valued by employers in the job market. By acquiring relevant knowledge and skills through self-learning, individuals can enhance their employability, advance their careers, and pursue new professional opportunities (Dennen, Darabi, & Smith, 2007). Self-learning fosters learners' autonomy and empowerment in their life.

Learning for Differently-abled Individuals: Self-learning platforms can be designed to accommodate the needs of differently-abled individuals, providing convenience features for content delivery. By ensuring inclusivity and accessibility, self-learning empowers individuals with disabilities to participate in educational experiences (Burgstahler, 2003).

Collaborative Learning Communities: Online self-learning platforms facilitate collaboration and knowledge-sharing among learners and educators, fostering a sense of community and peer support (Khan, 2020).

Impact of ICT on Self-Learning

The impacts of ICT on self-learning are as follows:

Accessibility: ICT has expanded access to learning resources and opportunities, particularly for marginalized and underserved populations (Warschauer, 2003).

Engagement: Digital tools and multimedia content enhance learner engagement and motivation by catering to diverse learning styles and preferences (Picciano, 2017).

Effectiveness: Empirical studies reveal the effectiveness of ICT-enhanced self-learning interventions in improving learning outcomes and retention rates (Means et al., 2009).

Inclusivity: ICT promotes inclusivity of intensive learning by accommodating of all individuals with diverse needs and facilitating collaboration among learners from diverse backgrounds (Ally, 2004).

Suggestions for Addressing Challenges and Enhancing Self-Learning

However, amidst these challenges lie opportunities for innovation and collaboration. Public-private partnerships can play a crucial role in expanding access to digital infrastructure and promoting digital literacy initiatives in underserved communities. Additionally, the integration of emerging technologies such as 'Artificial Intelligence (AI)' and 'virtual reality' holds promise for enhancing the efficiency and engagement of self-learning experiences.

Some recommendations for addressing the challenges identified for enhancing the effectiveness and inclusivity of self-learning initiatives during the COVID-19 pandemic, including:

1. Investing in digital infrastructure and internet connectivity to bridge the digital divide and ensure equitable access to technology (Hinrichsen & Coombs, 2014).
2. Introducing digital literacy training programs for learners and educators to enhance their digital skills and competencies (Koltay, 2011).
3. Developing clear guidelines and policies for data privacy and security in educational ICT environments, ensuring compliance with relevant regulations (Greenhow & Askari, 2017).
4. Implementing quality assurance mechanisms to evaluate the credibility and effectiveness of online learning resources and platforms (Conole & Alevizou, 2010).
5. Governments and educational institutions should come forward to develop digital infrastructure and connectivity to ensure reasonable access to 'self-learning' opportunities for all learners.
6. Providing teachers with training and professional development opportunities in online pedagogy and technology assimilation is essential for enhancing the quality of self-learning experiences (UNESCO, 2021).
7. Engaging parents, caregivers, and local communities in supporting learners' self-learning journeys can help bridge the gap between home and educational environments and promote holistic learning outcomes (Agarwal & Karpouzian, 2020).
8. 'SWAYAM', 'DIKSHA', 'e-Gyankosh' etc. online platforms should be encouraged more for proliferation and enhancing 'self-learning' to complete learners' desired courses and degrees in 'distance mode' or in 'non-formal' way of education in India.

DISCUSSION & CONCLUSION

'Self-learning' has emerged as a transformative force in higher education in India, reshaping traditional notions of teaching and

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learning. While challenges such as the digital divide and quality assurance persist, the opportunities presented by self-learning are vast and promising. By harnessing the potential of digital technology and fostering collaboration among stakeholders, India can pave the way for a more inclusive, accessible, and innovative higher education. This review highlights the transformative potential of ICT in shaping self-learning practices and experiences. By expanding access to educational resources, enhancing engagement and effectiveness, and promoting inclusivity, ICT has the power to democratise learning and empower individuals to pursue their educational aspirations. However, addressing the challenges associated with ICT integration requires concerted efforts from stakeholders across sectors. To promote lifelong learning for all the assimilation of Self-learning and ICT is very much essential. Self-learning platforms leverage open educational resources (OER) and collaborative knowledge creation tools to promote the sharing and dissemination of knowledge (Wiley & Hilton, 2009). Self-learning, while offering numerous benefits, also presents several challenges, particularly within the context of higher education. Conceptualising and addressing these challenges are crucial for ensuring the effectiveness and inclusivity of self-learning initiatives.

In conclusion, it can be emphasised that, the assimilation of self-learning and ICT presents both opportunities and challenges for the education system. By implementing targeted interventions and policies, stakeholders can tie together the transformative power of ICT to enhance self-learning outcomes and uphold impartial admittance to education for all. The 'COVID-19 pandemic' has accelerated the adoption of self-learning modalities in India, presenting both challenges and opportunities for the education sector. By addressing the challenges of digital divide, infrastructure limitations and pedagogical issues India can construct a more resilient and 'inclusive education' system that empowers learners to thrive in the 'digital age' in the arena of 'self-learning' initiatives.

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FORMULATION AND EVALUATION OF POLYHERBAL GEL CONTAINING TURMERIC, GINGER, TEA TREE OIL, MARULA OIL FOR THE TREATMENT OF HIDRADENITIS SUPPURATIVA

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ABSTRACT

Polyherbal formulations are one of the most preferred forms due to their synergistic effects considering various health problems. This abstract mainly emphasizes the polyherbal gel containing Curcuma Longa (Turmeric), Zingiber Officinale (Ginger), Melaleuca Alternifolia (Tea Tree) oil, Sclerocarya Birrea (Marula) oil for the treatment of Hidradenitis Suppurativa. Turmeric and Ginger are well known for their anti-inflammatory as well as anti-oxidant properties which, provide soothing skin irritations, treating inflammations and promoting overall skin health inflammation, as well as that Marul oil prevents the formation of scar Tissue, provides intense hydration, nourishment and protection against environmental stresses. Gels are preferred over ointments because they avoid first pass metabolism, and gel absorbs quickly through the skin so it leaves no stain and is preferred over ointment because it results in the formation of film over the applied skin surface and causes staining of the clothes.

KEY WORDS: *Hidradenitis Suppurativa, Curcuma Longa (Turmeric), Zingiber Officinale (Ginger), Melaleuca Alternifolia (Tea Tree) oil, Sclerocarya Birrea (Marula) oil.*

INTRODUCTION

"A constant, provocative, repetitive, weakening skin sickness (of the terminal hair follicle), hidradenitis suppurativa normally shows itself after pubescence as firmly established, difficult, fiery sores in the body apocrine organ bearing locales, generally ordinarily the axillary, inguinal and anogenital regions".

Agonizing knots and abscesses, repeating sores, sinus parcels, scarring, and skin changes are indications of Hidradenitis suppurative [1].

Albeit the exact etiology of HS is obscure, various elements, including insusceptible framework glitch, hair follicle impediment, and hereditary qualities, are accepted to play a part. Normally starting after pubescence, HS influences ladies more frequently than guys. Another gamble factor for HS is heftiness. The gamble and seriousness of HS are expanded by smoking. The condition's gamble of creating is expanded by family ancestry [1].

The progressions appearing in HS are coordinated to the pilosebaceous unit of apocrine rich regions. Shrinkage or potentially loss of sebaceous organs contributes altogether to the pathogenesis, disturbs the neighborhood endocrine homeostasis as well as influences nearby bacterial colonization. Infundibulofolliculitis is the resulting element of HS pathogenesis. Contracting of sebaceous organs and infundibulofolliculitis go before follicular stopping and ensuing dilatation of hair follicle. The epithelium coating of the enlarged follicle is penetrated, delivering keratin strands, hair parts and microbes to the encompassing tissue. Prompting solid unfamiliar body type-like irritation, with the inundation of histocytes and development of multinucleated monster cells, at last followed by canker arrangement with recuperating and scarring [2].

An effective readiness comprised of a few different concentrates or parts is alluded to as polyherbal gel. The synergistic advantages of joining numerous herbs in a gel structure might improve the restorative characteristics of each plant alone.

They have various applications including relief from discomfort, aggravation decrease, wound recuperating, quieting skin disturbances and saturating. One method for lessening probability of adverse consequences from

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unreasonable dosages of single plant is to utilize a combination of herbs. Moreover, every herb might be utilized at lower fixation because of their synergistic properties, which further brings down the chance of negative responses [3].

Contrasted with customary measurement structures like table or cases, gel plan offers a reasonable for the conveyance of home grown removes and take into consideration more prominent ingestion through skin and increment the bioavailability of restorative substances [3].

The rhizomes or underground stem, of the plant Curcuma Longa, an individual from the Zingiberaceae family, is the natural wellspring of turmeric. Curcumin, a bioactive substance tracked down in turmeric, makes solid calming difference. Curcumin restrains body's incendiary arbiters and pathways including TNF-alpha, COX-2, and NF-kappa. Turmeric can possibly lessen irritation which might help with side effects like agony, enlarging and redness to HS sores [4].

The rhizome, of the Zingiber officinale plant, an individual from the Zingiberaceae family, is the natural wellspring of ginger. Bioactive substances viewed as in ginger, for example, paradol, shogaol and gingerol have mitigating characteristics. By obstructing the combination of supportive of fiery cytokines and compounds including lipoxygenase and cyclooxygenase, reduce expanding and aggravation connected to HS injuries [5].

The Melaleuca alternifolia tree, additionally alluded as the tea tree, is the organic wellspring of tea tree oil. Melaleuca alternifolia is an individual from the Myrtaceous family and is local to Australia. Steam Refining is the technique used to get tea tree oil from the leaves of this tree. Tea tree oil's dynamic part terpinene-4-old answerable for is expansive range against bacterial characteristics. It has been exhibited that this substance represses development of numerous microorganisms, including Staphylococcus Aureus, a microbe that is much of the time connected to HS [6].

The bits or seeds of the marula natural product, officially known as Sclerocarya birrea, are the natural wellspring of marula oil. A few countries including South Africa, Namibia, Zimbabwe are home to marula tree. Cold squeezing is the technique used to remove marula oil from the organic product's portion. Marula oil's ability to energize tissues recovery and fix makes it valuable for wound mending. By advancing collagen creation, angiogenesis and epithelialization in impacted regions, marula oil might help with mending cycle of HS [7].

MATERIAL AND METHODOLOGY

Preparation of aqueous extract of Turmeric and Ginger: Wash the fresh rhizomes of turmeric and ginger under running water to facilitate the removal of dust. Peel the outer skin of turmeric and ginger rhizomes. Chop the peeled rhizomes of ginger and turmeric into small pieces to enhance the extraction process. Transfer the chopped turmeric, ginger pieces into blender. Add small amount of distilled water to make the grinding process faster. Blend until smooth paste formed. Transfer the blended mixture into China dish add the remaining required amount of distilled water for efficient extraction of the active components and then the solvent evaporated till the dry powder is obtained.

Weighing and Measuring: The required amount of xanthum gum (1.7 gm), tea tree oil (5 drops), marula oil (3 drops), ginger powder (0.1gm), turmeric powder (0.4 gm) and aloe vera juice (68 ml).

Preparation of aloe vera gel: Take fresh aloe vera leaves and wash them under running water. Peel of the Aloe vera leaves and then isolate the gel by scrapping into a container.

Preparation of Slurry: Put the required amount of powdered xanthum gum (1.7 gm) in a measuring beaker. Pour in as much aloe juice which is required to dissolve the xanthum gum, cover and put away for thirty minutes.

Combining Aloe vera gel and Xanthum gum slurry: Add q.s. sodium benzoate to the gel of aloe vera. Add the prepared xanthum gum slurry, cover and put away for three to four hours.

Incorporation of the Drugs into the gel: Isolate the determined measure of glycerin (2 ml), peppermint oil (2 drops), marula, and tea tree oil in an alternate beaker. The previously measured ginger powder and turmeric powder then added progressively to ensure that the combination is uniformly conveyed all through the gel add the blend and mix completely.

Packaging: The formulated gel is then filled into the glass container which is previously washed and sterilized to avoid any microbial growth throughout the storage. Keep the glass container in cool place and away from direct sunlight to prevent oxidation of the active compounds.

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Phytochemical Screening

Result

Tests for Phytochemical	Chemical test	Turmeric	Ginger	Tea Tree Oil	Marula Oil
Carbohydrate	Molish Test	+ve	+ve	+ve	-ve
	Benedict Test	+ve	+ve	+ve	-ve
Protein	Biuret Test	+ve	-ve	-ve	-ve
Tannin	Ferric Test	+ve	-ve	-ve	-ve
Glycoside	Killer-Killani Test	+ve	-ve	-ve	-ve
Steroid	Lieberman-Burchard Test	+ve	+ve	+ve	+ve
Alkaloid	Dragendroff Test	+ve	+ve	-ve	+ve
	Mayer Test	+ve	+ve	-ve	+ve
	Wagner Test	+ve	+ve	-ve	+ve
Flavonoid	Shinoda Test	+ve	+ve	-ve	+ve
Terpenoids	Salkowski Test	+ve	-ve	+ve	+ve
Saponin	Frothing Test	+ve	+ve	+ve	+ve
Phenolic	Liebermann's Test	-ve	+ve	+ve	+ve
Quinone	Sulphuric Acid Test	-ve	-ve	+ve	-ve

Spreadability: For spreadability testing of a gel definition, the technique normally includes estimating the measurement of the gel spread on a reasonable surface.

Result:

Sr.no	Parameter	Observation
1.	Spreadability	6.4 cm

Solubility: To determine the solubility of a gel, you need to assess how well it dissolves or disperses in a particular solvent or medium.

Result:

Sr.no	Solvents	Solubility
1.	Water	Completely soluble
2.	Ethanol	Partially soluble
3.	Chloroform	Insoluble
4.	Acetone	Insoluble

Swelling Index: The enlarging list study is directed to decide the level of expanding or hydration displayed by a gel plan when presented to a particular dissolvable or medium.

Result:

$SI = (V_2 - V_1) / V_1 \times 100$

$= (11 - 7) / 7 \times 100$

$= 57.14\ \%$

were,

SI = Swelling Index

V_2 = Final Volume after Swelling

V_1 = Initial Volume before Swelling

Zone of inhibition: The zone of inhibition test for tea tree oil includes putting of tea tree oil through plug drill onto an agar plate with microorganisms (S. Aureus) then, at that point, estimating the inhibited region around where microbes' development is repressed.

Result:

Concentration of Tea Tree Oil	Zone of Inhibition(mm)
3 drops	11
5 drops	14
Control (No tea tree oil)	0

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Fig: Zone of Inhibition

pH: Estimating the pH of a gel plan is fundamental to guarantee its dependability, viability, and similarity with the skin or mucous films.

Result:

Sr.no	Parameter	Observation
1.	pH	5.55

Anti-Microbial activity: The sterile Petri dishes were filled up with Agar medium which was then immunized with the test living organisms (Staphylococcus aureus (ATCC-6538P). Four chamber or cups were made in the medium with the sterile cork borer in each plate. The formed polyherbal gel, standard circle and dissolvable control were ready. A uniform measure of 0.2 ml arrangement was added to the cup and incubated at 37C for 24 hrs. The well dispersion test was acted in sets of three and antimicrobial action was communicated as the mean of inhibition diameter in width (mm). The outcomes were then correlated with the standard like Doxycycline, Minocycline and Antibiotic medication. From the outcome it was seen that there was no microbial growth noticed and it showed great zone of restraint however lesser when contrasted with standard.

Result:

The Mean Inhibition Zone Diameter after 24 hours of incubation of gram-positive S. Aureus is found to be 15 mm.



Fig: Diameter of Zone of Inhibition (mm^2)

Anti-Inflammatory Activity

Egg albumin denaturation was used as a protein to measure the in vitro anti-inflammatory activity. Using the following formula, the percentage inhibition of protein denaturation was determined from the control:

Percentage of inhibition = $100 \times (Abs_{control} - Abs_{test} / Abs_{control})$

where, Abs = Absorbance

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1. Anti – Inflammatory Activity by Protein Denaturation:

Concentrations µg/ml	% Inhibition of Diclofenac Sodium	%Inhibition of Gel Formulation
10	53.29%	52.99%
50	55.61%	53.77%
100	58.89%	54.46%

Result and Discussion

Sr.No.	Parameter	Observation
1.	Physical Appearance	
	a) Color	warm yellow
	b) Odor	Invigorating smell with herbal freshness
	c) Texture	Smooth and light-weight
2.	Spreadability	6.4 cm
3.	Irritancy	Non-irritant
4.	Solubility	Soluble in water and partially soluble in ethanol.
5.	Homogeneity	Uniformly homogenized
6.	Grittiness	No grittiness
7.	Swelling Index	57.14%
8.	Viscosity	0.384 Poise
9.	Ph	5.55
10.	Anti- microbial activity	15 mm (Mean inhibition zone diameter)
11.	Zone of Inhibition	5 drops of tea tree oil were found to be effective
12.	Anti – Inflammatory activity	53.74% protein denaturation

CONCLUSIONS

Our current task involves creating an anti-inflammatory gel that uses tea tree oil, marula oil, ginger, turmeric and other ingredients to treat hidradenitis suppurativa. Thus, it contains an herbal substance without any adverse effects.

Thus, it can be concluded that a herbal gel with minimal side effects can provide the necessary amount to treat Hidradenitis Suppurativa.

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KNOWLEDGE AND AWARENESS REGARDING MENSTRUAL HYGIENE AMONG MEN IN THE KANGRA DISTRICT OF HIMACHAL PRADESH, A COMPARATIVE STUDY

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ABSTRACT

Introduction*: Menstrual hygiene is a critical yet often overlooked aspect of women's health, particularly in rural areas where cultural taboos and limited education prevail. In patriarchal societies like India, men play a significant role in decision-making regarding women's health, yet their awareness of menstrual hygiene remains inadequate. This study aims to bridge this gap by assessing the awareness of menstrual hygiene among married and unmarried men aged 18-35 in selected rural areas of Himachal Pradesh.* ***Objective****: This study aims to assess and compare the knowledge and perceptions of menstrual hygiene among married and unmarried men in rural areas of Himachal Pradesh, India.* ***Material and Methods****: The study utilized an unmatched case-control design, involving 268 participants from selected villages in Nagrota Bagwan and Shahpur health blocks of Kangra district. Married men were considered as the case group, while unmarried men served as the comparator group. Data were collected through interviews, and statistical analysis was conducted to compare demographic characteristics, education, occupation, socioeconomic status, and knowledge about menstrual hygiene between the two groups.* ***Results****: Significant differences were observed between married and unmarried men regarding their awareness and knowledge of menstrual hygiene. Married men exhibited higher levels of awareness, possibly influenced by factors such as age, education, and exposure to household activities with female family members.* ***Conclusion****: The study underscores the need for targeted educational interventions focusing on unmarried men to promote positive attitudes and behaviors towards menstrual health. Implementing comprehensive educational programs, encouraging community dialogues, and integrating menstrual hygiene education into existing health services are essential steps toward improving women's reproductive and sexual health outcomes in rural regions.*

KEYWORDS: *Menstrual hygiene, Awareness, Men, Rural areas, Himachal Pradesh.*

INTRODUCTION

WHO defined health as the state of complete physical, mental, and social well-being and not merely an absence of disease or infirmity, but it includes ability to lead socially and economically productive life.[1] Being a man or women has a significant impact on health, as a result of both biological as well as gender related differences.

Menstruation is normal and healthy part of life in most of women. On an average a women usually menstruated for about 7 years during her lifetime.[1] Menstruation is considered unclean and dirty in many societies. Taboos, myths and restrictions associated with menstruation leave a negative impact on women life. Ignorance and inadequate menstrual hygiene leads to increased vulnerability to reproductive tract infections and even infertility in long term. Overall the menstrual hygiene has become important and neglected area affecting women health. As per NFHS-4, 84% of rural women use a hygienic method (sanitary napkins) of menstrual protection, compared with 90% of urban women. It shows major improvement focusing menstrual health.[2] Menstrual hygiene remains a critical yet often overlooked aspect of women's health, particularly in rural areas where cultural taboos and limited access to education prevail. In patriarchal societies like India, men play a significant role in decision-making regarding women's health and well-being, yet their awareness of menstrual hygiene remains inadequate. This study aims to bridge this gap by assessing the awareness of menstrual hygiene among married and unmarried men aged 18-35 in selected rural areas of Himachal Pradesh. By understanding the knowledge and perceptions of men regarding menstrual hygiene, this research seeks to inform targeted interventions and educational programs aimed at promoting positive attitudes and behaviors towards menstrual health, ultimately improving women's reproductive and sexual health outcomes in the region.

MATERIAL AND METHODS

The study was an unmatched case and control design where married men were considered as a case group and unmarried men as a comparator group. This study was carried out in selected villages of Nagrota Bagwan and Shahpur health blocks. From each health block a list of villages was obtained and 30 cluster were selected from each block. A village was considered as a cluster. The requisite sample size (married and unmarried men) was divided by number of clusters and same number of participants were recruited from each cluster. In a case, if requisite number of study participants could not be met from selected cluster, then sample size per cluster was met from adjoining village. The total of 268 participants involved in the study including 134 married men as case and 134 unmarried men as control. Ethical clearance for the study was obtained from Institutional Ethics Committee of Dr Rajendra Prasad Government Medical College Kangra at Tanda, Himachal Pradesh India [Registration No: IEC/24/2021]. Participation of

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the subjects in the study was voluntary and written informed consents were obtained from all the participants.

RESULTS

The study regarding awareness of menstrual hygiene was conducted in two blocks of Kangra district. A total of 268 participants were interviewed in the study. The findings of the study are presented below.

The table-1 is showing demographic characteristics of respondents. The type of family among cases, majority (57.5%) belongs to joint family whereas among controls, the majority (65.0%) belongs to nuclear with statistically significant difference (P=0.000).

The majority among both groups (cases as well as controls) belongs to the OBC category with statistically significant difference. The statistical indifference was observed for religious association, as all the respondents in the case group while 97.0% respondents in control group practise Hindu religion. (Table:1)

Characteristics	Case n=134, (%)	Control n=134, (%)	P value
Type of family			
Joint	77 (57.5)	35 (26.0)	0.000
Nuclear	47 (35.1)	87 (65.0)	0.000
Three generation	10 (7.5)	12 (9.0)	0.824
Cast			
General	48 (35.8)	31 (23.1)	0.031
SC	19 (14.2)	16 (11.9)	0.717
ST	10 (7.5)	6 (4.5)	0.440
OBC	57 (42.5)	77 (57.5)	0.007
Others	0 (0.0)	4 (3.0)	0.020
Religion			
Hindu	134 (100)	130 (97.0)	0.122
Sikh	0 (0.0)	4 (3.0)	0.122

Table-1 showing demographic characteristics of men from rural areas of Himachal Pradesh

The table-2 describes the study participants according to their education status. The table displays that the graduates were more 58 (43.3%) in cases and 59 (44.0%) in control group while none were illiterate in both cases as well as control group. The intermediate educational level was observed in 37 (27.6%) among cases and 59 (44.0%) among the comparator group which was statistically significant (P=0.007)

The part B of table-2 describes participants according to their self-reported occupation status. The majority (40.3%) among case group were businessman/ shop owners followed by skilled workers (26.1%). Among controls the majority (47.8%) were unemployed followed by skilled workers (22.4%). The differences across these occupations were observed to be statistically significant (P=0.000)

Characteristics	Case n=134, (%)	Control n=134, (%)	P value
Education status (Self)			
Postgraduate	8 (6.0)	2 (1.5)	0.102
Graduate	58 (43.3)	54 (40.3)	0.710
Intermediate	37 (27.6)	59 (44.0)	0.007
High school	24 (17.9)	14 (10.4)	0.114
Middle school	4 (3.0)	4 (3.0)	0.084
Primary school	3 (2.2)	1 (0.7)	0.622
Illiterate	0 (0.0)	0 (0.0)	NC
Occupation (Self)			
Professional	7 (5.2)	2 (1.5)	0.172
Semi professional	22 (16.4)	6 (4.5)	0.002
Businessman/ shop owner	54 (40.3)	17 (12.7)	0.000
Skilled worker	35 (26.1)	30 (22.4)	0.568
Semiskilled worker	4 (3.0)	5 (3.7)	1.000
Unskilled worker	4 (3.0)	10 (7.5))	0.167
Unemployed	8 (6.0)	64 (47.8)	0.000

The Table-2 is showing the educational status and occupation of men in rural areas of Himachal Pradesh

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The table-3 describes the study participants according to their socioeconomic status. Higher proportion of participants belongs to middle class in case group (43.2%) and control group (52.2%) with no statistically significant differences.

Characteristics	Case n=134, (%)	Control n=134, (%)	P value
Upper class	8 (5.97)	3 (2.2)	0.216
Upper middle class	40 (29.8)	25 (18.6)	0.045
Middle class	58 (43.2)	70 (52.2)	0.178
Lower middle class	26 (19.4)	33 (24.6)	0.376
Lower class	2 (1.4)	3 (2.2)	1.000

The Table-3 is showing the socioeconomic status of participants in rural areas of Himachal Pradesh

The table-4 describes the study participant's social interaction with their sisters. The 66.4% among cases and 68.6% among controls were having sisters as their siblings only and rest of the participants were having none. 58 (65.1%) among cases and 66 (71.7%) among the comparator group were having one sister each only. Out of them, 7.86% among cases and 18.4% among controls were educated from same school as their sisters. Both cases and controls group did not observe any statistically significant difference with respect to their interaction with sisters

Characteristics	Case n=89, (%)	Control n=92, (%)	P value
Participants having 1 sibling sister	58 (65.1)	66 (71.7)	0.423
Participants having 2 sibling sisters	24 (26.9)	23 (25.0)	0.865
Participants having 3 sibling sisters	6 (6.74)	3 (3.26)	0.324
Participants having 4 sibling sisters	1 (1.12)	0 (0.0.)	0.491
Participants who were educated from same school in which his sister is studying	51 (57.3)	64 (69.5)	0.092
Participants who were in same class in which his sister is studying	7 (7.86)	16 (17.3)	0.073
Participants who play with his sister indoors	78 (87.6)	79 (85.8)	0.872
Participants who play with his sister outdoors	75 (84.2)	77 (83.69)	1.000
Participants who help his sister in doing school homework	69 (77.5)	75 (81.5)	0.581
Participants who help the sister in doing household activities	74 (83.1)	80 (86.9)	0.534
Participants who are helped by their sister for school homework	73 (82.0)	78 (84.7)	0.691

The Table-4 is showing the social interaction of married and unmarried men with their sisters in selected rural areas of Himachal Pradesh

The table-5 describes the knowledge about women menstrual hygiene among study participants. All the participants in case group and 76.1% in control group are aware of menstrual hygiene and its health impacts (P<0.001).

All the participants in case group and 82.0% in control group knows that sanitary pads should be used during menstruation (P<0.001). Significant higher proportion of participants in case group reported that cloth can be reused during the menstruation (31.3% vs 8.2%, <0.001).

About 60.0% of the participants in case group and 25.0% in control group believe that sanitary pads should be disposed by pit burning or dumping in pit with statistically significant difference (P<0.001).

Majority of participants (36.5% vs 0.7%, <0.001) in case group reported that sexual activity should not be done during menstruation. (Tabl

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Characteristics	Case n=134, (%)	Control n=134, (%)	P value
Aware about menstrual hygiene and its health impact	134 (100.0)	102 (76.1)	0.000
Knowledge about menstrual cycle	134 (100.0)	61 (45.5)	0.000
Should be used during menstruation			
Sanitary pads	134 (100.0)	110 (82.0)	0.000
Cotton	0 (0.0)	0 (0.0)	NC
Washed cloth	0 (0.0)	0 (0.0)	NC
Don‘t know	0 (0.0)	24 (17.9)	NC
Can be reused during menstruation			
Sanitary pads	2 (1.4)	1 (0.7)	1.000
Cotton	5 (3.7)	1 (0.7)	0.213
Washed cloth	42 (31.3)	11 (8.2)	0.000
Menstrual cup	11 (8.2)	9 (6.7)	0.816
Don‘t know	74 (55.2)	112 (83.5)	0.000
Sanitary pads disposed by			
Throw along with domestic refuse	25 (18.6)	28 (20.8)	0.759
Pit burning, dumping in pit	80 (59.7)	33 (24.6)	0.000
Other	4 (2.9)	1 (0.7)	0.370
Don‘t know	25 (18.6)	72 (53.7)	0.000
Sexual activity should not be done during menstruation	49 (36.5)	1 (0.7)	0.000

NC: Not Computed

The table-5 describes knowledge about women menstrual hygiene among married and unmarried men in selected rural areas of Himachal Pradesh

DISCUSSION

In pregnancy, women face greater risks, both because of physiological differences and gender inequities. Marriage is a partnership and women have a right to health but protecting that right often depends on a partner‘s support.[3] Worldwide, only a few studies have been conducted to explore men awareness regarding menstrual hygiene among women. Most studies on awareness regarding menstrual health have been rightfully conducted on women subjects. The present study was aimed to measure the difference in awareness between married and unmarried men of 18-35 years of age towards menstrual hygiene among women in selected rural areas of a district in Himachal Pradesh. It is community-based unmatched case control study in which 268 participants- 134 cases (married participants) and 134 controls (unmarried participants) were recruited for assessment.

In present study among married participants majority belonged to joint family while among unmarried participants majority (64.9%) belonged to nuclear family. A hospital based cross-sectional study was done by Narang H. et al[4] at Lady Hardinge Medical College, New Delhi among 232 married participants. In this study as well, most (60.3%) of married participants were living in joint families. J. Suresh and P. Balram[5] conducted a community based cross- sectional study among 385 married men in rural areas of Maharashtra in which majority (60.8%) of married participants belonged to nuclear families and 39.2% belonged to joint families. Char A. et al[6] conducted a study in which 51.6% of unmarried participants living innuclear families and 48.4% living in joint families.

India is a patriarchal society where men have greater power in decision-making. Women do not generally share information about menstruation with men. Most men do not know about the normal physiology of menstruation, such as the menstrual cycle. However, men are responsible for decision-making regarding facilities and services needed by women, including access to toilets and the availability of sanitary napkins, and women empowerment (education, occupation). In present study among married men, all (100.0%) were aware of menstrual hygiene and have knowledge about normal menstrual cycle. Among unmarried men, 76.1% were aware of menstrual hygiene and only 45.5% correctly know about normal menstrual cycle. Verma P. et al[7] conducted a community based cross-sectional study among 6431 married men in urban areas of Uttar Pradesh. In this study the one-fifth of the men have the correct information about pregnancy risk during the menstrual cycle while the remaining four-fifth of them do not have the accurate information about this concept. Kothari B.[8] conducted a community based cross-sectional study among 45 married men in rural areas of Jaipur, Rajasthan. In this study the married men considered menstruation essential to make a woman complete but only about half (51.5%) of them correlate it with the process of conception. In the past few years, a growing body of research and practice-based knowledge has identified the key components of comprehensive menstrual

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hygiene programming. However, there is little documented on how to effectively engage men in menstrual hygiene interventions. There is need of programs that also focus on boys and men regarding importance of menstrual hygiene.

There were significant differences in knowledge and perception among married and unmarried men regarding women reproductive and sexual health. Most of the married men were older, belongs to joint families and have higher education status in contrast to unmarried men. The difference in education status is due to the age differences among unmarried (mean age: 24 years) and married men (mean age: 32.4 years). The married men are more aware about menstrual hygiene as compared to unmarried men. The main reason could be the experience the marriedindividuals have after being married as they are more aware of women problems and requirements as compared to unmarried men. Engagement for household activities with their sister along with high level of literacy explain the reason for high level of awareness among married and unmarried men. It is a good sign of high level of knowledge among men as they will be the future spouses and play an expectedly positive role in women health.

CONCLUSION

The article discusses a community-based study conducted in rural areas of a district in Himachal Pradesh, India, aiming to assess the awareness of married and unmarried men aged 18-35 regarding menstrual hygiene among women. It compares the knowledge and perceptions of menstrual hygiene between married and unmarried men, highlighting significant differences in awareness levels. Married men showed higher awareness compared to unmarried men, attributed to factors such as age, education, and exposure to household activities with female family members. The study underscores the need for programs focusing on educating men, particularly unmarried ones, about menstrual hygiene to promote women's reproductive and sexual health. Overall, it emphasizes the importance of engaging men in understanding and supporting menstrual hygiene practices for improved women's health outcomes.

Implementing the comprehensive educational programs targeting specially unmarried men in rural areas of Himachal Pradesh to increase awareness about menstrual hygiene. Encourage open community dialogues to challenge traditional gender norms and integrate menstrual hygiene education into existing health services. Launch media campaigns to disseminate accurate information and develop targeted interventions specifically tailored to unmarried men to address their lower awareness levels. These initiatives will contribute to promoting positive attitudes towards menstrual hygiene, ultimately improving women's reproductive and sexual health outcomes in the region.

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Source of Support: Nil

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FORMULATION & EVALUATION OF HERBAL FACE WASH CONTAINING COFFEE POWDER

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ABSTRACT

This study aimed to formulate and evaluate herbal face wash containing coffee powder as a key ingredient. The formulation included ethanolic extracts of coffee powder, along with other herbal extracts and active ingredients known for their skin benefits. The face wash was prepared using a hot extraction method with a water condenser. Methyl paraben and sodium lauryl sulphate were added as preservatives and surfactants, respectively, to enhance stability and cleansing properties. Glycerin was included for its moisturizing effect, and rose oil was added for fragrance. The physical characteristics, pH, stability, microbiological safety, skin compatibility, and efficacy of the herbal face wash were evaluated through various tests. The results demonstrated that the face wash exhibited desirable physical characteristics, including color, odor, and texture. The pH was within the acceptable range for skincare products, ensuring compatibility with the skin's natural pH. Stability testing revealed no significant changes in appearance, odor, or texture over time under various storage conditions. Microbiological testing confirmed the safety of the product for consumer use. Skin compatibility tests showed no adverse reactions or sensitivities, indicating the face wash's suitability for different skin types. Efficacy testing demonstrated effective cleansing and moisturizing properties, with positive consumer feedback regarding fragrance and overall satisfaction. Overall, the formulated herbal face wash containing coffee powder offers a promising skincare solution with potential benefits for skin health and hygiene.

KEYWORDS: *Herbal face wash, Coffee, Turmeric, Orange, Lemon, Aloevera, Antioxidant etc.*

INTRODUCTION

A herbal face wash is a skincare product formulated with natural ingredients derived from plants, herbs, and botanical extracts. It is designed to cleanse the skin gently while providing additional benefits such as moisturizing, soothing, and rejuvenating properties. Herbal face washes are typically free from harsh chemicals, sulfates, parabens, and artificial fragrances, making them suitable for all skin types, including sensitive skin. These products offer a natural alternative to conventional face washes, utilizing the power of herbal ingredients to promote healthy and radiant skin.

Face wash refers to products that clean the face without drying it out. "Cleanser" is another name for face wash. Face wash has been determined to be suitable for all skin types. Face wash is particularly effective in removing dirt, oil, and moisture from dry skin. Face washes and cleansers are both used to remove grime, oil, and pollution from your face.

A cleanser removes excess oil, makeup, and filth from the skin. These are contaminants that are oil soluble. They can also be removed with a face wash, though this may not be completely successful. Ordinary soaps can dehydrate facial skin, which is quite fragile. Face wash is a gentle cleaner that gets the job done. Without causing irritation to the skin As a result, the skin seems youthful and active.

The objective of a face wash could be to provide cleansing, anti-wrinkle,anti-acne, moisturising, and skin fairness. Skin whitening products are thought to affect the synthesis and metabolism of melanin in the skin by suppressing melanin production in melanocytes and thereby reducing the amount of melanin present. Coffee powder ,turmeric, aloe Vera, and glycerol are examples of agents that suppress melanin synthesis. The Indian herbal drug industry is considered to be one of the oldest systems of medical care in the world. Its roots can be traced back to ancient India, where the use of herbs form medicinal purposes was mentioned in the Vedas, an ancient religious text. Ayurveda and Unani, two ancient healing methods, utilized herbs and natural products to address various health conditions. Despite being perceived as a recent trend by Western medical practitioners, plant extracts are still commonly used in most prescribed medicines today.The

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global community now recognizes the benefits of this traditional form of medicine, resulting in a significant rise in demand for Indian herbal drugs. This sector has experienced an annual growth rate of nearly thirty percent, with a surge in demand for herbal cures, skincare products, and cosmetics. This surge in demand for natural products has been observed in recent years. The skin is a vital and extensive organ of the body, and it plays a significant role in defining human personality, especially the skin on the face, which is sensitive and often considered are preservative parameter.

The condition of an individual's skin can also be an indicator of their overall health. The composition of the skin includes various materials such as carbohydrates, amino acids, and lipids. Cosmetics have been developed to address various skin concerns, such as reducing wrinkles, fighting acne, and controlling oil secretion. These products aim to improve the appearance and texture of the skin, leading to a more youthful and healthier-looking complexion. However, it is essential to choose cosmetics that are safe and effective, as some products may contain harmful chemicals that can damage the skin in the long.Face wash refers to products that clean the face without drying it out. "Cleanser" is another name for face wash. Face wash has been determined to be suitable for all skin types. Face wash is particularly effective in removing dirt, oil, and moisture from dry skin. Face washes and cleansers are both used to remove grime, oil, and pollution from your face. A cleanser removes excess oil, makeup, and filth from the skin. These are contaminants that are oil soluble. They can also be removed with a face wash, though this may not be completely successful. Ordinary soaps can dehydrate facial skin, which is quite fragile. A face wash is a gentle cleaner that gets the job done. without causing irritation to the skin As a result, the skin seems youthful and active. The objective of a face wash could be to provide cleansing, anti-wrinkle, anti-acne, moisturising, and skin fairness.

Properties of Herbal Face wash

1. **Natural Ingredients:** Formulated with herbal extracts, plant oils, and botanicals known for their skincare benefits, such as aloe vera, green tea, chamomile, and neem. Avoid synthetic fragrances, parabens, sulfates, and other harsh chemicals.
2. **Gentle Cleansing:** Provides effective cleansing without stripping the skin of its natural oils or causing irritation. Gently removes dirt, oil, and impurities from the skin's surface without disrupting the skin barrier.
3. **Moisturizing and Hydrating:** Contains ingredients that hydrate and replenish the skin, such as glycerine, coconut oil, and hyaluronic acid. Helps to maintain the skin's moisture balance and prevent dryness or dehydration.
4. **Soothing and Calming:** Includes ingredients with anti-inflammatory properties to soothe and calm irritated or sensitive skin. Helps to reduce redness, inflammation, and discomfort.
5. **Antibacterial and Antimicrobial:** Incorporates natural ingredients with antibacterial and antimicrobial properties, such as tea tree oil, neem, and turmeric. Helps to combat acne-causing bacteria and prevent breakouts.
6. **Exfoliation:** Contains gentle exfoliating agents, such as fruit enzymes or finely ground herbs, to remove dead skin cells and unclog pores. Promotes cell turnover and reveals smoother, brighter skin.

Advantages of Herbal Face wash containing coffee powder

1. **Exfoliation:** Coffee powder contains fine particles that act as a gentle exfoliant, helping to remove dead skin cells, dirt, and impurities from the skin's surface. Regular exfoliation can promote cell turnover, leaving the skin looking brighter, smoother, and more radiant.
2. **Antioxidant Protection:** Coffee powder is rich in antioxidants, such as chlorogenic acid and caffeine, which help neutralize free radicals and protect the skin from oxidative damage caused by environmental stressors like UV radiation and pollution. Antioxidants can help reduce the signs of aging, including wrinkles, fine lines, and hyperpigmentation.
3. **Anti-inflammatory Properties:** Coffee contains anti-inflammatory compounds that can help reduce redness, inflammation, and irritation in the skin. This makes it beneficial for calming sensitive or inflamed skin conditions like acne, eczema, and rosacea.
4. **Improved Circulation:** The caffeine in coffee powder has vasoconstrictive properties, which can help improve blood circulation when applied topically to the skin. Enhanced blood flow can promote a healthy complexion and contribute to a more youthful appearance.
5. **Reduction of Puffiness:** Caffeine has diuretic properties that can help reduce swelling and puffiness, particularly around the eyes. Using a herbal face wash containing coffee powder may help minimize under-eye bags and dark circles, leaving the skin looking more refreshed and rejuvenated.
6. **Oil Control:** Coffee powder can help absorb excess oil and sebum from the skin's surface, making it beneficial for individuals with oily or acne-prone skin. By regulating oil production, coffee powder can help prevent clogged pores and breakouts.

MATERIAL AND METHODS

Collection and Authentication of Plant

Seeds of the plant were collected in large quantities from Amolak Botanical garden Kada, Beed, Maharashtra. The botanical identification and authentication of the plant material were conducted by Dr. Sayyad I.G., Head of the Department of Botany at Gandhi College, Kada, Ashti, Beed, Maharashtra, India.

Materials

In the formulation of herbal face wash, various materials are carefully selected to formulate a product that effectively cleanses, nourishes, and revitalizes the skin. Here's an introduction to some key materials commonly found in herbal face wash formulations.

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1. **Coffee powder**
   - Kingdom : Plantae
   - Clade : Tracheophytes
   - Clade : Angiosperms
   - Clade : Eudicots
   - Clade : Asterids
   - Order : Gentianales
   - Family : Rubiaceae
   - Genus : Coffea
   - Species : C. arabica
   - Binomial name : Coffea arabica



Uses:

- Coffee powder can be used to brew flavorful and energizing beverages.
- It provide gentle exfoliation and antioxidant benefits in skincare products..

2. **Aloe Vera**
   - Kingdom: Plantae
   - Clade: Tracheophytes
   - Clade: Angiosperms
   - Clade: Monocots
   - Order: Asparagales
   - Family: Asphodelaceae
   - Subfamily: Asphodeloideae
   - Genus: Aloe
   - Species: A. vera
   - Binomial name : Aloe vera(L.) Burm.f.
   - Synonyms : Aloe barbadensis Mill



Uses:

- Aloe vera can be applied topically to soothe skin irritations such as sunburns, insect bites.
- It can also be used as a natural moisturizer to hydrate and nourish the skin.

3. **Turmeric**
   - Kingdom:Plantae
   - Clade:Tracheophytes
   - Clade:Angiosperms Clade:Monocots
   - Clade:Commelinids
   - Order:Zingiberales
   - Family:Zingiberaceae
   - Genus:Curcuma
   - Species:C. longa
   - Binomial name.Curcuma longaL.



Uses:

- Turmeric powder is utilized for its anti-inflammatory and antioxidant properties.
- It is used in traditional medicine and skincare products.

4. **Lemon**
   - Kingdom: Plantae
   - Clade: Tracheophytes
   - Clade: Angiosperms
   - Clade: Eudicots
   - Clade: Rosids
   - Order: Sapindales
   - Family: Rutaceae
   - Genus: Citrus
   - Species: C. × limon
   - Binomial name: Citrus × limon(L.) Osbeck
   - Synonyms : Citrus × aurantium subsp. bergamia (Risso & Poit.) Engl.
   - Citrus aurantium subsp. bergamia (Risso) Wight & Arn.



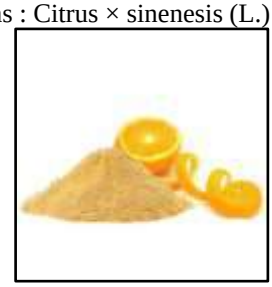
Uses:

- It plays a crucial role in supporting the immune system.
- It reduces the risk of infections such as the common cold and flu.

5. **Orange Powder**
   - Kingdom: Plantae
   - Clade: Tracheophytes

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- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: Sapindales
- Family: Rutaceae
- Genus: Citrus
- Species: C. Sinensis
- Binomial name: Citrus × sinensis(L.) Osbeck, Sweet oranges
- Synonyms : Citrus × sinenesis (L.) Osbeck



Uses:

- Orange powder can be used as a natural food colouring or flavouring agent in culinary recipes.
- It can also be incorporated into skincare products for its antioxidant properties and refreshing citrus scent.

PROCEDURE

The ground and roast coffee are treated with hot water and high pressure for extraction of the water-soluble material. The soluble material is then cooled, sometimes centrifuged, concentrated through heating and then dried through spray vaporizing, or freeze drying. The turmeric and extract of aloe Vera was prepared by hot extraction method using water condenser. The herbal plants including the orange Extract was added and small quantity of lemon juice added to it required quantity of methyl paraben dissolve in distilled water by heating on water bath. Then the solution should be cooled and required amount of sodium lauryl sulphate should be added.

Glycerine was added to the beaker and small quantity of glycerol was too added as it acts as Humectants. Then add rose oil drop wise for fragrance and made the gel with required quantity of water by adding Gum tragacanth.

Table 01: Formulation Ingredients with quantity

Sr. No.	Name of Ingredients	Quantity	Uses
1	Aloe Vera	2 ml	Soothing agent & Anti-bacterial
2	Coffee powder	3 gm	Anti-acne
3	Turmeric	0.5 gm	Anti-inflammatory
4	Lemon juice	1 ml	Skin brightening
5	Orange powder	1.5 gm	Anti-oxidant
6	Methyl paraben	1.5 gm	Preservative
7	Glycerin	0.5 ml	Humectant
8	Rose oil	2-3 drop	Fragrance
9	Sodium lauryl sulphate	2 gm	Foaming agent, surfactant
10	Glycerol	0.6 ml	Moisturizer
11	Distilled water	Q.S	Vehicle
12	Gum tragacanth	1.5 gm	Gelling agent, Thickner

EVALUATION TEST OF HERBAL FACE WASH

1. Physical evaluation test

- **Colour:** The colour of the formulation was checked out against white background and was dark brown.
- **Odour:** the odour of face wash was checked manually & was rose fragrance due to rose oil.

2. Rheological Characteristic

We were studied for some physical properties colour, clogging, viscosity change and sensation test.

3. Determination of pH

The pH of formulations was determined using digital pH meter. One gram of face wash was dissolved in 100 ml of demineralised and stored for two hours. The measurements of pH of each formulation were done in triplicate. Instrument was calibrated before use with standard buffer solutions at pH 4.

4. Spread Ability

Spread ability determination of formulations was determined by an apparatus suggested by Mortimer et al. which was fabricated in laboratory & used for study. The apparatus consists of a wooden block with a fixed glass slide with one end tied to weight pan rolled on the pulley which was in horizontal level with fixed slide. An excess of whitening face wash sample 1.5 gm was placed between two glass slide and a 1000 gm weight was placed on slide for 5 minutes to between compress the sample to uniform thickness weight (60gm) was added to the pan. It was calculated using the formula; S= ml /t Where, s= spread ability in gm.cm/sec m= weight tied to upper slide 1= length of glass slide t= time in seconds Length of glass slide was 11.2 cm and weight tied to upper slide was (60gm) throughout the experiment.

5. Wash Ability

The product was applied on hand and was observed under running water.

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6. Stability Study

The instant whitening face wash were also subjected to the following condition of temperature and relative humidity during stability ages fit sediment temperature.

7. Grittiness

The product was checked for the presenceof any gritty particles by applying it on the skin.

RESULT

The prepared formulation was evaluated for the various evaluation parameters. The result of evaluation was displayed in following Table 02:

Table 02: Formulation Table

Sr. No	Ingredients	F1 (50 ml)	F2 (50 ml)
1.	Coffee powder	3 gm	3 gm
2.	Aloe vera	2 ml	2 ml
3.	Turmeric	0.6 gm	0.5 gm
4.	Lemon Juice	1 ml	2 ml
5.	Orange powder	1.5 gm	1 gm

PHYSICAL PARAMETERS

The prepared acne face wash was evaluated for its clogging, colour, odour, consistency.

Table 03: Formulation and Evaluation of Physical Parameters.

Formulation Code	Odour	Colour	Consistency	Clogging
Marketed Himalaya aloe Vera face wash	pleasant	brown	Semi solid	Absent
F1	pleasant	Dark brown	Semi solid	Absent
F2	pleasant	Dark brown	Semi solid	Absent

pH:

The pH of formulation was found to be satisfactory, and in the range of 5.5 to 5.8 which is near to the skin PH, in turn indicates that the prepared formulation can be compactable with skin. Here comparing other formulations F3 formulation found to have better pH.

Table 04: Developed Formulation pH

Formulation Code	pH
Marketed	5.5
F1	5.3
F2	5.2

WASHABILITY & SPREADABILITY

Prepared formulations were easily washed with water.

Formulation Code	Washability	Spredability
Marketed	Good	Good
F1	Good	Good
F2	Good	Good

SKIN IRRITABILITY TEST

Small amount of the formulation was applied on the skin and kept for few minutes and found to show no redness, oedema, inflammation and irritation during the studies. This formulation is safe to use for skin.

Formulation Code	Irritability Test	Irritability Test
	1hrs	3hrs
Marketed	No	No
F1	No	No
F2	No	No

CONCLUSION

In conclusion, the formulation of a herbal face wash containing coffee powder offers a promising skincare solution with multiple benefits for the skin. By harnessing the natural properties of coffee powder along with other herbal extracts, essential oils, and moisturizing agents, this face wash can effectively cleanse, exfoliate, and rejuvenate the skin while providing a refreshing and invigorating experience.

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The exfoliating properties of coffee powder help remove dead skin cells and impurities, promoting cell turnover and revealing a brighter, smoother complexion. Additionally, the antioxidant-rich nature of coffee powder helps protect the skin from environmental damage, reducing the signs of aging and promoting overall skin health.

Furthermore, the anti-inflammatory and oil-controlling properties of coffee powder make it suitable for individuals with sensitive, oily, or acne-prone skin, helping to soothe irritation, reduce redness, and minimize breakouts.

By formulating herbal face wash with coffee powder, manufacturers can offer consumers a natural and effective skincare product that is gentle, safe, and environmentally friendly. With proper use and regular application, this face wash has the potential to improve the appearance and health of the skin, leaving it feeling refreshed, revitalized, and rejuvenated.

The formulation of a herbal face wash containing coffee powder offers a natural and effective solution for skincare. Coffee powder acts as an exfoliant, gently removing dead skin cells and impurities to reveal a brighter, smoother complexion. Its antioxidant properties help protect the skin from environmental damage, reducing signs of aging and promoting overall skin health. Additionally, coffee powder's anti-inflammatory and oil-controlling properties make it suitable for sensitive, oily, or acne-prone skin, soothing irritation and minimizing breakouts. By combining coffee powder with other herbal extracts and moisturizing agents, this face wash provides a refreshing and invigorating experience, leaving the skin feeling refreshed, revitalized, and rejuvenated. Overall, a herbal face wash containing coffee powder offers a holistic approach to skincare, promoting a healthier and more radiant complexion naturally.

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Declaration of Conflicts Interest
The authors report no conflicts of interest.

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INFLUENCE OF OVERLOADED SCHOOL EVENTS ON STUDENTS' WELL-BEING

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ABSTRACT

This study investigates the impact of overloaded school events on the overall well-being of students, focusing on physical, mental, and emotional aspects. With schools offering a myriad of extracurricular activities, clubs, and events, concerns arise about their potential effects on students' health and academic performance. Using a descriptive research method, 51 students from the College of Education at Nueva Ecija University of Science and Technology were surveyed during the 2nd Semester of the 2023-2024 school year. The study found that overloaded school events negatively affect students' physical health by causing exhaustion, disrupted sleep patterns, and increased stress. Mentally, students reported feelings of stress, frustration, and decreased confidence, impacting their academic focus and motivation. Emotionally, students experienced increased stress, emotional tension, and challenges in maintaining emotional resilience. Academically, students faced difficulties in focusing, missed lessons leading to educational gaps, and challenges in completing assignments and exams. The study highlights the need for schools to create a balanced learning environment that prioritizes students' well-being alongside academic achievement. Recommendations include revising school event calendars, implementing stress reduction programs, promoting self-care and balance, and fostering collaboration among stakeholders to address these issues effectively. Continuous evaluation of interventions is crucial to ensuring positive outcomes for students' well-being and academic success.

Subject Areas: *Higher Education, Sociology*
KEYWORDS: *overloaded school events, students' well-being*

1. INTRODUCTION

Schools strive to provide a well-rounded educational experience, often extending beyond academics with extracurricular activities, clubs, and special events. While these enrichments offer valuable opportunities for learning and development, concerns arise regarding their potential impact on students' well-being. According to Lombardi et.al. (2019), the effect of school climate on engagement is mediated by well-being experience. It has been established that school climate has a significant role in enhancing student participation in extracurricular activities, but its impact only becomes noticeable when it has the potential to change students' overall experiences with wellbeing.

This study aims to assess the influence of overloaded school events on students' overall well-being particularly on physical, mental and emotional aspects. An overscheduling issue may result from increased demands outside of primary academic studies. Students may experience stress, anxiety, and tiredness as a result of balancing their studies, extracurricular activities, social obligations, and personal downtime. The present study investigates the possible adverse effects of excessive school events, focusing on how they could impact the physical, emotional, and mental health of kids. The results can help parents, teachers, and administrators create a more balanced learning environment that supports students' health as well as their academic performance.

1.1 Purpose of the study

The purpose of this study to determine the influence of excessive school extracurricular activities and events on the overall well-being of students. Specifically, this study answered the specific questions below:

1.2 Research questions

1) How may the profile of the students be described in terms of:
   a) gender;
   b) age: and
   b) year level?
2) What are the effects of overloaded school activities and events on
   a) Physical;
   b) Mental; and
   c) Emotional well-being of the students?
3) What are the effects of overloaded school activities and events on academic performance of the students?

2. METHODOLOGY

The study used descriptive research method. According to Calderon (2012), descriptive method or statistical research describes data and characteristics about a population or phenomenon being studied. This study used purposive sampling technique to constitute 51 students enrolled at the College of Education, Nueva Ecija University of Science and Technology for the 2nd Semester of School Year 2023-2024.

To gather information, the researcher formulated the survey questionnaire. To establish the validity of the survey questionnaire, the researcher consulted three experts to evaluate the content. Afterwards, a pilot testing was conducted to ensure the reliability of the questionnaires, resulting to a Cronbach alpha of 0.85 indicating the instrument appropriate for administration. The research questionnaire was distributed and administered via online survey system (Google Forms).

To statistically analyze the data, the researchers utilized the Frequency Count, Percentage and Weighted Mean. To measure the respondents' views or attitudes toward the questions in the questionnaires, Likert Scale was used.

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3. RESULTS AND DISCUSSION

Table 1. Gender of the respondents

GENDER	FREQUENCY	PERCENTAGE (%)
Male	8	15.69
Female	43	84.31
Total	51	100

Table 1 shows the distribution of the respondents based on gender, with a total sample size of 51 respondents. There are 8 males in the sample, constituting approximately 15.69% while there are 43 females comprising approximately 84.31% of the total. From this data, it is evident that females are more represented in the sample compared to males, with a significant majority of respondents being female.

Table 2. Age of the respondents

AGE	FREQUENCY	PERCENTAGE (%)
18	7	13.73
19	15	29.41
20	15	29.41
21	9	17.65
22	5	9.80
Total	51	100

Table 2 represents the distribution of the respondents based on their ages, with a total sample size of 51 respondents. There are 7 students aged 18, constituting approximately 13.73% of the total, 15 students aged 19 and 20, comprising approximately 29.41%, 9 students aged 21, making up approximately 17.65%. and 5 students aged 22 in the sample, constituting approximately 9.80% of the total. The largest groups are students aged 19 and 20, followed by those aged 21 and 18 respectively. The smallest group consists of individuals aged 22.

Table 3. Year level of the respondents

YEAR LEVEL	FREQUENCY	PERCENTAGE (%)
1st year	15	29.41
2nd year	7	13.73
3rd year	29	56.86
Total	51	100

Table 3 represents the distribution of the respondents based on their year levels in school, with a total sample size of 51 respondents. There are 15 students in first year level, constituting approximately 29.41% of the total. While 7 students in their second year, comprising approximately 13.73%, and 29 students in their third year, making up approximately 56.86% of the total. The majority of respondents are in their third year, followed by those in their first year. The smallest group consists of students in their second year.

Table 4. Influence on Physical well-being

No.	Item	Weighted Average	Description
1	Frequent disruptions in classes due to overloaded school events lead me to experience physical exhaustion or fatigue.	3.04	Agree
2	The irregular class schedules caused by school events affect my ability to maintain a consistent sleep pattern.	2.92	Agree
3	Disruptions in classes due to school events result in increased stress, anxiety, and reduced free time for relaxation and self-care which affects my physical health.	2.94	Agree
4	Disruptions in classes make it difficult for me to maintain a healthy lifestyle, such as regular exercise and nutrition.	2.78	Agree
5	I often experience physical discomfort or health issues as a result of frequent class disruptions for school events.	2.75	Agree

Legend: 4.00-3.26 – Strongly Agree; 3.25–2.51- Agree; 2.50-1.76- Disagree; 1.75-1.00 – Strongly Disagree

For table 4, the weighted averages suggest that the respondents generally agree with the statements, indicating that overloaded school events have a noticeable impact on their physical well-being, including exhaustion, disrupted sleep patterns, increased stress, difficulty maintaining a healthy lifestyle, and physical discomfort or health issues. Previous research found an association between stress and physical health (Peer, Hillman, Van Hoet 2015). The higher perceived stress a student had, the worse their physical health seemed to be (Koch, A., 2018). Overloaded school events and disruption of classes can lead to higher levels of stress among students. When students are faced with a barrage of school activities, such as exams, projects, extracurricular commitments, and events, they may feel overwhelmed and anxious about meeting deadlines and managing their responsibilities effectively. Similarly, disruptions to classes, such as unexpected cancellations, changes in schedules, or transitions to online learning, can add to the uncertainty and stress experienced by students. The heightened stress experienced by

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students due to overloaded school events and disrupted classes can have adverse effects on their physical health. Chronic stress has been linked to a variety of physical health problems, including headaches, fatigue, muscle tension, gastrointestinal issues, weakened immune function, and sleep disturbances. Additionally, prolonged exposure to stress can increase the risk of developing more serious health conditions over time.

Table 5. Influence on Mental well-being

No.	Item	Weighted Average	Description
1	Frequent disruptions in classes due to overloaded school events cause me stress and anxiety.	2.76	Agree
2	Disruptions in classes lead to feelings of frustration and overwhelm, impacting my mental health.	2.90	Agree
3	Lack of continuity in learning due to frequent class disruptions affects my confidence and motivation.	2.92	Agree
4	Disruptions in classes make it challenging for me to maintain a positive mindset and mental resilience.	2.96	Agree
5	I develop negative attitudes towards school or specific activities as I perceive disruptions as interfering with my academic progress or personal interests.	2.67	Agree

Legend: 4.00-3.26 – Strongly Agree; 3.25–2.51- Agree; 2.50-1.76- Disagree; 1.75-1.00 – Strongly Disagree

Table 5 shows that the respondents generally agree that overloaded school events have a significant psychological impact, including stress, anxiety, frustration, reduced confidence and motivation, challenges in maintaining a positive mindset, and development of negative attitudes towards school or activities. Studies have shown sympathetic nervous system activation due to stressors in people's lives (Conley & Lehman, 2012). Mental Health has also been shown to decrease when stress is overwhelming in the lives of college students (Murff, 2005). Mental health is affected heavily by stress, and stress has shown the ability to prevent students from being successful in their respective educational goals (Murff, 2005). For example, poor mental health is associated with poor academic performance (Murff, 2005). When school events and activities become overloaded, they can significantly impact students' mental health by increasing stress levels. This heightened stress can, in turn, hinder students' ability to succeed in their academic pursuits. As students juggle numerous commitments and responsibilities, their mental well-being becomes increasingly compromised, making it difficult for them to focus, retain information, and perform at their best. Therefore, it is essential for schools to prioritize students' mental health by ensuring that the schedule of events and activities is manageable and supportive of their overall well-being. By reducing stressors associated with overloaded schedules, schools can better facilitate students' success in achieving their educational goals.

Table 6. Influence on Emotional well-being

No.	Item	Weighted Average	Description
1	Frequent disruptions in classes due to overloaded school events lead me to experience to emotional stress and tension.	2.75	Agree
2	Disruptions in classes cause feelings of frustration, irritability, or mood swings, impacting my emotional health.	2.86	Agree
3	Lack of continuity in learning due to frequent class disruptions affects my self-esteem and emotional stability.	2.90	Agree
4	Disruptions in classes make it challenging for me to maintain emotional resilience and well-being.	2.98	Agree
5	I often experience emotional distress or a fear of falling behind as a result of frequent class disruptions for school events.	3.04	Agree

Legend: 4.00-3.26 – Strongly Agree; 3.25–2.51- Agree; 2.50-1.76- Disagree; 1.75-1.00 – Strongly Disagree

Table 6 shows that the respondents generally agree that overloaded school events have a significant emotional impact, including emotional stress, frustration, irritability, mood swings, challenges in maintaining emotional resilience and well-being, and emotional distress or fear of falling behind. Regulating emotional experiences in the classroom to achieve one's goals is likely important for learning (Boekaerts, 2011). This may involve decreasing negative emotions which impede learning but also increasing positive emotions to enhance learning (Martin & Ochsner, 2016). Indeed, negative emotions such as anxiety, anger, and shame can negatively impact academic performance, and positive emotions such as enjoyment and pride can positively impact performance (Forsblom et al., 2022; Pekrun et al., 2017). Navigating the demands of school work often adds to the emotional experiences students face in the classroom. Regulating emotional experiences to achieve academic goals becomes crucial amidst the overwhelming workload students encounter. Managing emotions can significantly influence learning outcomes. This involves not only reducing negative emotions like anxiety, anger, and shame, which can hinder academic performance, but also fostering positive emotions such as enjoyment and pride to boost performance. Balancing these emotional states is essential for students to effectively handle the challenges of overloaded schoolwork while maintaining their academic performance.

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Table 7. Influence on Academic Performance

No.	Item	Weighted Average	Description
1	The inconsistency of class schedules due to school events makes it difficult for me to focus and concentrate on my studies.	3.16	Agree
2	Disruptions in classes lead to missed lessons and educational gaps, affecting my understanding of the subject matter.	3.27	Strongly agree
3	Lack of continuity in learning due to frequent class disruptions impacts my grades and academic achievements.	2.98	Agree
4	Disruptions in classes make it challenging for me to complete assignments and prepare for exams effectively.	3.16	Agree
5	I have sought support or tutoring to address academic concerns related to class disruptions.	2.80	Agree
6	The irregular class schedules due to school events make it challenging for me to maintain consistent study habits.	2.96	Agree
7	I perform poorly on assessments or exams due to gaps in my learning caused by missed or interrupted classes.	3.06	Agree
8	I find it difficult to catch up on missed class material when classes are disrupted for school events.	3.10	Agree
9	I find it hard to finish all my pending school works due to time constraint.	3.37	Strongly agree
10	Interruptions can break the flow of learning, making it challenging for me to fully comprehend complex topics or follow the sequence of lessons.	3.27	Strongly agree

Legend: 4.00-3.26 – Strongly Agree; 3.25–2.51- Agree; 2.50-1.76- Disagree; 1.75-1.00 – Strongly Disagree

Table 7 shows that the respondents generally agree that overloaded school events have a significant impact on students' academic performance, including difficulties in focusing, missed lessons leading to educational gaps, impacts on grades and academic achievements, challenges in completing assignments and preparing for exams, seeking academic support, maintaining consistent study habits, catching up on missed material, and understanding complex topics due to interruptions. When students are continually bombarded with information and academic tasks by their teachers, the law of diminishing returns gradually set in (Eduwem, J. D., & Ezeonwumelu, V. U., 2020). Academic burnout, loss of motivation and attention related problems are some of the possible downside of exposing the learners to enormous academic tasks; beyond what they can realistically surmount (Yang HJ, 2014, Ogunmakin AO & Akomolate MJ., 2013). Overloaded school events and disruption of classes often result in an influx of academic tasks, such as assignments, projects, exams, and extracurricular commitments. When students are bombarded with excessive academic demands, they may feel overwhelmed and stretched beyond their capacity to manage effectively. This can lead to feelings of academic burnout, characterized by exhaustion, cynicism, and a reduced sense of accomplishment. Exposure to an excessive workload can also contribute to a loss of motivation among students. When students perceive academic tasks as unmanageable or unrealistic, they may become disengaged and demotivated to invest effort in their studies. This loss of motivation can manifest as procrastination, disinterest in learning, and a decline in academic performance.

4. CONCLUSION AND RECOMMENDATIONS

Schools can take proactive steps to mitigate the negative effects of overloaded school events on students' well-being and create a supportive and nurturing learning environment.

1. One approach is to carefully review and potentially modify the school event calendar to ensure a more balanced distribution of events throughout the academic year. This could involve spacing out events more evenly, reducing the frequency of events during particularly stressful periods, such as exam weeks, or eliminating fewer essential events to prioritize students' well-being. Schools should take proactive measures to foster a caring and supportive learning environment and lessen the detrimental effects that excessive school events have on students' wellbeing. To guarantee a more evenly distributed schedule of events throughout the academic year, one strategy is to thoroughly examine and possibly alter the school event calendar. To promote students' well-being, this could entail spreading out activities more evenly, minimizing the number of events during very stressful times (like test weeks), or removing fewer necessary events.
2. Programs for stress reduction that give students coping skills and resilience-building training can be implemented in schools. Time management seminars, mindfulness practices, relaxation exercises, and counseling services are a few examples of these programs. Schools can lessen the detrimental effects of hectic schedules by giving students the tools they need to manage stress.
3. In order to promote a society that values self-care and balance, schools are essential. Educators and administrators have the power to start conversations on mental health and wellbeing, to foster honest dialogue about the experiences and worries of their students, and to provide a good example for healthy behavior. Furthermore, teaching students about self-care techniques through extracurricular activities or the school curriculum might help them develop lasting self-care habits.
4. In order to create and carry out successful interventions, stakeholders, including educators, parents, students, and mental health professionals, must collaborate. Schools can make sure that interventions are designed to fit the unique requirements of their student body and are supported by the larger school community by including all pertinent parties in the decision-making process.

   It is crucial to continuously evaluate the effectiveness of interventions in addressing the negative effects of overloaded school events on students' well-being.
5. Schools can collect feedback from students, teachers, and parents, monitor changes in well-being indicators over time, and make adjustments to interventions as needed. This iterative process allows schools to refine their approach and maximize positive outcomes for students.

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STATUS AND CHALLENGES OF RANKED SECONDARY TEACHER APPLICANTS BASED ON HERZBERG'S MOTIVATION THEORY AS PRECEDENCE TO EMPLOYMENT IN DEP ED SCHOOLS DIVISION OFFICE OF LAGUNA

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ABSTRACT

The study investigates the status and challenges perceived by ranked secondary teacher applicants based on Herzberg's Motivation Theory as precedence to employment in the Department of Education, Schools Division Office of Laguna that affects their organizational commitment. In addition, this study aims to provide valuable insights that can inform the improvement on recruitment, selection, and placement of personnel. Descriptive research was the method used in the study; it is conducted among the 100 selected respondents who are secondary teacher applicants from the three consecutive ranking periods; the data was gathered using a self-administered survey and were analyzed with the use of statistical instruments such as mean, standard deviation, and Pearson r correlation. Result shows that the demographic profile of ranked secondary teacher applicants has no significant relationship with organizational commitment except for educational attainment. Furthermore, the study concludes that the issues and challenges in DepEd as perceived by the respondents, motivation factors, and hygiene factors of ranked secondary teacher applicants are significantly correlated with organizational commitment. Thus, it is recommended that the HRMPSB may reconsider the recalibration of score in ranking for Teacher I where in applicants who have previously undergone evaluation process will not be required to go through it again but only update their points if they wish so. The Personnel Unit may also establish a database of RQA applicants including the times they applied, and history volunteer works that may be use as consideration in their deployment. Addressing human resource distribution in DepEd and DBM should provide requisite support for increasing Plantilla positions.

KEYWORDS: *Teacher Applicant, Human Resource Management, Recruitment Process, Herzberg's Two-Factor Theory of Motivation-Hygiene, Organizational Commitment*

INTRODUCTION

Public school teachers are vital and invaluable to our society because they are the one responsible for shaping the minds and values of the young generations. They are considered as one of the noblest professions. Teachers are a vital component of the foundation that develops a child's abilities and thinking. The quality of teachers largely depends on the procedure of recruitment and selection during their hiring process. The journey of an aspiring teacher does not end after finishing a four-year degree program and passing the Licensure Exam for Teachers (LET). They need to undergo recruitment and selection process to be part of the Registry of Qualified Applicants (RQA) which will be the basis of deployment. However, after the intricate process of recruitment, having a spot in the RQA still does not assure them to get a teaching item in DepEd (DO 007, s.2023).

Having this scenario, this study seeks to find out the status and challenges in DepEd Schools Division of Laguna as perceived by the ranked teacher applicants that are on the shelf even after applying more than one time based on Herzberg's Two-Factor Theory of Motivation-Hygiene and how it affects their organizational commitment. This study was anchored on Herzberg's Two-Factor Theory, which examines aspects that inspire professionals to complete high-quality work (Herzberg, 1968).

MATERIALS AND METHOD

Descriptive research was the method used in the researcher's study. It deals with gathering of data, putting theories to the test, and responding to inquiries about the current state of the research subject. Another characteristic of descriptive research is that data is gathered through observation, questionnaires, interviews, or direct questioning of those in the scenario (Kabir, 2016).

The study is conducted among the 100 selected respondents who are secondary teacher applicants from the three consecutive ranking periods (SY 2020-2021, SY 2021-2022 and SY 2023-2024). Purposive sampling is the method used by the researcher in the study. It is a type of sampling technique that chooses units

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based on the qualities required in the sample (Nikolopoulou, 2022).

The researcher uses a self-administered questionnaire as the main tool for data gathering. Correlation matrix was done to test the causal relationship between Status and Challenges, Herzberg's motivation-hygiene theory, demographic profile, and the organizational commitment of on the shelf secondary teacher applicants in DepEd Schools Division Office of Laguna using Pearson r.

RESULTS AND DISCUSSION

Demographic Profile of Respondents in Terms of Age

The demographic profile of the respondents according to age shows that there are 23 respondents under 20-29 years old, which is 23%. 69 respondents fall under 30-39 years old, which is 69%. 8 respondents are under 40-49 years old, which is 8%. While there are no respondents or 0% under 50 years old and above.

Demographic Profile of Respondents in Terms of Gender

In terms of gender, majority are female with 79 respondents or 79%. 20 respondents or 20% are male. While there is 1 respondent or 1% under prefer not to say.

Demographic Profile of Respondents in Terms of Civil Status

In accordance with civil status, results show that the majority are single with 70 respondents which is 70% while 29 respondents or 29% are married. 1 respondent, which is 1% is widowed no respondents or 0% fall under separated and prefer not to say.

Demographic Profile of Respondents in Terms of Educational Attainment

In terms of educational attainment, the result shows that the majority of the sample finished a bachelor's degree which is 58 respondents or 58%. 37 respondents are with units in master's degree which is 37%. Respondents with master's degree have a frequency of 5 or 5% while there are no respondents or 0% with units in doctorate degree and doctorate degree.

Demographic Profile of Respondents in Terms of Subject Specialization

The demographic profile of the respondents in terms of subject specialization shows that there are 22 respondents or 22% under Araling Panlipunan, 8 respondents under English which is 8%. For Filipino, there are 12 respondents or 12%. MAPEH has 9 respondents or 9%. Mathematics has 13 respondents or 13%. Science has 14 respondents or 14% and TLE has 21 respondents or 21% while Values Education has the least which is 1 respondent or 1%.

Table 1. Level of Issues and Challenges in Terms of Recruitment Process

Indicator	*M*	*SD*	Interpretation
1. The qualification standard for Teacher I in terms of education, eligibility, experience, and training is fair.	3.17	0.88	Challenging
2. The assessment process of teacher applicants' competencies through demonstration teaching is vital in the recruitment process.	3.57	0.71	Highly Challenging
3. The conduct of interviews assessing teacher applicants' potential, characteristics or traits and fitness is vital in the recruitment process.	3.49	0.69	Highly Challenging
4. Open and transparent ranking of teachers are important in the recruitment process.	3.66	0.76	Highly Challenging
5. The one (1) school year validity of the Registry of Qualified Applicants (RQA) is enough time to deploy the applicants in the registry.	2.28	0.98	Less Challenging
Overall for Recruitment Process	3.23	0.58	Challenging

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly challenging, 2.50–3.24=Challenging, 1.75–2.49=Less challenging, 1.00–1.74=Not challenging.

Table 1 presents the Level of Issues and Challenges in DepEd as perceived by the respondents in terms of Recruitment Process. From the statements, "Open and transparent ranking of teachers are important in the recruitment process." gets the highest mean score of 3.66, SD=0.76 and was remarked as "Highly Challenging". Conversely, "The one (1) school year validity of the Registry of Qualified Applicants (RQA) is enough time to deploy the applicants in the registry." received the lowest mean score of 2.28, SD=0.98 and was remarked as "Less Challenging". Overall, the Level of Issues and Challenges in DepEd as perceived by the respondents in Terms of Recruitment Process attained a weighted mean score of 3.23, SD=0.58 and was remarked as Challenging among the respondents.

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Table 2. Level of Issues and Challenges in Terms of Organizational Culture

Indicator	*M*	*SD*	Interpretation
1. DepEd upholds equal employment opportunity policy.	2.95	0.95	Challenging
2. There is no discrimination in the selection of employees.	3.12	0.81	Challenging
3. DepEd prohibits nepotic appointments or those made in favor of a relative of the appointing or recommending authority.	2.96	0.88	Challenging
4. DepEd demonstrates an ethical system of moral principles during the recruitment process.	3.29	0.76	Highly Challenging
5. DepEd does not tolerate "padrino system", a common Filipino culture where in someone in a position will intervene, support, or do favors for someone else because they are relative of friends.	2.76	0.89	Challenging
Overall for Organizational Culture	3.02	0.72	Challenging

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly challenging, 2.50–3.24=Challenging, 1.75–2.49=Less challenging, 1.00–1.74=Not challenging.

Table 2 shows the Level of Issues and Challenges in DepEd as perceived by the respondents in terms of Organizational Culture. From the statements, "DepEd demonstrates an ethical system of moral principles during the recruitment process." gets the highest mean score of 3.29, SD=0.76 and was remarked as "Highly Challenging". While "DepEd does not tolerate "padrino system", a common Filipino culture where in someone in a position will intervene, support, or do favors for someone else because they are relative of friends." received the lowest mean score of 2.76, SD=0.89 and was remarked as "Challenging". Overall, the level of Issues and Challenges in DepEd as perceived by the respondents in terms of Organizational Culture gathered a weighted mean score of 3.02, SD=0.72 and was Challenging among the respondents.

Table 3. Level of Issues and Challenges in Terms of Plantilla Item

Indicator	*M*	*SD*	Interpretation
1. The Department of Budget and Management (DBM) has made resources available for the establishment of new teacher items.	2.92	0.87	Challenging
2. Current Plantilla items for teaching personnel is enough to deploy the applicants listed in the RQA	2.41	1.02	Less Challenging
3. Increasing Plantilla positions to rationalized staffing patterns in DepEd attracts teacher applicants to pursue their teaching career.	3.34	0.78	Highly Challenging
4. Plantilla items due to natural vacancies address human resource shortage in DepEd.	3.09	0.68	Challenging
5. Newly created Plantilla items help to aid teacher shortage in DepEd.	3.34	0.76	Highly Challenging
Overall for Plantilla Item	3.02	0.63	Challenging

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly challenging, 2.50–3.24=Challenging, 1.75–2.49=Less challenging, 1.00–1.74=Not challenging.

Table 3 shows the Level of Issues and Challenges in DepEd as perceived by the respondents in terms of Plantilla items. From the statements, "Increasing Plantilla positions to rationalized staffing patterns in DepEd attracts teacher applicants to pursue their teaching career." and "Newly created Plantilla items help to aid teacher shortage in DepEd." yielded the highest mean score, 3.34, SD=0.78 and 3.34, SD=0.76 respectively and was remarked as "Highly Challenging". On the other hand, "Current Plantilla items for teaching personnel is enough to deploy the applicants listed in the RQA." received the lowest mean score of 2.41, SD=1.02 and was remarked "Less Challenging". Overall, the level of Issues and Challenges in DepEd as perceived by the respondents in terms of Plantilla items got a weighted mean score of 3.02, SD=0.63 and was Challenging among the respondents.

Table 4. Level of Motivation Factors in Terms of Achievement

Indicator	*M*	*SD*	Interpretation
1. Completing a difficult task on time provides a different level of fulfillment to teachers.	3.27	0.81	Highly Motivating
2. Teaching using collaborative practices is more innovative.	3.58	0.75	Highly Motivating
3. Seeing positive results of one's work keeps teachers motivated.	3.68	0.72	Highly Motivating
4. Teaching quality impacts students' achievement.	3.70	0.72	Highly Motivating
5. Classroom observation is a powerful tool for improving teachers' strategies and management.	3.42	0.88	Highly Motivating
Overall for Achievement	3.53	0.69	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

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Table 4 presents the Level of Motivation Factors in terms of Achievement. From the statement, "Teaching quality impacts students' achievement." yielded the highest mean score of 3.70, SD=0.72 and was remarked as "Highly Motivating". Conversely, "Completing a difficult task on time provides a different level of fulfillment to teachers." received the lowest mean score of 3.27, SD=0.81 and was remarked "Highly Motivating". Overall, the level of Motivation Factors in terms of Achievement attained a got mean score of 3.53, SD=0.69 and was Highly Motivating among the respondents.

Table 5. Level of Motivation Factors in Terms of Recognition

Indicator	*M*	*SD*	Interpretation
1. DepEd has a well-defined system of performance incentives that encourage teachers to do well.	3.16	0.76	Motivating
2. Rewards and recognition are the primary motivators for teachers.	3.23	0.79	Motivating
3. Rewards and recognitions given to teachers are relevant compared to the work they do.	3.19	0.84	Motivating
4. Rewards and recognitions are significant in shaping teachers' behavior and commitment to work.	3.31	0.81	Highly Motivating
5. DepEd has a good established way of giving incentives and recognitions to motivate its teachers.	3.15	0.74	Motivating
Overall for Recognition	3.21	0.66	Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 5 shows the Level of Motivation Factors in terms of Recognition. From the statement, "Rewards and recognitions are significant in shaping teachers' behavior and commitment to work." got the highest mean score of 3.31, SD=0.81 and was remarked as "Highly Motivating". While "DepEd has a good established way of giving incentives and recognitions to motivate its teachers." received the lowest mean score of 3.15, SD=0.74 and was remarked "Motivating". Overall, the level of Motivation Factors in terms of Recognition gathered a weighted mean score of 3.21, SD=0.66 and was "Motivating" among the respondents.

Table 6. Level of Motivation Factors in Terms of The Work Itself

Indicator	*M*	*SD*	Interpretation
1. Assigning duties and tasks consider teachers' interests and capabilities, thus creating competence-based trust in the teachers.	3.33	0.77	Highly Motivating
2. Teachers play a very important role in society.	3.73	0.68	Highly Motivating
3. Teaching provides an opportunity to serve others.	3.68	0.72	Highly Motivating
4. Being a public school teacher is an interesting job.	3.53	0.72	Highly Motivating
5. Educating pupils to be lifelong students bears some relation to a better comprehension of how teaching affects learning.	3.70	0.69	Highly Motivating
Overall for The Work Itself	3.59	0.65	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 6 shows the Level of Motivation Factors in terms of The Work Itself. From the statement, "Teachers play a very important role in society." gathered the highest mean score of 3.73, SD=0.68 and was remarked as "Highly Motivating". While "Assigning duties and tasks consider teachers' interests and capabilities, thus creating competence-based trust in the teachers." received the lowest mean score of 3.33, SD=0.77) and was remarked "Highly Motivating". Overall, the level of Motivation Factors in terms of The Work Itself got a weighted mean score of 3.59, SD=0.65 and was Highly Motivating among the respondents.

Table 7. Level of Motivation Factors in Terms of Responsibility

Indicator	*M*	*SD*	Interpretation
1. Teachers attend multiple trainings and seminars in a given year.	3.43	0.69	Highly Motivating
2. Teachers exchange information and expertise among teachers and others.	3.59	0.68	Highly Motivating
3. Teachers are accountable for students' performance.	3.29	0.74	Highly Motivating
4. Teachers find ways to have knowledge in light of recent advances.	3.55	0.69	Highly Motivating
5. Teacher shall continue studying to strengthen his competence, advance in his career, and increase his efficiency.	3.47	0.72	Highly Motivating
Overall for Responsibility	3.47	0.63	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

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Table 7 presents the Level of Motivation Factors in terms of Responsibility. From the statement, "Teachers exchange information and expertise among teachers and others." got the highest mean score of 3.59, SD=0.68 and was remarked as "Highly Motivating". Conversely, "Teachers are accountable for students' performance." received the lowest mean score of 3.29, SD=0.74 and was remarked "Highly Motivating". Overall, the level of Motivation Factors in terms of Responsibility gathered a weighted mean score of 3.47, SD=0.63 and was Highly Motivating among the respondents.

Table 8. Level of Motivation Factors in Terms of Advancement

Indicator	*M*	*SD*	Interpretation
1. I do appreciate the way teachers are promoted.	3.30	0.78	Highly Motivating
2. The way promotions are given to teachers motivates me to work hard so that I can be hired.	3.42	0.73	Highly Motivating
3. DepEd has a good established way of promotion to motivate its teachers.	3.22	0.75	Motivating
4. Teachers must constantly adjust to the changes in the existing educational system to satisfy the needs and wants of students in the global market.	3.52	0.70	Highly Motivating
5. Improving teacher quality is a vital thing to student fulfillment.	3.51	0.73	Highly Motivating
Overall for Advancement	3.39	0.66	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 8 shows the Level of Motivation Factors in terms of Advancement. From the statement, "Teachers must constantly adjust to the changes in the existing educational system to satisfy the needs and wants of students in the global market." yielded the highest mean score of 3.52, SD=0.70 and was remarked as "Highly Motivating". While "DepEd has a good established way of promotion to motivate its teachers." received the lowest mean score of 3.22, SD=0.75 and was remarked "Motivating". Overall, the level of Motivation Factors in terms of Advancement attained a weighted mean score of 3.39, SD=0.66 and was Highly Motivating among the respondents.

Table 9. Level of Motivation Factors in Terms of Growth

Indicator	*M*	*SD*	Interpretation
1. Teaching provides opportunities for continuous learning.	3.58	0.71	Highly Motivating
2. Teaching will provide me with opportunities to grow professionally.	3.62	0.72	Highly Motivating
3. Teaching provides an opportunity to serve others.	3.63	0.72	Highly Motivating
4. DepEd prioritizes strengthening training and professional development of teachers.	3.48	0.66	Highly Motivating
5. Teachers receive support from DepEd for their professional growth.	3.37	0.71	Highly Motivating
Overall for Growth	3.54	0.63	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 9 presents the Level of Motivation Factors in terms of Growth. From the statement, "Teaching provides an opportunity to serve others." got the highest mean score of 3.63, SD=0.72 and was remarked as "Highly Motivating". Conversely, "Teachers receive support from DepEd for their professional growth." received the lowest mean score of 3.37, SD=0.71 and was remarked "Motivating". Overall, the level of Motivation Factors in terms of Growth gathered a weighted mean score of 3.54, SD=0.63 and was Highly Motivating among the respondents.

Table 10. Level of Hygiene Factors in Terms of Bureaucracy

Indicator	*M*	*SD*	Interpretation
1. Teachers are given the authority to make decisions about their lessons instead of waiting for their superior to give them instructions.	3.20	0.77	Motivating
2. School supports and accepts ideas of new members of the school.	3.36	0.70	Highly Motivating
3. Teaching and non-teaching personnel are engaged in deciding about materials and resources.	3.32	0.74	Highly Motivating
4. School heads hold meetings to the involved personnel to address issues in order to enhance teachers' sense of professionalism and institutional belongingness.	3.45	0.74	Highly Motivating
5. Professional relationships that are helpful, cooperative, empowered, and transparent are characteristics of effective schools.	3.51	0.73	Highly Motivating
Overall for Bureaucracy	3.37	0.66	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

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Table 10 presents the Level of Hygiene Factors in terms of Bureaucracy. From the statement, "Professional relationships that are helpful, cooperative, empowered, and transparent are characteristics of effective schools." got the highest mean score of 3.51, SD=0.73 and was regarded as "Highly Motivating". While "Teachers are given the authority to make decisions about their lessons instead of waiting for their superior to give them instructions." received the lowest mean score of 3.20, SD=0.77 and was regarded "Motivating". Overall, the level of Hygiene Factors in terms of Bureaucracy gathered a weighted mean score of 3.37, SD=0.66 and was Highly Motivating among the respondents.

Table 11. Level of Hygiene Factors in Terms of Relationships

Indicator	*M*	*SD*	Interpretation
1. Teachers' schedules reflect frequent communication opportunities for co-teachers and staff.	3.45	0.66	Highly Motivating
2. Teachers and school personnel spend time together outside the workplace to socialize with one another.	3.36	0.69	Highly Motivating
3. Teachers and school personnel seek for the problem and find a solution rather than blaming others.	3.44	0.72	Highly Motivating
4. Teachers and school personnel are interdependent and value each other.	3.49	0.66	Highly Motivating
5. Schools create equal opportunities for the development and growth of their teachers.	3.46	0.70	Highly Motivating
Overall for Relationships	3.44	0.62	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 11 presents the Level of Hygiene Factors in terms of Relationships. From the statement, "Teachers and school personnel are interdependent and value each other." received the highest mean score of 3.49, SD=0.66 and was regarded as "Highly Motivating". Conversely, "Teachers and school personnel spend time together outside the workplace to socialize with one another." received the lowest mean score of 3.36, SD=0.69 and was regarded as "Highly Motivating". Overall, the level of Hygiene Factors in terms of Relationships received a weighted mean score of 3.44, SD=0.62 and was Highly Motivating among the respondents.

Table 12. Level of Hygiene Factors in Terms of Work Condition

Indicator	*M*	*SD*	Interpretation
1. School reflects a true sense of community.	3.46	0.72	Highly Motivating
2. Schools with a healthy environment, accomplish teamwork and everyone equally contributes to the success of students.	3.57	0.71	Highly Motivating
3. Commitment to the organization can be strengthened by making the school's structure more adaptable and fostering a collaborative culture.	3.51	0.72	Highly Motivating
4. Teachers exhibit more professional behaviors in a healthy school environment where there is cooperation and professional development.	3.56	0.70	Highly Motivating
5. Pupil and teacher ratio impacts teaching.	3.58	0.71	Highly Motivating
Overall for Work Condition	3.54	0.67	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 12 presents the Level of Hygiene Factors in terms of Work Condition. From the statement, "Pupil and teacher ratio impacts teaching." received the highest mean score of 3.58, SD=0.71 and was regarded as "Highly Motivating". While "School reflects a true sense of community." received the lowest mean score of 3.46, SD=0.72 and was regarded as "Highly Motivating". Overall, the level of Hygiene Factors in terms of Work Condition received a weighted mean score of 3.54, SD=0.67 and was Highly Motivating among the respondents.

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Table 13: Level of Hygiene Factors in Terms of Status

Indicator	*M*	*SD*	Interpretation
1. Employment status affects work performance.	3.19	0.87	Motivating
2. Teachers who feel respected and valued in their status tend to have a positive attitude towards their work.	3.66	0.70	Highly Motivating
3. Permanent teaching position attracts teacher applicants to pursue their teaching career.	3.61	0.71	Highly Motivating
4. Teacher applicants choose to enter public schools over private schools due to permanent positions.	3.62	0.75	Highly Motivating
5. Teachers are more likely to stay with the teaching profession for a long term because of the permanent status.	3.57	0.74	Highly Motivating
Overall for Status	3.53	0.66	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 13 presents the Level of Hygiene Factors in terms of Status. From the statement, "Teachers who feel respected and valued in their status tend to have a positive attitude towards their work." gathered the highest mean score of 3.66, SD=0.70 and was regarded as "Highly Motivating". While "Employment status affects work performance." received the lowest mean score of 3.19, SD=0.87 and was regarded as "Motivating". Overall, the level of Hygiene Factors in terms of Status gathered a weighted mean score of 3.53, SD=0.66 and was Highly Motivating among the respondents.

Table 14. Level of Hygiene Factors in Terms of Salary

Indicator	*M*	*SD*	Interpretation
1. Salary is enough to cover a local cost of living.	2.69	0.73	Motivating
2. Teachers' salaries are enough to sustain family needs.	2.59	0.73	Motivating
3. Public school teachers are considered as well-waged workers.	2.66	0.78	Motivating
4. Teachers who earn higher wages tend to feel more motivated to give their best on doing their jobs.	3.31	0.80	Highly Motivating
5. Job-seeking teachers consider salary when deciding to practice their profession.	3.26	0.79	Highly Motivating
Overall for Salary	2.90	0.55	Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

Table 14 presents the Level of Hygiene Factors in terms of Salary. From the statement, "Teachers who earn higher wages tend to feel more motivated to give their best on doing their jobs." got the highest mean score of 3.31, SD=0.80 and was regarded as "Highly Motivating". While "Teachers' salaries are enough to sustain family needs." received the lowest mean score of 2.59, SD=0.73 and was regarded as "Demotivating". Overall, the level of Hygiene Factors in terms of Salary got a weighted mean score of 2.90, SD=0.55 and was Demotivating among the respondents.

Table 15. Level of Hygiene Factors in Terms of Security

Indicator	*M*	*SD*	Interpretation
1. Teaching in public school has job security.	3.51	0.72	Highly Motivating
2. Teaching in public schools offers permanent positions.	3.51	0.77	Highly Motivating
3. The attractiveness of the teaching profession depends on the terms of employment they are offered.	3.37	0.72	Highly Motivating
4. Tenure gives the teacher a sense of job security.	3.40	0.67	Highly Motivating
5. I decided to become a teacher because I am aware that there would always be a need for educators.	3.22	0.80	Motivating
Overall for Security	3.40	0.64	Highly Motivating

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly motivating, 2.50–3.24=Motivating, 1.75–2.49=Less motivating, 1.00–1.74=Not motivating.

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Table 15 presents the Level of Hygiene Factors in terms of Security. From the statement, "Teaching in public school has job security." and "Teaching in public schools offers permanent positions." yielded the highest mean score of 3.51, SD=0.72 and 3.51, SD=0.77 respectively and was regarded as "Highly Motivating". Conversely, "I decided to become a teacher because I am aware that there would always be a need for educators." received the lowest mean score of 3.22, SD=0.80 and was regarded as "Demotivating". Overall, the level of Hygiene Factors in terms of Security got a weighted mean score of 3.40, SD=0.64 and was Highly Motivating among the respondents.

Table 16. Level of Commitment to Organization in Terms of Affective Commitment

Indicator	*M*	*SD*	Interpretation
1. DepEd is a good organization to work with.	3.33	0.70	HC
2. DepEd motivates me to provide the best performance.	3.34	0.71	HC
3. I will make a great effort to help DepEd achieve its goals.	3.53	0.69	HC
4. I am ready to do any task that will be given to me in school.	3.46	0.73	HC
5. I will participate in the school activities.	3.56	0.69	HC
Overall for Affective Commitment	3.44	0.64	HC

Note. *N*=100. The mean is interpreted as follows: 3.25–4.00=Highly committed (HC), 2.50–3.24=Committed (C), 1.75–2.49=Less committed (LC), 1.00–1.74=Not committed (NC).

Table 16 presents the Level of Commitment to Organization in terms of Affective Commitment. From the statement, "I will participate in the school activities." garnered the highest mean score of 3.56, SD=0.69 and was regarded as "Highly Committed". While "DepEd is a good organization to work with." received the lowest mean score of 3.33, SD=0.70 and was regarded as "Highly Committed". Overall, the level of Commitment to Organization in terms of Affective Commitment got a weighted mean score of 3.44, SD=0.64 and was Highly Committed among the respondents.

Table 17. Level of Commitment to Organization in Terms of Normative Commitment

Indicator	*M*	*SD*	Interpretation
1. DepEd is the right organization for teachers.	3.48	0.73	Highly Committed
2. I have the obligation to teach the Filipino youth.	3.64	0.72	Highly Committed
3. I took the professional oath for teachers.	3.63	0.75	Highly Committed
4. As a LET (Licensure Examination for Teacher) passer, it is just right to commit to a teaching career.	3.50	0.76	Highly Committed
5. I have a sense of obligation to the education sector.	3.59	0.71	Highly Committed
Overall for Normative Commitment	3.57	0.68	Highly Committed

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly committed, 2.50–3.24=Committed, 1.75–2.49=Less committed, 1.00–1.74=Not committed.

Table 17 presents the Level of Commitment to Organization in terms of Normative Commitment. From the statement, "I have the obligation to teach the Filipino youth." got the highest mean score of 3.64, SD=0.72 and was regarded as "Highly Committed". While "DepEd is the right organization for teachers." got the lowest mean score of 3.48, SD=0.73 and was regarded "Highly Committed". Overall, the level of Commitment to Organization in terms of Normative Commitment got a weighted mean score of 3.57, SD=0.68 and was Highly Committed among the respondents.

Table 18. Level of Commitment to Organization in Terms of Continuance Commitment

Indicator	*M*	*SD*	Interpretation
1. I have already invested significant time and energy in my application.	3.63	0.69	Highly Committed
2. A career shift will be costly.	3.13	0.82	Committed
3. I don't know any job aside from teaching.	2.52	0.97	Committed
4. Giving up would require me considerable personal sacrifice.	2.98	0.89	Committed
5. I would have to make too many changes and delays to my life if I gave up on my teaching career.	2.98	0.85	Committed
Overall for Continuance Commitment	3.05	0.61	Committed

Note. N=100. The mean is interpreted as follows: 3.25–4.00=Highly committed, 2.50–3.24=Committed, 1.75–2.49=Less committed, 1.00–1.74=Not committed.

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Table 18 presents the Level of Commitment to Organization in terms of Continuance Commitment. From the statement, "I have already invested significant time and energy in my application." got the highest mean score of 3.63, SD=0.69 and was regarded as "Highly Committed". While "I don't know any job aside from teaching." received the lowest mean score of 2.52, SD=0.97) and was regarded as "Committed". Overall, the level of Commitment to Organization in terms of Continuance Commitment got a weighted mean score of 3.05, SD=0.61 and was Committed among the respondents.

Table 19. Relationships Among Five Profile Variables and Three Organizational Commitment Variables

Profile variable	Organizational commitment variable		
	Affective commitment	Normative commitment	Continuance commitment
Age	$r_s(98)=-.003$ $p=.974$	$r_s(98)=.076$ $p=.450$	$r_s(98)=.017$ $p=.866$
Gender	$F(1,97)=0.61$ $p=.438$	$F(1,22.6)=1.61$[a] $p=.218$	$F(1,97)=0.012$ $p=.913$
Civil status	$F(1,97)=0.035$ $p=.853$	$F(1,97)=0.33$ $p=.565$	$F(1,97)=0.003$ $p=.954$
Educational attainment	$r_s(98)=.210^{*}$ $p=.036$	$r_s(98)=.270^{**}$ $p=.007$	$r_s(98)=.185$ $p=.065$
Subject specialization	$F(1,97)=0.398$ $p=.879$	$F(1,97)=0.473$ $p=.827$	$F(1,97)=1.42$ $p=.216$

Note. Cell contains test statistics and its corresponding p value. For gender, one observation was excluded with "Prefer not to say" response. For civil status, one observation was excluded with "Prefer not to say" response. For subject specialization, one observation was excluded with "Values Education" response.
[a]Welch's ANOVA was used due to violation of assumption of homogeneity of variance.
**p<.05. **p<.01. ***p<.001.*

Table 19 reveals that Age, Gender, Civil Status, and Subject Specialization are not statistically significantly correlated with any of the Organizational Commitment variables with all F values not statistically significant at 0.05 level. Educational Attainment has statistically significant correlation with Affective Commitment, rs (98)=.210 and p=.036, Normative Commitment, rs (98)=.270, p=.007, and Continuance Commitment, rs (98)=.185, p=.065. Moreover, there appears to be significance because the p-values were below the significance alpha of 0.05. Referring to these results, the null hypothesis, which states that "There is no significant relationship between the demographic profile of the respondents and the level of their organizational commitment," is partially accepted at the 0.05 level of significance except for Educational Attainment which has significant correlation with Organizational Commitment. Therefore, it is appropriate to partially reject the alternative hypothesis which implies that there is no significant difference between them. It means that there is no significant difference in Organizational Commitments of the ranked secondary teacher applicants when grouped according to profile except for Educational Attainment.

Table 20. Correlations Among Three Status and Challenges Variables and Three Organizational Commitment Variables

Status and Challenges Variable	Organizational commitment variable		
	Affective commitment	Normative commitment	Continuance commitment
Recruitment process	$.684^{***}$ moderate	$.740^{***}$ high	$.419^{***}$ moderate
Organizational culture	$.472^{***}$ moderate	$.354^{***}$ low	$.532^{***}$ moderate
Plantilla item	$.523^{***}$ moderate	$.438^{***}$ moderate	$.465^{***}$ moderate

Note. df=98. Cell contains Pearson r correlation coefficient and verbal interpretation of its strength.
**p<.05. **p<.01. ***p<.001.*
The correlation is interpreted as follows: 0.80-1.00=Very strong, 0.60-0.79=Strong, 0.40-0.59=Moderate, 0.20-0.39=Weak, 0.00-0.19=Very weak

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Table 20 shows that all Status and Challenges in DepEd as perceived by the respondents' variables are statistically significantly correlated with all the Organizational Commitment variables with all *p* values less than 0.001. Recruitment Process and Affective Commitment have moderate correlation with each other, and this correlation is statistically significant, *r*=.684, *p*<.001. On the other hand, the Recruitment Process and Normative Commitment have a high correlation with each other, *r*=.740, *p*<.001. Finally, the Recruitment Process and Continuance Commitment have moderate correlation with each other, *r*=.419, *p*<.001. Organizational Culture and Affective Commitment are moderately correlated with each other, and this correlation is statistically significant, *r*=.472, *p*<.001. Organizational Culture and Normative Commitment have a low correlation with each other, but this correlation is still statistically significant, *r*=.354, *p*<.001. Also, Organizational Culture and Continuance Commitment are moderately correlated with each other, and this correlation is statistically significant, *r*=.532, *p*<.001. Lastly, Plantilla item has moderate correlation with all the three Organizational Commitment and this correlation is statistically significant with *r*=.523, *r*=.438, and *r*=.465, at *p*<.001 respectively. According to these results, the null hypothesis, which states that "there is no significant relationship between the issues and challenges in DepEd as perceived by the respondents and the level of their organizational commitment," is partially rejected at the 0.05 level of significance. Hence, the alternative hypothesis, which shows that they have a significant relationship, should be partially accepted.

Table 21. Correlations Among Six Motivation Factors and Three Organizational Commitment Variables

Motivation factors	Organizational commitment variable		
	Affective commitment	Normative commitment	Continuance commitment
Achievement	.768*** high	.827*** high	.464*** moderate
Recognition	.686*** moderate	.630*** moderate	.476*** moderate
The work itself	.770*** high	.861*** high	.422*** moderate
Responsibility	.792*** high	.823*** high	.823*** high
Advancement	.806*** high	.772*** high	.514*** moderate
Growth	.787*** high	.835*** high	.408*** moderate

Note. *df*=98. Cell contains Pearson *r* correlation coefficient and verbal interpretation of its strength.
*p<.05. **p<.01. ***p<.001.
The correlation is interpreted as follows: 0.80-1.00=Very strong, 0.60-0.79=Strong, 0.40-0.59=Moderate, 0.20-0.39=Weak, 0.00-0.19=Very weak

The correlation coefficients in Table 21 indicate a moderate to strong positive association, ranging from 0.408 to 0.861. From these findings, we can assume that the null hypothesis "There is no significant relationship between the level of Motivation Factors of the respondents and their level of organizational commitment" at 0.05 level of significance is partially rejected. Therefore, it is appropriate to partially accept the alternative hypothesis, which suggests that they have a significant relationship.

Table 22. Correlations Among Six Hygiene Factors and Three Organizational Commitment Variables

Hygiene factors	Organizational commitment variable		
	Affective commitment	Normative commitment	Continuance commitment
Bureaucracy	.693*** moderate	.681*** moderate	.468*** moderate
Relationships	.688*** moderate	.718*** high	.368*** low
Work conditions	.789*** high	.843*** high	.468*** moderate
Status	.779*** high	.829*** high	.375*** low
Salary	.462*** moderate	.443*** moderate	.399*** low
Security	.789*** high	.873*** high	.445*** moderate

Note. *df*=98. Cell contains Pearson *r* correlation coefficient and verbal interpretation of its strength.

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*p<.05. **p<.01. ***p<.001.
The correlation is interpreted as follows: 0.80-1.00=Very strong, 0.60-0.79=Strong, 0.40-0.59=Moderate, 0.20-0.39=Weak, 0.00-0.19=Very weak

Table 22 shows a weak to strong positive relationship with correlation coefficients ranging from 0.368 to 0.873. From these findings, we can assume that the null hypothesis "There is no significant relationship between the level of Hygiene Factors of the respondents and their level of organizational commitment." is partially rejected at 0.05 level of significance. Hence, the alternative hypothesis which shows that there is a significant relationship between them should be partially accepted.

CONCLUSION AND RECOMMENDATION

Conclusion

Considering the study's findings, the hypothesis which implies that the demographic profile of the respondents and the level of their organizational commitment has no significant correlation with each other is accepted. Furthermore, there is enough statistical evidence to reject the research hypotheses which state that there is no significant relationship between the issues and challenges in DepEd as perceived by the respondents and the level of their organizational commitment; there is no significant relationship between the level of Motivation Factors of the respondents and their level of organizational commitment; and there is no significant relationship between the level of Hygiene Factors of the respondents and their level of organizational commitment.

Recommendation

In view of the conclusion, the following recommendations were given. The HRMPSB of DepEd SDO Laguna may reconsider the recalibration of score in ranking for Teacher I where in teacher applicants who have already completed the review procedure in previous ranking will not be required to go through it again; just a recalibration or updating of points in compliance with the established rules of pointing system. The Personnel Unit may also establish a database of RQA applicants where in their employment history is indicated including the times they applied, their history of substitution, volunteer works, Local School Board (LSB), Learning Support Aide (LSA), and job order works in DepEd which may be use as consideration in their deployment. Lastly, address the allocation of personnel, in DepEd. In particular, DepEd must dive deeply into the shortage issue of human resources and collaborate with the Department of Budget and Management (DBM) to provide necessary support for increasing Plantilla positions.

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MODERNIZED WORK ENVIRONMENT AND WORK PERFORMANCE OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS PERSONNEL

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ABSTRACT

The research concentrated on determining the effect of a modernized work environment on the work performance of Department of Public Works and Highways personnel. It utilized descriptive research; data gathered from the respondents was tabulated and computed to determine the level of work performance of the Department of Public Works and Highway personnel. 509 personnel from the Department of Public Works and Highways Laguna 1st, second and third – District Engineering Office were surveyed using a self-administered questionnaire. Statistical tools such as regression were used to evaluate the data gathered. This study revealed a statistically significant modernized work environment in terms of technology integration and organization culture and the work performance of the Department of Public Works and Highways personnel. Based on the findings, it is recommended the conduct of intense research and discovering more information and new variables for a modernized work environment for personnel productivity to strengthen further findings of the study.

KEYWORDS: *Modernized work environment, technology integration, organizational culture, work performance*

INTRODUCTION

In modern times, organizations are experiencing difficulties due to the dynamic nature of the environment. A modernized work environment implies that technology integration, such as office layout, office equipment, internet access, video conference, organizational culture, organizational values, leadership style, and diversity, affects the employees' work performance or individual performance. Satisfying its workforce is one of the numerous problems an organization faces in fulfilling its mission in an ever-evolving and changing environment. To ensure the increase of the personnel's work performance in terms of quality and efficiency, the organization needs to meet the demands of its workers by offering a good, modernized work environment.

Gitahi et al. (2015) posit that organizations with a pleasant environment will probably have a competitive advantage since they can draw in and keep highly qualified workers. The modernized work environment, the working environment has a significant influence on the achievement and performance of employees in the organization. According to a case study, an employee's performance is greatly influenced by their working environment, which is interrelated with performance Naharuddin & Sadegi, (2018). In addition, Naharuddin says that their productivity can reflect the employee's performance level in terms of activity-based, performance-based and outcome-based.

An organization's work environment significantly impacts a modernized work environment. A modernized work environment is essential to employee performance and productivity (El-Zeiny, 2013). Modernized work environment factors like technology and culture affect the work performance of an employee's organization.

Employee performance is crucial for the organization to achieve its goals and objectives. Modernized work environments, such as technology and culture, also significantly impact employees' work performance. The modernized work environment dramatically contributes to the success of the work performance of the employees and the organization.

MATERIALS AND METHOD

The researcher used a descriptive method to determine the modernized work environment and the work performance of DPWH personnel at Laguna 1st, Laguna 2nd, and Laguna 3rd District Engineering Office.

The study's main goal was to figure out the effect of a modernized work environment in terms of technology integration and organizational culture on the work performance of DPWH personnel. Specifically, the study determined the level of technology integration in terms of office layout, office equipment, internet access and video conference and also the level of organizational culture in terms of organizational values, leadership style and diversity in terms of religion, belief and ethnicity and the work performance such as quality and efficiency—also, the significant effect of technology integration and organization culture on the work performance of DPWH personnel.

The primary instrument used for gathering the data for this study is a self-made questionnaire, which can help gather the information that will answer the problem. The researcher prepared seven (7) questions each for modernized work environments such as technology in terms of office layout, office equipment, internet access and video conference and culture in

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terms of organization values, leadership style and five (5) questions for diversity which include religion, belief and ethnic of groups. Seven (7) questions were each for the dependent variable: quality and efficiency.

The questionnaire was used to measure the modernized work environment and the work performance of DPWH personnel at Laguna 1st, Laguna 2nd and Laguna 3rd District Engineering Office.

RESULTS AND DISCUSSION

The level of technology integration in terms of office layout is verbally interpreted as highly integrated for job orders and permanent personnel. The level of technology integration in terms of office equipment is verbally interpreted as highly integrated for job orders and permanent personnel. The level of technology integration regarding internet access is verbally interpreted as highly integrated for job orders and permanent personnel. For the level of technology integration in terms of video conference with the verbally interpreted as integrated for job orders personnel and high integrated for permanent personnel. The level of organizational culture in terms of organizational values is verbally interpreted as high participation for job orders and permanent personnel. The level of organizational culture in terms of leadership style is verbally interpreted as high participation for job orders and permanent personnel. The level of organizational culture regarding diversity in religion is verbally interpreted as high participation for job orders and permanent personnel. The level of organizational culture in terms of diversity in beliefs is verbally interpreted as high participation for job orders and permanent personnel. The level of organizational culture in terms of diversity in ethnicity is verbally interpreted as high participation for job orders and permanent personnel. The level of work performance in terms of quality is verbally interpreted as excellence for job orders and permanent personnel. The level of work performance in terms of efficiency is verbally interpreted as very efficient for job orders and permanent personnel.

The significant effect of a modernized work environment in terms of technology integration and organizational culture on the quality of work performance of DPWH employees, as revealed by the data that the level of modernized work environment in terms of technology integration, which is the office layout, office equipment, internet access and video conference and in organizational culture in terms of organization values, leadership style and diversity in terms of religion, beliefs and ethnicity have a significant effect on the quality of work performance of DPWH employees. The null hypothesis is rejected since the significance level is at .05 and the computed p-value is <.001. Therefore, a modernized work environment significantly affects the quality of work performance of DPWH employees in terms of technology integration and organizational culture.

Table 12 Model Fit Measures When Quality of Work Performance is Regressed on Modernized Work Environment Variables

R	R^2	Adjusted R^2	Overall model test			
			F	df_1	df_2	p
.276	.076	.060	4.58	9	499	<.001

The technology integration and organizational culture variables were the predictors of quality of work performance at .05 level significant, statistically significant, F (9,499) = 4.58, p=<.001, which means that at least one of the predictors is statistically significant. The table also accounts for 7.6% of the total variation in the quality of work performance. Based on the analyzed data, the interpretation of the modernized work environment in terms of technology integration and organizational culture significantly affects the quality of work performance for DPWH employees.

Table 13 Model Coefficients When Quality of Work Performance is Regressed on Modernized Work Environment Variables

Predictor	*B*	*SE*	*t*	*p*
Intercept	2.419	0.325	7.440	<.001
Technology integration				
Office Layout	0.097	0.050	1.948	.052
Office equipment	0.076	0.049	1.552	.121
Internet access	-0.052	0.054	-0.967	.334
Video conference	0.079	0.053	1.489	.137
Organizational culture				
Organizational values	0.073	0.073	1.438	.151
Leadership style	0.090	0.090	1.810	.071
Diversity				
Religion	0.036	0.036	0.739	.460
Beliefs	0.025	0.025	0.452	.651
Ethnicity	0.091	2.235	2.235	.026

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The coefficients of the predictors and their significance shows that in technology integration in terms of the office layout (*B*=0.097, *p*=.052), office equipment (*B*=0.076, *p*=.121), internet access (*B*=-0.052, *p*=.334) and video conference (*B*=0.079, *p*=.137) in organizational culture in terms of organizational values (*B*=0.073, *p*=.151), leadership style (*B*=0.090, *p*=.071) and diversity in terms of region (*B*=0.036, *p*=.460), beliefs (*B*=0.025, *p*=.651) and ethnicity (*B*=0.091, *p*=.026).

Another research (Genzorová, 2017) is relevant to employee productivity.

A successful employee performs the desired outcomes individually and collectively within a specified time frame and satisfies standards, predetermined criteria, aims, objectives, and goals.

Table 14 Model Fit Measures When Quality of Work Performance is Regressed on Modernized Work Environment Variables

R	R^2	Adjusted R^2	Overall model test			
			F	df_1	df_2	*p*
.416	.173	.158	11.616	9	499	<.001

Table 14 shows the significant effect of a modernized work environment in terms of technology integration and organizational culture on the efficiency of work performance of DPWH employees. It is evident from the data that the level of modernized work environment in terms of technology integration, which is the office layout, office equipment, internet access and video conference and in organizational culture in terms of organization values, leadership style and diversity in terms of religion, beliefs and ethnicity have a significant effect on the quality of work performance of DPWH employees. The null hypothesis is rejected since the significance level is at .05 and the computed p-value is <.001. Therefore, a modernized work environment significantly affects the quality of work performance of DPWH employees in terms of technology integration and organizational culture.

Table 14, where the modernized work environment in terms of technology integration and organizational culture variables were the predictors of quality of work performance, is at .05 level significant, statistically significant, *F* (9,499) = 11.616, *p*=<.001 me, and that at least one of the predictors is statistically significant. The table also accounts for 17.3% of the total variation in the efficiency of work performance. Based on the analyzed data, the interpretation of the modernized work environment in terms of technology integration and organizational culture significantly affects the efficiency of work performance for DPWH employees.

Table 15 shows the coefficients of the predictors and their significance; it shows that in technology integration in terms of the office layout (*B*=0.076, *p*=.010), office equipment (*B*=0.130, *p*=.004), internet access (*B*=-0.053, *p*=.289) and video conference (*B*=0.086, *p*=.081) in organizational culture in terms of organizational values (*B*=0.084, *p*=.078), leadership style. (*B*=0.133, *p*=.004) and diversity in terms of region (*B*=0.041, *p*=.371), beliefs (*B*=0.006, *p*=.912) and ethnicity (*B*=0.091, *p*=.026).

The study by Mohamad Shammout (2021) examines the connection between worker performance and the workplace and ascertains how the workplace affects workers' performance there. Employee benefits, support from managers and coworkers, training and development opportunities, a suitable workload, and the actual physical work environment were used to gauge the work environment. The findings demonstrate a substantial and favourable correlation between every variable and worker performance. Employee perks, which significantly impact Investor Global employees' work performance, were deemed the most important factor overall. The aforementioned connected research is highly relevant to the current investigation since it delineates the impact of the workplace environment on employee performance.

Table 15 Model Coefficients When Quality of Work Performance is Regressed on Modernized Work Environment Variables

Predictor	***B***	***SE***	***t***	***p***
Intercept	1.297	0.303	4.279	< .001
Technology integration				
Office Layout	0.076	0.046	1.648	.010
Office equipment	0.130	0.046	2.865	.004
Internet access	0.053	0.050	1.061	.289
Video conference	0.086	0.049	1.748	.081
Organizational culture				
Organizational values	0.084	0.047	1.766	.078
Leadership style	0.133	0.046	2.884	.004
Diversity				

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Religion	0.041	0.896	0.896	.371
Beliefs	0.006	0.111	0.111	.912
Ethnicity	0.091	2.235	2.235	.026

CONCLUSIONS

Since all the regression analysis results are at a .05 level of significance, the null hypothesis is rejected. It concludes that the research hypothesis confirmed that the modernized work environment in terms of technology integration and organizational culture significantly affects the work performance of DPWH personnel.

RECOMMENDATIONS

The following recommendations were made in light of the study's conclusion: Management should make every effort to create an environment at work that inspires, motivates, and keeps people engaged to improve productivity. Management should provide a positive work atmosphere to improve personnel morale and increase productivity. In order to confirm the substantial effect of the modernized work environment on employee performance, future researchers should conduct a similar study to support the current findings. To do this, they should find new variables and additional information about the modernized work environment for employees.

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EFFECTIVENESS OF STEP SQUARE EXERCISES TO PREVENT FALLS IN MULTIPLE SCLEROSIS PATIENTS – A NARRATIVE REVIEW

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ABSTRACT

In this study the literature review focus on the available evidence for the physiotherapy intervention to prevent falls in among multiple sclerosis. Research involved a computerized data base pertaining to studies that include the physiotherapy among multiple sclerosis patients 15 articles that showed outcomes relative to falls, physiotherapy intervention to prevent falls among selected multiple sclerosis patients with multiple sclerosis are more likely to fall, especially when walking, due to their slower proactive equilibrium reactions, decreased ability to maintain balance when reaching, central integration impairment, slow somatosensory conduction, fatigue, delayed reaction, attention deficit, difficulty maintaining stability in the presence of external disturbances, and overload fatigue of the motor cortex. Stand-related trunk instability was observed in MS patients, a rise in trunk sway, and a rise in postural sway when performing two tasks at once. Minimal literature on falls prevention there is scarcity of study which intervention among Step square exercises and Wii board exercises.

AIM: The study aimed to find the effectiveness of Step square exercises to prevent falls in MS patients.

KEY WORDS: *Multiple sclerosis, intervention, equilibrium reactions, integration impairment, somatosensory conduction, attention deficit, motor cortex, trunk stability, trunk sway,*

SEARCH METHOD

By applying key words (Multiple sclerosis- definition, incidence, aetiology, pathophysiology, trunk disability, increase in sway, step square exercises, Wii board exercises on search bar in Google Scholar, PubMed, Scopus index.

SELECTION CRITERIA

INTRODUCTION

Because of the demyelination of different distributions throughout central nervous system (CNS), multiple sclerosis (MS) patients frequently present with disorders of balance, sensation coordination, and strength[1] Because of the imbalance and frequent falls, these patients may experience fear of falling, which may have a negative impact on their quality of life[2].Sufficient balance depends on appropriate motor reactions and the integration. Even in individuals with limited clinical evaluation issues, Patients suffering from multiple sclerosis often report poor balance control, which is one of the primary risk factors for acquiring the disease[3,4]. 200 new cases of the multiple sclerosis are reported each week[5]. In the United States, where an estimated 2.5 million people have the disease [1.33/100000 persons in India received a multiple sclerosis diagnosis. Females are impacted more frequently than males by Mostly affecting young adults, MS between the ages of 20 and 40[6]. Although people as young as 20 and as elderly as 75 have developed it, majority of instances are found between the ages of 20 and 50[20]. Multiple sclerosis Patients are more likely to tumble, especially when walking, due to their slower proactive equilibrium reactions, decreased ability to maintain balance when reaching, central integration impairment, slow somatosensory conduction, fatigue, delayed reaction, attention deficit, difficulty maintaining stability in the presence of external disturbances, and overload fatigue of the motor cortex. Individuals with MS experienced a decrease in trunk stability when standing, an increase in trunk sway, and an increase in postural sway when performing two tasks at once[7,9]. The risk of falling increases in MS because people with the disease frequently exhibit decreased capacity to move approach the limits of stability, swaying while standing, slowness in both gait and reactions to postural sway. Physical treatment for MS patients focuses mostly on improving balance[10].The Square Stepping Exercise (SSE) is therefore considered a form of deeply

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explicit equilibrium training to prevent falls that primarily depends on the protective execution strategy to maintain balance in various activities and situations and also increases intellectual fall risk factors[11,12]. The SSE contains a number of directional advance step pattern examples that are applied to a thin mat that is divided into squares and incorporate a progression of various modified and complex step patterns. As a result, the SSE can speed up reaction times by using restorative stepping patterns, which is in line with its goal of raising the bar for proactive and reactive reactions[13,14]. There is minimal literature available currently to say whether step square exercises help elderly people with their balance and prevent risk of falls.

METHODOLOGY

SEARCH METHOD AND ELIGIBILITY CRITERIA

PubMed, Google Scholar, Medline, and Pedro were utilized to conduct a comprehensive literature search. Papers that weren't released in English were eliminated. Here, the articles were searched with the keyword's multiple sclerosis, intervention, equilibrium reactions, integration impairment, somatosensory conduction, attention deficit, motor cortex, trunk stability, trunk sway. Inclusion and exclusion criteria are filtered and finally, 20 articles were obtained for the examine articles that weren't published in English were eliminated.

INCLUSION

Articles discussing about Multiple sclerosis
Articles published most recent years.
Full-text articles.
Articles published in English.

EXCLUSION

Articles explaining surgical interventions.
Articles discussing Apart from multiple sclerosis excluded.

REVIEW OF LITERATURE

S No.	Tittle of the article	Name of the Author	Year of Publication	Mode of intervention	Results
1	Effect of Coduse and Step square exercises on risk of fall in multiple sclerosis.	Lama Saad EI-Din Mahmoud, Sobhy Mahmoud Aly, Marian Shafeek	2022	Coduse and Step square exercises on risk of fall in MS.	Patients with multiple sclerosis saw a significant reduction in their risk of falling and an improvement in their balance when they combined Coduse balance training with Step square exercises.
2	Square Stepping Exercise and fall risk factors in older adults.	Ryosuke Shigematsu, Tomohiro Okura, Masaki Nakagaichi	2008	Step square exercises and low-cost indoor program and walking for improving the fitness of lower extremities.	SSE is more effective thank walking in reducing fall risk factors, and it appears that it may be recommend as a health promotion exercise in older adults.
3	Exercise with square steps and its effects on depression symptoms in older persons' balance.	Jessica Rodrigues Pereira, Sebastiao Gobbi, Florindo Stella	2014	Square Stepping exercises on depressive symptoms, balance and functional mobility in older adults.	SSE is an important tool for improve balance, prevent falls and reduce depression symptoms.
4	workout regimen for older persons with multiple sclerosis that involves square stepping at home.	Emerson Sebastiao, Edward Mcauley, Rachel Bollaert	2018	12 weeks home based square stepping exercise program in older adults with multiple sclerosis.	The viability, acceptance, and potential effectiveness of a home-based SSE intervention for elderly MS patients.
5	The control of fatigue in multiple sclerosis.	Carmen Tur	2016	The physical methods of cooling therapy, electromagnetic field therapy, and resistance training have all been	According to publications, the application of mixed approaches—which are inherently comprehensive—may produce outstanding outcomes in clinical practice regarding fatigue levels as well as more

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				studied. The evidence supporting the other two techniques is insufficient to provide recommendations in this regard, but resistance training has demonstrated a clear and substantial benefit against placebo on fatigue related to multiple sclerosis.	general features of multiple sclerosis.
6	Visual oscillation effects on dynamic balance control among those who multiple sclerosis	Lara Riem, Scott A. Beardsley, Ahmed Z. Obeidat and Brian D. Schmit.	2022	participants performed a series of walking tasks designed to characterize the contribution of visual feedback to balance control of gait using a commissive virtual environment	essence of visual motion processing errors in PW MS that reduced dynamic stability. Specifically, object motion (via tree sway) was not effectively parsed from the observer's self-motion
7	Enhancement of balance and mobility in individuals with multiple sclerosis using visual cue guided multidirectional step training.	Mohan Ganesa, Alexander S Aurin	2021	Five individuals with relapsing-remitting MS participated in the 4-week training involving stepping in eight directions in response to a visual cue. Balance, gait, and mobility were assessed before and after training	Balance, gait, and mobility in individuals with MS could be improved after 4 weeks of visual cue guided multi-direction stepping training. Outcomes from this feasibility study could help to refocus conventional rehabilitation strategies aimed at aiding individuals with MS to achieve maximal independence in mobility
8	Effects of backward walking training on balance, gait and functional mobility in those suffering with MS.	Fatih Soke, Mult sclera rialto discord	2023	experimental group (n=10) and the control group (n=9). The experimental group received BWT in addition to conventional walking training (CWT) while the control group only received CWT. Both groups performed training three times a week for 8 weeks	BWT in addition to CWT is an effective way to improve balance, gait, and functional mobility for PW MS. These results suggest that BWT may be a potentially useful treatment approach when added to CWT in the rehabilitation of MS

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9	Mobility and balance rehabilitation in multiple sclerosis.	Chiara Corrine, Elisa Gervasoni, Gloria Perini	2023	Intervention, method of rehabilitation interventions; Comparison, experimental (specific balance intervention) vs control (no intervention/no specific balance.	Our analyses provide level 1 evidence about the impact of balance intervention to improve mobility.
10	Comprehending the relationship between walking activity and impairment in multiple sclerosis: step count, walking intensity, and length of uninterrupted walking activity.	A Neven, Annelien Vandestreek, Davy Janssens, Geert Wets, Peter Feys	2016	How many steps people with MS (PW MS) take; (2) how many steps they take at a low to moderate effort; and (3) how long they walk for in a continuous manner 2, 3, 6, 10, 12, and 14 minutes	PW MS should be motivated to walk for extended periods of time (at least ten unbroken minutes) and at a moderate intensity.
11	predicting inadvertent falls in patients suffering with multiple sclerosis.	Ylva Nilsa Gard, Cecilia Lundholm, Eva Denison, Lars-Gunnar Gunnarsson	2009	Self-reported events that occurred in the three months after a standard test methodology.	examining how walking aids are used, looking into When identifying fallers, various factors are taken into consideration such as proprioception and spasticity, the Expanded Disability Status Score, the Berg Balance Scale, or Timed Up and Go cognition.
12	An innovative square-stepping training regimen for senior citizens (Step it): justification and potential benefits for preventing falls	Eleftheria Giannouli, Tobias Morat, Wieben Zijlstra	2020	The participants are shown stepping patterns that they need to learn by heart and practice on a mat. Based on four principles—execution speed, pattern complexity, pattern length, and execution in dual- or multi-tasking conditions—the difficulty level methodically and steadily increases session by session to allow for the evaluation of dose-response effects.	The idea that has been provided can serve as a foundation for the creation of further stepping exercise regimens for preventive and/or rehabilitation. It is recommended that this exercise program, or modified variations thereof, be used in more research.
13	A balance exercise program helped multiple sclerosis patients have fewer falls.	Ylva Elisabet Nilsa Gard et al. Arch Phys Med Rabail	2014	60-minute group-based balance exercises guided by physiotherapists twice a week for	People with mild to moderate MS experienced fewer falls and a lower percentage of fallers, as well as better balance performance; however,

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				seven weeks that focus on core stability, dual tasking, and sensory methods	perceived walking and balance confidence limitations were mostly same.
14	innovative square-stepping workout regimen for senior citizens.	Giannouli Eleftheria et al. Front Med (Lausanne).	2020	stepwise training, which considers current research findings and exact dosage of training components to optimize training results.	The idea that is being provided can serve as a foundation for creating further stepping exercise regimens for prevention and/or rehabilitation.
15	methodology and design of a feasibility study for a home-based square stepping exercise program for multiple sclerosis patients in their later years.	Emerson Sebastião et al. Contempt Clin Trials Commun.	2017	Biweekly sessions with an exercise trainer at the Exercise Neuroscience Research Laboratory will be provided to participants in the intervention group. They will also receive both verbal and visual guidance on step patterns for the SSE program.	This is how well a fitness regimen at homework for elderly MS patients.
16	Multiple sclerosis patients' mobility and balance.	Mult Sclar Ralat Discord	2021	Stepping in eight directions in response to a visual cue is part of a four-week training program. Mobility, gait, and balance were evaluated both before and after training.	After four weeks of visual cue guided multi-direction stepping training, people with MS may have better balance, gait, and mobility. The results of this feasibility study may contribute to reorienting traditional rehabilitation approaches for the purpose of assisting people with MS to reach their highest level of mobility independence
17	Effects of square stepping exercise on balance and depressive symptoms in older adults.	Jessica Rodrigues Pereira, Sebastiao Gobbi, Camila Vieira Ligo Teixeira.	2014	Trained Group (TG), who performed a 16-week intervention with SSE and Control Group (CG), who performed only evaluations	Conclude that the SSE is an important tool for improve balance, prevent falls and decrease depression symptoms.
18	Square Stepping Exercise and Fall Risk Factors in older adults	Ryosuke Shigematsu, Tomohiro Okura, Masaki Nakagaichi.	2008	SSE group participated in 70 minutes exercise sessions twice a week at a local health care centre and the Wii group participated in	SSE is apparently more effective than walking in reducing fall risk factors and it appears that it may be recommend as a health promotion exercise in older adults.

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				outdoor supervised walking sessions conducted weekly.	
19	Effect of Coduse and Step square exercises on risk of fall in multiple sclerosis.	Lama Saad EI-Din Mahmoud, Sobhy Mahmoud Aly, Marian Shafeek.	2022	The study group that received CoDuSe balance training and SSE combined with the selected exercise program for four weeks, while the control group received only the selected exercise program	The combination of CoDuSe balance training and SSE had a significant effect in reducing the risk of fall and improving balance in patients with MS,

DISCUSSION

Balance is a complicated process that involves both the planning and execution of movements and the receiving and integration of sensory inputs, it is thought to be among the most prevalent issues in MS patients. Accordingly, the current study demonstrated that there was a notable enhancement in fall risk reduction in the research group that took part in the Step Square workout regimen. Improving muscle power and joint flexibility, lowering environmental risk factors, or strengthening the base of support are typically the goals of MS patient rehabilitation programmes aimed at reducing the risk of falls, this study contributes to our understanding of the combined functions of feedback cues as somatosensory and proprioceptive stimulation during standing and walking on uneven surfaces over small obstacles.

Because the risk of fall prevention exercise programmes depends on the participant's capacity for a variety of movement amplitude, speed, complexity, and added cognitive load, stepping square exercise (SSE) training that incorporates these elements have a notable reduction in falls [16,17]because it enhances balance and eliminates fear of falling[18]. Improved lower limb fitness, functional ability, and fall avoidance in senior citizens are all facilitated by the SSE[19]. Therefore, SSE training for fall-prone patients who consistently have neuromuscular, sensory, and cardiopulmonary deficiencies may benefit from increased movement speed, which increases the demands on these systems and ultimately leads to improved outcomes.

Stepping exercises also improve functional result by making it easier to perform fall prevention activities in real life. Moreover, several high intensity stepping workouts increase walking speed and other aspects of walking kinematics in neurological patients[20]. Sebastian and others[18] reported that the SSE programme for MS was practicable and safe; as a result, the SSE training clearly improved MS patients' cognition, balance, gait, and ability to prevent falls. Due to improvements in reaction and response times, gait, and equilibrium performance, both voluntary and reactive stepping training reduced falls in older persons by almost half, according to the results of a prior study by Okubo et al.[18]. Stepping training for fall prevention should include multidirectional steps as well as.

CONCLUSION

The study's conclusions indicated that step square exercises are regarded as a crucial component of MS rehabilitation programmes since they enhanced balance and decreased the chance of falling. As a result, they should be included in the programme for balance training in neurological conditions, particularly in MS patients undergoing rehabilitation.

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THE ROLE OF INTEGRATED EDUCATION IN DEVELOPING SOCIAL-CREATIVE COMPETENCE OF FUTURE TEACHERS

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ANNOTATION

The article discusses the importance of vocational education as a social protection tool, the process of self-realization in various stages of life, the guarantee of sustainability, and the integration of social-creative competencies in developing teaching methods. It also highlights the integration of educational content in various scientific literature based on the principles of integration into curriculum design. The purpose and methods of pedagogical diagnostics selected to ensure the optimal reliability of results in the experimental verification stage are explained, as well as indicators for assessing the social-creative competency of teachers.

KEY WORDS: *integration, vocational education, social-creative competence, ability*

INTRODUCTION

According to the demands of modern higher education, the priority is shifting from merely providing graduates with a large quantity of knowledge or a set of competencies to preparing specialists capable of working in a rapidly changing economic environment. These specialists should be able to meaningfully perceive and critically assess socio-economic processes, predict their development, and influence processes that ensure adaptability.

This certainly requires serious changes in ensuring the quality of specialist training. Today, high-quality vocational education is a means of social protection and a guarantee of an individual's self-awareness stability at various stages of life. Efforts are being made to organize integrated education that serves the purpose of jointly educating students through the globalization of education and the establishment of a healthy and problematic educational environment. Integrated professions are emerging. Therefore, the role of integrated education in developing social-creative competencies in future teachers is particularly important. The integrative approach is the process of determining a single correct conclusion based on the inseparable interconnection of the countless small parts that make up information, their integrity, and unity. This approach involves having a didactic system of knowledge with deep content, a systematic approach to knowledge, and teaching students the most appropriate ways to master knowledge.

ANALYSIS AND METHODS OF LITERATURE

In academic literature, the main content of education integration in teaching programs is based on the principles of integration. A. Bloom[1] emphasizes that programs structured according to the level of integrating educational content are divided into the following types:

1. Integrated. It is based on the fact that knowledge in one field relies on knowledge in another field.

2. Interrelated. It connects various subjects or major blocks based on a wide range of related disciplines.

3. Comprehensive. It emphasizes the use of knowledge in various fields of life.

A.I. Avazboev emphasizes the process of scientific integration, bringing together various groups and collections of subjects within the sciences. The content of the integration process is implemented in several stages:

1. Thematic integration (presentation of one topic content from several subject areas). This section can also be referred to as a graphic-visual section.

2. Problematic integration (students solve a problem using methods from different subjects).

3. Conceptual integration (conceptual understanding using methods and tools from different fields).

4. Theoretical integration (the mutual inclusion of various philosophical theories)[2].

The opinions of the scholars above are visible, and each opinion contains the social structural part of education. In this regard, S.S. Alimov defines it as follows: "The social competence of the teacher is an integral part of professional pedagogical competence, and it represents the integral characteristic of the specialist. It prepares the abilities and readiness to use social knowledge in their professional activities, and it provides the integration of national culture, language, religion education, and pedagogical science into their professional work"[3].

It is important to have a personal, civic, and professional lifestyle that is organized in organizational and technological terms while also achieving effective productivity through time management.[4]

In this, we utilized the criteria for identifying social qualities and creative abilities developed by the pedagogical scholar S.V. Goncharov. According to him, he brings up the general criteria for social competence. In his opinion, the criteria and empirical indicators of social-creative competence can be presented as follows:

1. An individual's valuable self-perception. This is expressed in their ability to articulate chosen values in concepts, justify them, assess events from a values

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perspective, define the existence of a person, community, homeland, state, labor, and property on the basis of values; express their cultural and other similarities in concepts; set a formalized goal, social orientation of behavior, and dominant elements of lifestyle.

2. Specific social knowledge is manifested in methodological, categorical, reflexive, projective, and constructive (operational performance) thinking and gives the ability to understand the simple in the general, the general in the particular, to solve social issues in a general form and apply them in specific situations.

3. Subjective virtues are manifested in a person's thinking, will, beliefs, and emotions, in their ability to self-determine, in their moral, political, professional, and other relations; in independently choosing, making decisions, taking personal responsibility for accepted and performed actions, creatively modeling new socially significant options for action and communication; in self-management, amateur performances, and self-education. The final indicator of subjectivity is considered to be personal independence.

4. The praxeological component of social-creative competence is manifested in mastering the lifestyle in personal, civic, and professional areas, in organizational and technological constructiveness, in achieving effective productivity per unit of time[5].

Together with other researchers, the experiments of other scientists have also been revealed. In particular, Z.A. Aksyutina developed assessment tools for evaluating social competence, which demonstrate the broadening of social-economic relationships in educational activities, the integration of professional relationships in the field of education, and the integration of educational space. They include:

- The presence of theoretical knowledge complexes on the social aspects of their field and their professional social activities;
- Possession of practical knowledge about professional social communication and activity tools;
- Shaping the ability to adapt to new socio-economic conditions, developing students' abilities to understand social phenomena related to humanism and tolerance;
- Creativity in developing a communicative strategy that influences making social-pedagogical decisions and affects pedagogical activity results;
- Possession of modern pedagogical skills, ability to adapt to innovative pedagogical technologies, successful use of psychological-pedagogical principles in educational and socio-cultural teaching[6].

Another scientist O.V. Barkunova defines social competence in her approach as a systematic characterization of a person's activities, which is based on the system of professional competencies. This complex system and actions (skills) are aimed at performing professional function[7]. The author may appeal to professional social competencies in presenting the quality of the work:

- Appreciative-motivational competence is a competence in the field of education that is related to the subject's (our current situation, history) and the role of the profession, the importance of work results, professional orientation, and reflective abilities;
- Cognitive competence is the ability to systematically deliver one's knowledge through self-education, analyze social relationships in an organized manner, formulate educational and social-cultural tasks, and identify acceptable ways to achieve them;
- Social-psychological competence includes the following: reflective skills, establishing relationships according to pedagogical goals, quick decision-making and finding the most effective means of pedagogical influence;
- Creative competence is the ability to select the most effective forms of social work with students based on individual characteristics in a personalized manner, demonstrate the final result of their activities in a predictive manner, and be capable of organizing social-cultural mutual influence situations.

RESULTS AND DISCUSSION

In order to ensure the optimal level of confidence in the results obtained during the experiment phase, the following were identified:

- Measures for selecting suitable methods for the purpose;
- Determination of measurement criteria (students' individual characteristics, their abilities, learning performance indicators, their efforts and creative outputs, etc.);
- Utilization of methods of pedagogical diagnostics.

Based on the above, it is possible to formulate the following conclusions in assessing the social-creative competence of classroom teachers:

- The complex nature of evaluating students' attitudes and activities in various aspects, which allows for a comprehensive assessment and expansion of their abilities through the use of various sources of information and resources;
- Continuity in teaching, monitoring and evaluation of students' attitudes and activities;
- Analysis of classroom specialists' attitudes and activities based on suitability for their interests and preferences in various activity directions (involving youth in specially organized subject-game activities, attracting them to various thematic activities, etc.).

Our research identified social-creative competence houses. They consist of the following:

- Worldly: a significant component of personal and activity (structural part), the system of views on surrounding diversity, establishment of social, creative personality complexes and the personal experience and social experience's image as well as belonging to culture;
- Cognitive: presence of theoretical knowledge collection about professional educational activities, continuous filling of knowledge and social-creative portfolio, understanding and foundation of social events, ability to objectively evaluate them;
- Motivational-valuable: interest, attitude towards the subject, social events, curiosity, evaluation, acceptance and internalization of moral-ethical content of motivational values;

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- Activity-methodological: participation in own social-creative experiences and expanding them, description, explanation, utilizing appropriate technologies, ensuring social-creative knowledge management, managing information flow, evaluating social situations based on understanding and providing insights;

- Practical pedagogical interview tools.

The indicators for developing social-creative competence among teachers were determined as follows:
Cognitive-intellectual: - developing analytical skills with social events; - integrity of the knowledge system in education; - problem-solving; - oppositional and alternative thinking; - questioning-and-changing style.

Motivational: - interest, curiosity; - goal-orientedness; - motivational persistence; - orientation towards social (practical, moral) values.

Emotional-valuable: - emotional attitude towards facts, events, situations and societal influences; - emphasizing important values; - transcending the positive aspects in incidents.

Creative (innovative): - creative thinking; - innovation readiness; - independence; - research ability; - creating new ideas.

Communicative: - objective understanding various ideas and views in a team setting; - respecting others' opinions; – teamwork skills ; – communication and debate etiquette.

One direction for improving teachers' social-creative competence was using the "Competitive Environment" during lessons. The term "competitive" refers to selecting one or more versions from author's options. In our work we focused on two aspects in class sessions: first – analyzing competitive situations that arise in society; second – analyzing how different authors' works evaluate significant historical figures' works.

In our study material acquisition and systematization during student learning activities is considered crucial. Analyzing the "Competitive Environment" requires teacher assistance because students are not always prepared for analysis of societal publications but often give daily life or habitual evaluations.

Based on these characteristics we utilized the following technology for using "competitive environment" during lessons:

- creation of a competitive environment;
- clarification by students about learning tasks;
- identification of suitable competitive environments;
- analysis and evaluation according to selected environments;
- fundamental proposals by teachers based on student issues;
-analysis by teachers regarding student work results.

In our experience-based work, the following pedagogical methods were used to stimulate students' research activity:

1. The teacher does not declare or dictate their knowledge and activities, but directs students towards independent acquisition of various concepts and goals.
2. The teacher does not express their point of view as the most correct answer, but creates situations where students get acquainted with different ideas and historical events evaluations.
3. When getting acquainted with social events and processes, opposite (even conflicting) viewpoints are taken into account.
4. In choosing the method of working on the material being studied, the main role is given to students themselves.
5. Working with sources of information allows students to explore new goals and topics for discussion, which are then elaborated on during class discussions.

CONCLUSION

In conclusion, it has been determined that developing social-creative competencies, which embody social activity skills and creativity abilities in future educators, requires systematicity, principledness, and consistency based on integrative education. It is clear that teaching pedagogical sciences and establishing a pedagogical process demand an approach that stems from the requirements and possibilities of integrative education.

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ANALYSIS OF THE ARTISTIC-AESTHETIC CHARACTERISTICS OF MAKOM ART

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ABSTRACT

In this article, the author revealed the genesis of status art, its aspects related to philosophical-aesthetic, cultural and spiritual-spiritual factors. Proposals and recommendations have been developed regarding the aesthetic knowledge and experience in the perception of the art of status, aesthetic feelings, indirect practical and aesthetic forms of artistic-aesthetic assimilation of the objective being.

KEYWORDS: *status art, aesthetic knowledge, experience, aesthetic feelings, objective existence, cultural institutions*

The emergence of statuses is the result of long-term research of human thinking. The formation of the status system is closely related to the development of world science. Music was seen as a field of physiological influence on a person from the point of view of natural sciences, while philosophy was considered a science of thought that includes knowledge. Today, music art is one of the traditional art forms that share aesthetic pleasure with people, regardless of their faith, race, or nationality. It is known from the history of Makam art that the genesis of this direction has artistic and aesthetic foundations. Art fields are complementary, that is, a syncretic phenomenon. In this sense, it is important to evaluate the fields of art based on the principle of equality, to express reality philosophically and aesthetically, to scientifically recognize the priority of one type over others. Therefore, it is correct to analyze status as an audible art form.

The art of makam stands out among the cultural and spiritual values that the peoples of the East have given to the treasure of world civilization. This unique, elite and rich musical art spread from the Strait of Gibraltar to the Indian subcontinent. In this way, the content and spirit of philosophy underwent a certain evolution. Makams are a genre of classical music that has existed in the peoples of the East since ancient times.

A person's ability to understand the art of status is somewhat limited compared to fiction. Because it expresses the reality with special tenderness and sensitivity, the divine feelings of a person in uniquely delicate melodies. Therefore, the reality is understood more fully and attractively through the artistic and aesthetic feelings of the listener. Man is the main subject of status art, like philosophy. Through the art of makam, a person searches for the meaning that is important to him from natural phenomena and thereby purifies his soul. That is why this art form is important for all-round development of a person.

Rhythm and harmony in the art of makam has a great influence on the aesthetic world of people, their spiritual and moral education. Music, which forms the basis of status art, plays an important role in the creation of new knowledge, ideas, and artistic works. In it, we can see the dialectical relation of individuality to the generality. Each example of creativity in the art of status is independent, unique and unique, and directly reflects a certain aspect of reality.

Judging the evolution of makam from a philosophical point of view, makam songs came from a higher civilization or the absent (arshi ala). It represents the "hal" in Sufism, that is, the Sufi reached the state of "jazwa" precisely through these melodies and aspired to spiritual perfection. Perhaps, it is precisely because of this factor that the development of makam tunes spans a long period of time. In addition, the status helps clarify the human thinking, in addition to its emotional and aesthetic function, epistemologically.

Makam is primarily a religious-philosophical concept, at the heart of which lies the idea of spiritual perfection, and it is related to the teachings of Sufism. It is expressed through the way (method) of tariqat, status music is a philosophy perceived in sounds. In it, the ideas of Sufism, the laws of tajalliyot (unity of diversity) are artistically reflected along the melody part of makam (horizontal) and the series of makam (vertical). The concept of "maqom" is the manifestation of the stages of tariqat in a musical form, and it is a method of developing the initial melody structure (theme) from the bottom up based on certain veils and methods, rhythms. In this case, the melody develops based on the principle of simplicity to complexity. "Principle of status" is a special phrase used as an expression of this process. The principle of makam can be implemented in different forms and genres of music (instrumental tunes and chants).

If we pay attention to the genesis of makam tunes, we can observe that two different views have been formed on this issue among musicologists. According to a group of scientists, the basis of status art is based on the intuitive knowledge of people. In contrast, some scholars argue that status is a product of pure thought. In particular, O. Ibrohimov paid

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attention to the theological-intuitive foundations of the art of status and connected it with the science of Sufism. In his opinion, the role of prophets is great in the formation and emergence of statuses. For example, the status of Rost is attributed to Hazrat Adam Alaihissalam, the status of Ushshaq is attributed to Nuh Alaihissalam, and the status of Rahavi is attributed to Muhammad s.a.v.

It is recognized by A. Djumaev and several scholars that the makam tunes are based on pure mathematical knowledge and that the first seven parts of the makam were created by Borbad, who served in the court of the Iranian king Khisrav Parvez. According to the scientist, divinity has nothing to do with the creation of makam melodies, it is a product of pure thinking. They appeared over the centuries as a result of the evolution of the seven veils founded by Barbad. In the article on music by the English scientist G. Farmer, it was noted that there was a special theory of music in the peoples of Central Asia and Khorasan before the Arab invasion. In this kind of music theory, it is possible that only professional music genres that have a theoretical basis such as status will find their expression.

According to Yu. Plakhov, professional music genres in the East began to form before the emergence of Sufism. The laws of their pitch (lad), rhythm, and tone structure were established long before the formation of the doctrine of Sufism.

Uzbek musical heritage is not limited to folklore works, but includes our professional and oral traditional heritage, as well as professional performance, professional music and professional genres.

However, some scholars have emphasized in their works that the formation of the musical civilization of the Eastern peoples is connected with the musical culture of the Arab peoples. The musical civilization emerged from a mixture of Syrian, Byzantine, Egyptian, Iranian, Turkish, Arab-Bedouin musical traditions. In this ethnic mixture, the musical ethnostructure of the Turkic, Iranian and Arab peoples took the main place. According to ancient sources, it is recognized that the foundations of makam go back to the Bedouins. Bedouins lived a nomadic lifestyle, and in the pre-Islamic period, Bedouins worshiped various stone idols. During worship, they recited songs praising their god. E. Wilson-Dixon in his study "History of Christian Music" gives an example of an episode that occurred during a visit to a Bedouin tribe in the Arabian desert. Before setting out on a long journey, the Bedouins began to shout loudly and sing something similar to a hymn. Later, E. Wilson-Dixon writes: "Bedouins began and ended their journeys with the characteristic cries of the Bedouin - different for each tribe, with musical exclamations such as "Hand on the throne of our Lord". In this place, it can be assumed that the first samples of makam tunes were created in this way. The Bedouins who converted to Islam later had no spiritual need for prayers in this way, which began to turn into an art form of music. This is how Arabic music began to emerge. In our opinion, the current status of melody forms was created on the basis of Arabic melodies.

In his work "Uzbek classical music and its history", Fitrat stated that "even after the creation of our "classical" music under Iranian-Arabic influences...".

Therefore, the status art and its development evolution took a special place in the development of the aesthetic thinking of the Turkic peoples. Changed some trends in the art of music. Three philosophical hypotheses can be put forward in the evolution of status. First, makam melodies are a product of intuitive knowledge, second, makam melodies are pure human thinking, in musical terms, a product of composition, and third, makam melodies are adapted from the musical form of the Arab peoples to the current form and region. When revealing the philosophical-aesthetic essence of status, one should avoid excessive idealization, as well as the tendency to interpret it from an excessively materialistic point of view. Because status expresses both the spiritual and spiritual world of a person and aspects that are in harmony with nature. This harmony is the basis of status philosophy. Makam is not a simple musical genre, but a product of great philosophical thinking. The emergence of status contributed to the development of not only Eastern, but also Western philosophical thinking in a new direction. Because since ancient times, both in the West and in the East, music has not only educated people, but has been an important means of management. It developed as a unique art form, especially in the East. The need to observe traditions in the field of rational use of musical instruments is recognized by the entire Muslim world as the most important component of aesthetic culture.

The status art characteristic of the peoples of the East in a certain area testifies to the existence of certain foundations of statehood and political, cultural, economic, social-spiritual status in those regions. The existence of maqam art served to develop not only a person, but also society. Historically, status art has served human thinking and cultural development of society.

When researching the philosophical-aesthetic nature of status, it is necessary to avoid the tendency to over-idealize it and interpret it from a materialistic point of view. Because status expresses both the spiritual and spiritual world of a person and harmony with nature. This harmony is the basis of status philosophy.
If the subject area of philosophy is nature, society, human system, then aesthetically this system covers art as well. In this dialectical process, not only human, nature and society relations, but also art, especially music has a special place. In this sense, status directly affects the aesthetic consciousness of a person, it is manifested in society as a universal aesthetic value.

Status art is accepted by the Uzbek people as one of the cultural values that form the basis of national identity and self-identification. In the dissertation, the role of status art as an aesthetic object, hermeneutic features are composed of

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components such as interpretation, understanding and empathy.

Any knowledge consists of two cognitive abilities of a person: rational (mental), abstract-logical (abstract-logical) and feeling, figurative-emotional (figurative-emotional), which are of great importance in the art of status. Maqam art directs a person to self-awareness and philosophical thinking through music, enlightens (catharsis) and spiritually beautifies (kalokagatiya) based on its rational and emotional effects.

The aesthetics of status art - expresses the issues of idealism, nationalism, artistry, their social significance, historical and national traditions, freedom and individuality, style and genre innovations. Also, status art embodies the ways and forms of depicting the reality of life, the nature and essence of musical images, the categories of beauty and grandeur in music, content and form, objectivity and subjectivity, typicality and independence, logic and emotionality, expressiveness and imagery.

In illuminating the historical and modern trends of status in raising human spirituality, its main goal is to teach a person to understand and appreciate beauty, to form his aesthetic attitude to reality, to develop the creative potential and ability of a person, to improve the skill of artistic imagination and aesthetic observation, to develop aesthetic taste, aesthetic ideal and aesthetic consists of formation and development of values.

Status is a unique phenomenon in spiritual and aesthetic education of people. It embodies the psyche, feelings, mentality, outlook, culture and values of the people, and occupies a high place in the harmonious development of a person in all aspects. Also, status art serves as one of the important factors in the spiritual and educational development of Uzbekistan.

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ILLUMINATION OF THE CONCEPT OF "FAITH" (IMAN) IN THE SOURCES OF MATURIDIYYA SCHOOL WRITTEN IN THE XII-XIII CENTURIES

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ABSTRAK

Iman dan isu-isu yang berkaitan dengannya diterangkan dalam al-Quran dan hadis dengan cara yang mudah dan difahami. Pada zaman sahabat, konsep ini tidak mempunyai sifat yang rumit. Walau bagaimanapun, dalam tempoh berikut, akibat kemunculan mazhab yang berbeza, penukaran wakil agama yang berbeza kepada Islam, dan penembusan Islam ke wilayah di mana falsafah Yunani tersebar, semua isu berkaitan, bermula dari definisi perkataan "iman", mula dianalisis. Ini seterusnya mewujudkan asas kepada isu takfir.

Dalam artikel tersebut, definisi akidah yang diberikan oleh imam Ahl al-Sunnah, tafsiran golongan Khawarij dan Mu'tazilitah, ciri-ciri khusus definisi akidah yang diberikan oleh Ahl al-Hadith dan Syafi'i dikaji secara analitikal. . Selain itu, kalimat yang ditambahkan pada teks "Al-Fiqh al-Akbar" tentang masalah akidah dibandingkan dengan sumber primer. Maklumat yang berkaitan dengan isu iman yang terkandung dalam buku-buku perwakilan Maturidiyya, yang bekerja pada abad XII-XIII, dibentangkan berdasarkan analisis perbandingan bersama. Juga, artikel tersebut mengkaji persamaan dan perbezaan antara definisi akidah yang diberikan oleh ulama Maturidiyya dengan definisi yang diberikan oleh Murjii. Persamaan dan perbezaan antara definisi akidah yang diberikan oleh Ahl al-Hadith dengan definisi akidah Syafi'i telah dianalisis.

Isu-isu seperti "peningkatan iman" dan "sama ada tindakan adalah komponen iman atau tidak" dibandingkan antara ajaran Muturidiyya dan Asy'ariyya, dan aspek sejarah isu-isu ini dipelajari. Secara umum, dalam artikel itu, pandangan pelbagai mazhab yang muncul hari ini mengenai isu akidah didedahkan secara munasabah dengan akar sejarah mereka. Ia juga menganalisis metodologi dan peringkat perkembangan sumber Maturidi dalam merangkumi topik akidah.

KEYWORDS: *faith, creed, kalam, exception in faith, increase and decrease of faith.*

إيمان [iman] "confirm" is an infinitive from the verb آمن [āmana] "confirmed", which can be transitive to one or two complements in the fourth chapter. For example, the sentence "I confirmed Zayd" would be آمنت زيدا [āmantu Zaydan] in Arabic. The sentence "I confirmed Zayd and Amr" is expressed in Arabic as آمنت زيدا عمروا [āmantu Zaydan Amran].

Abul Mu'in Nasafi (d. 508/1114), Abuth Thana Mahmud ibn Zayd Lamishi (d. VI/first half of the 12th century), Alauddin Muhammad ibn Abdulhamid Usmandi (d. 552/1157), Jalaluddin Umar ibn Muhammad Khabbazi (d. 691/1291), Shamsuddin Samarkandi (d. 705/1305), Abul Barakat Nasafi (d. 710/1310), and Husamuddin Husayn ibn Ali Sighnaqi (d. 714/ 1314) argued the lexicological meaning of the word "iman" (faith). However, Saffar Bukhari (d. 534/1139), Ali ibn Usman Ushi (d. 575/1179), Abu Bakr Kasani (d. 587/1191), Nuruddin Sabuni (d. 580/1184), and Abu Muhammad Ruknuddin Ubaydullah ibn Muhammad Samarkandi (d. 701/1301) did not mention the lexicological meaning of the word "iman" in their works on the science of kalam.[1]

It is clear from this that some of the scholars, in their works dedicated to the field of belief, by focusing on the lexicological meaning of the word "iman" managed to show the aspect of connection with its terminological meaning, while other scholars limited themselves to saying only its terminological meaning.

This verb can be transitive on its own or with prepositions. For example, the verb "āmana" is an independent transitive in the verse وءامنهم من خوف [wa āmanahum min khawf] "**and made them secure against fear**" (Surah Quraish, verse). It is also

[1] *Saffar Bukhari. Talkhis al-Adilla li Qawaid at-Tawhid // Edited by Angelika Brodersen. – Beirut: Muassasa ar-Rayyan, 2011. – P. 149-151; Alauddin Muhammad ibn Abdulhamid Uthmandi. Lubab al-Kalam // Edited by Muhammad Said Ozarvarli. – Istanbul: Türkiye Diyanet Vakfı Yayınları, 2019. – P. 160-164; Ali ibn Uthman Ushi. Bad' al-Amali // Translated into Uzbek by Abdulqadir Pardayev. – Tashkent: Publishing house of the International Islamic Academy of Uzbekistan, 2011. – P. 23; Alauddin Abu Bakr Kasani. Al-Mu'tamad min al-Mu'taqad // Edited by Enes Durmush, Muhammad and Uthman Dogan. – Istanbul, 2021. – P. 539-543; Nuruddin Sabuni. Kitab al-Bidaya min al-Kifaya // Edited by Fathullah Khulayf. – Cairo: Dar al-Ma'arif. 1969. – P. 345-383; Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 149-160; Ubaydullah ibn Muhammad Samarqandi. Kitab A'zim fi Usul ad-Din. – Istanbul: Millet Kütüphanesi. – Manuscript No. 1158. – 1b; Abul Barakat Nasafi. Sharh al-Umda fi Aqida Ahl as-Sunna // Edited by Abdullah Muhammad and Abdullah Ismail. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 362.*

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transitive with the letters "*ba*" and "*lam*". The following verse can be used as an example of transitive with the letter "*ba*":

آمَنَ الرَّسُولُ بِمَا أُنْزِلَ إِلَيْهِ مِنْ رَبِّهِ وَالْمُؤْمِنُونَ

"**The Messenger ˹firmly˺ believes in what has been revealed to him from his Lord, and so do the believers**" (Surah al-Baqarah, verse 285).

When the verb "āmana" is transitive with the letter "*lam*", it means "to confirm":

لَنْ نُؤْمِنَ لَكَ حَتَّى نَرَى اللَّهَ جَهْرَةً

"**O Moses! We will never believe you until we see Allah with our own eyes**" (Surah al-Baqara, verse 55).

Historically, different views have been put forward regarding the terminological definition of the word "iman" (faith). Among faqihs Imam Malik (d. 179/795), Imam Shafi'i (d. 204/820), Imam Awzai (d. 157/774), and among muhaddiths Ahmad ibn Hanbal (d. 241/855), Ishaq ibn Rahawayh (d. 238/853), Sufyan Thawri (d. 161/778), Dawud ibn Ali Isfahani (d. 270/884), one of the mutakallims, Harith ibn Asad Muhasibi (d. 243/857), Abul Abbas Qalanisi (d. the beginning of the 9th century), Ibn Ali Thaqafi (d. 328/940), and Ibn Hazm Andalusi (d. 406/1064) said: "Faith is the knowing of the heart, confession of the tongue, and adherence to the pillars."[2] Abul Barakat Nasafi used the term "affirmation of the heart" instead of the phrase "knowing of the heart" in the definitions given by these scholars to faith.[3] However, the predecessors in their time interpreted "knowing of the heart" and "affirmation of the heart" as synonyms. By the later period, the difference between these two phrases and terms arose. For example, it is necessary to take into account this difference in the definitions given by Jahmis to faith. This is the view of a group of scholars belonging to the Ahl al-Sunnah wal-Jama'ah.

Kharijites and Mu'tazilites, one of the first sects that separated from the Ahl al-Sunnah wal-Jama'ah, said: "Faith is the confirmation of the heart, the confession of the tongue, and adherence to the rules." There is a slight difference in the definition of faith between these sects. In particular, the Kharijites consider all obedience to be faith, and all disobedience to be disbelief. It is said that if an adult commits both obedience and disobedience, he becomes a disbeliever and not a believer. Most of the Mu'tazilites said: "Faith is a combination of voluntary and obligatory prayers." Some of them argued that faith only includes obligatory prayers.[4] In general, the Kharijites say that a person who commits a major sin is a kafir, while the Mu'tazilites say that he remains in "bayna al-manzilatain".

Representatives of Murjiah sects such as Shamriyya[5], Najjariyya[6], and Ghaylaniyya[7] said: "Faith is the knowing of the heart and the affirmation of the tongue"[8]. At this point, it is necessary to clarify the words "knowing" (ma'rifah) and "affirmation" (tasdiq). The antonym of "knowing" is ignorance. The antonym of the word "affirmation" is "denial". A person can believe without having knowledge about faith and its related things. Such people are called taqlidi mu'min. It will be discussed later. A person can be enlightened about Islam and not be a believer. The meaning of this is reflected in the following verse:

الَّذِينَ آتَيْنَاهُمُ الْكِتَابَ يَعْرِفُونَهُ كَمَا يَعْرِفُونَ أَبْنَاءَهُمْ.

"**Those We have given the Scripture recognize this ˹Prophet˺ as they recognize their own children**" (*Surah al-Baqara, verse 146*).

Abu Hanifa (d. 150/767) said in "al-Fiqh al-Akbar": "Faith consists of confession and affirmation."[9] In the book "Wasiyyatu Abi Hanifa" the scholar says: "Faith consists of the confession of the tongue and the affirmation of the heart." Confession alone is not faith. Otherwise, all the hypocrites would be believers. Also, ma'rifah, that is, affirmation, is not faith itself. Otherwise, all the People of the Book would be believers."[10] This is the most famous saying from Abu Hanifa regarding the definition of faith. Some of his followers said: "Faith is the knowing of the heart and the confession of the tongue."[11] However, they may have interpreted the phrase "knowing of the heart" to mean "affirmation of the heart." For example, Nuruddin Sabuni said: "Most of our companions said: "Faith consists of the affirmation of the heart and the confession of the tongue."[12] Abu Bakr Kasani says: "Among the Hanafi scholars, Shamsul-Aimma Sarakhsi (d. 490/1097) in "Usul al-Sarakhsi" and Fakhrul Islam Bazdawi (d. 482/1089) in "Usul" included the confession of the tongue in the pillar of faith. They considered it as the second pillar of faith, like the affirmation of

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[2] Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1075; Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 351;

[3] Abul Barakat Nasafi. Sharh al-Umda fi Aqida Ahl as-Sunna // Edited by Abdullah Muhammad and Abdullah Ismail. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 373.

[4] Alauddin Muhammad ibn Abdulhamid Uthmandi. Lubab al-Kalam // Edited by Muhammad Said Ozarvarli. – Istanbul: Türkiye Diyanet Vakfı Yayınları, 2019. – P. 163.

[5] Shamriya is a branch of Murjiyya, founded by Salim ibn Shamr.

[6] Najjariya is a sect founded by Husayn ibn Muhammad Najjar (d. 220/835) and divided into several groups. This sect agrees with the Mu'tazila sect on issues such as "denying the attributes of Allah Almighty" and "the servant is the creator of his own actions". See: Baghdadi. Al-Firaq bayna al-Firaq. - P. 161-170; Shahristani. Al-Milal wa an-Nihal. - Vol. 1. – P. 108-113.

[7] Ghaylaniyya is a sect founded by Ghaylan ibn Muslim Qadari Dimashqi (d. 105/723).

[8] Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1075.

[9] Abu Hanifa. Al-Fiqh al-Akbar // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 621.

[10] Abu Hanifa. Wasiyyatu Abi Hanifa // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 636.

[11] Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1076

[12] Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 351-352.

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the heart"[13]. However, both scholars said that the confession of the tongue fails in certain places and considered it as "hasanun li ghayrih". In one respect, this supports the view of Imam Maturidi (d. 333/945) regarding the definition of "faith".

Lamishi said about this: "All of the people of the Sunnah say: "Faith is the confession of the tongue and the affirmation of the heart. This is explained by the fact that the heart confirms the tongue. After all, the affirmation of the heart is also necessary for the realization of the truth of faith... In addition, confession is necessary for the implementation of Shariah rulings."[14]

Mulla Ali Qari wrote the following about this: "If a person is able to express the faith in his heart and then says the opposite, this is a proof that his faith has changed. Confession is a pillar of faith that expresses the presence or absence of faith. For example, Shamsul-Aimma Sarakhsi said this openly. But the author of "al-Umda" Abul Barakat Nasafi said: "Confession is a condition for execution of judgments." This is also the belief of the Ash'arites. Also, Abu Mansur Maturidi was of the same belief."[15]

Bishr ibn Marisi (d. 217/733) and Ibn Rawandi (d. 298/911) from the Mu'tazilites said: "Iman in the dictionary means "confirmation", and without confirmation, faith does not appear. Therefore, in order to become a believer, the confirmation of the heart and tongue is necessary."[16]

Poet of Basra Fadl ibn Abdussamad Raqqashi (d. 200/815) and one of the Sunni imams Abdullah ibn Sa'id Qattan Kullabi [17] (вафˉ. 240/855), and Karramites say: "Faith is formed only by the tongue."[18] However, there is a disagreement between them. For example, Raqqashi said that in order to become a believer, the confession of the tongue and the knowing of the heart are necessary. Abdullah bin Sa'id, unlike him, said that "faith emerges with the knowing of the heart, the confirmation of the heart, and the confession of the tongue." The Karramites said that faith consists only of the confession of the tongue. In their interpretation, a person who denies in his heart the things that are believed in, and confesses them with his tongue, becomes a Muslim. That is why the Karramites considered the hypocrites of the time of the Companions to be believers[19]. In order to justify their opinion, they cited the hadith, "*I was ordered to fight against people until they say: "Laa ilaha illallah.*"[20]

Jahm ibn Safwan, the founder of the doctrine of Jahmiyyah (d. 128/746), and Abul Husayn Salihi, one of the leaders of the Qadaris[21] said: "Faith is the knowing of the soul"[22].

Imam Abu Hanifa (вафˉ. 150/767) in one of his two sentences, Abu Mansur Maturidi, the commentator Husayn ibn Fadl Bajali (d. 282/896), Abul Hasan Ash'ari (d. 333/945) said: "Faith is the confirmation of the heart"[23]. Another of Abul Hasan Ash'ari's definitions of faith is similar to Abul Husayn Salihi's interpretation, but it is an unpopular view in Ash'ari school.[24] Abul Hasan Ash'ari and his followers said: "If a person is able, it is obligatory to say the shahadah."[25]

Abu Bakr Kasani wrote: "The scholars disagreed about whether the affirmation of the heart is a pillar of faith or the confession of the tongue. Most of the Mashaikhs said that if one is not dumb, the pillar of faith is to confess with the tongue. Some people said that affirmation of the heart is a pillar of faith, and confession is a sign of it. The same view was narrated from Abu Hanifa. Abu Mansur Maturidi considered it acceptable"[26].

Abu Hanifa said in his work "Al-Alim wal-Muta'allim": "People become believers with their knowing and affirmation of Allah."[27] In another place, it is said: "Faith is affirmation, knowing, certainty (Yaqin), confession, and Islam."[28]

Abul Barakat Nasafi in "Sharh al-Umda" said: "According to Abu Hanifa and Abu Mansur, confession of the tongue is

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[13] *Alauddin Abu Bakr Kasani. Al-Mu'tamad min al-Mu'taqad // Edited by Enes Durmush, Muhammad and Uthman Dogan. – Istanbul, 2021. – P. 898.*

[14] *Abuth Thana Mahmud ibn Zayd Lamishi. Kitab at-Tamhid li Qawaid at-Tawhid // Edited by Abdulmajid Turki. – Beirut: Dar al-Gharb al-Islami, 1995. – P. 127-128.*

[15] *Mulla Ali Qari. Sharh al-Fiqh al-Akbar. – P. 124.*

[16] *Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1076.*

[17] *Kullabi was one of the mutakallims of Ahl al-Sunnah who entered into a discussion with the Mu'tazilites. When he entered into a debate with the Mu'tazilites in Ma'mun's assembly, he always defeated them. See: Ibn Hajar Asqalani. Lisan al-Mizan. - Vol. 3. – P. 290-291; Subki. Tabaqat al-Shafi'iyyah. - Vol. 3. – P. 299-300.*

[18] *Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1076.*

[19] *Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1077.*

[20] *Imam Bukhari. Sahih al- Bukhari.*

[21] *He was one of the famous mutakallims of his time and was a supporter of Murjiism. Information about his death has not been preserved.*

[22] *Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1077.*

[23] *Abul Muin Nasafi. Tabsira al-Adilla fi Usul ad-Din // Edited by Muhammad Anwar Hamid Isa. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 1077; Alauddin Abu Bakr Kasani. Al-Mu'tamad min al-Mu'taqad // Edited by Enes Durmush, Muhammad and Uthman Dogan. – Istanbul, 2021. – P. 540.*

[24] *Abul Hasan Ash'ari. Al-Luma'. – P. 123-25; Ibn Humam. Al-Musayara. – P. 1-5.*

[25] *Dawwani. Sharh al-Aqidah al-Azudiyya. – P. 140.*

[26] *Alauddin Abu Bakr Kasani. Al-Mu'tamad min al-Mu'taqad // Edited by Enes Durmush, Muhammad and Uthman Dogan. – Istanbul, 2021. – P. 540; Abuth Thana Mahmud ibn Zayd Lamishi. Kitab at-Tamhid li Qawaid at-Tawhid // Edited by Abdulmajid Turki. – Beirut: Dar al-Gharb al-Islami, 1995. – P. 128.*

[27] *Abu Hanifa. Al-Alim wal-Muta'allim // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 588.*

[28] *Abu Hanifa. Al-Alim wal-Muta'allim // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 573.*

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necessary for the introduction of Islamic rules."[29] Nuruddin Sabuni said about this: "Our muhaqqiq companions said: "In order to introduce judgments in the world, confession of the tongue is necessary."[30] In addition to citing the literal meaning of the word "faith" as evidence for this, they rely on these two verses: **"But you will not believe us, no matter how truthful we are"** *(Surah Yusuf, verse 17)* and **"Pharaoh threatened, "How dare you believe in him before I give you permission?"** *(Surah Taha, verse 71)*. They also cite the answer in the hadith of Jibril (to the question, "What is faith?") as a basis for this. Lamishi says that just as disbelief has its place in the heart, the place of belief is also in the heart. Just as the pillar of disbelief is related to the heart, the pillar of faith is also related to the heart."[31]

Mulla Ali Qari (d. 1381/1961) analyzed the following narration from "Wasiyyatu Abi Hanifa" about the definition of faith:
"Faith is confession with the tongue and confirmation with the heart. Confession alone cannot be faith. Because if confession itself was faith, all the hypocrites would have become believers. Also, knowing alone cannot be faith. Because if knowing, that is, confirmation itself, was faith, all the People of the Book would have become believers."

Affirmation, as opposed to confession, is a hasan li 'aynihi[32] pillar, which can never be cancelled. Confession is a condition or a part of faith and is "hasan li ghairih". Therefore, it is sometimes canceled under compulsion and excuses. Because the tongue is the translator of the heart. Therefore, tongue is evidence for the presence or absence of affirmation. If a person has the opportunity to say the word of faith and says another word with his tongue, he is considered a disbeliever. If it is not possible to show faith due to compulsion, he will not be a disbeliever in such a situation. Because danger to one's life is a document of confirmation in the heart. What prompts him to this change is not a change of belief, but a need to avert destruction from himself."[33]

Shamsuddin Samarkandi said in the terminological definition given to "faith": "Muhaqqiq scholars say: "Faith is confirmation of what the Messenger of God brought." Therefore, a person who denies the judgments issued by ijtihad does not leave the religion[34].

The conclusion of the above views is that faith has a secular and a divine aspect. In the secular aspect, it is enough to confess the word of faith with the tongue. According to the divine aspect, it has seven different interpretations. Five of them are false teachings, and the other two belong to the Ahl al-Sunnah wal-Jama'ah:

The first. According to the teachings of the Kharijites, "Faith is the confirmation of the heart, confession of the tongue, and adherence to the pillars." According to their teachings, a believer leaves Islam with doing a major sin and becomes an infidel. This is completely against the teachings of Islam. Because the Companions, Followers, Salafi Salih and all Muslims agreed that "he who has a small amount of faith in his heart will not stay in hell forever." And again, they said that the intercession of our Prophet belongs to believers who have committed serious sins. After all, it is said in the hadith, *"My intercession is for those (believers-Muslims) who have committed great sins."* In another hadith, it is said: "*He who has even an iota of faith in his heart will not stay in hell*." In a narration narrated from Abu Dharr Ghafiri, it is said: *"A muslim will enter paradise even if he commits theft or adultery"*. This indicates that the person who commits a major sin, even if he is not a perfect believer, will definitely come out of hell after receiving the prescribed punishment.

The second. Although the Mu'tazilites have given the same definition of faith as the Kharijites, but in Mu'tazilism, a person who commits a great sin is between two destinations until he repents. In their view, there is a level between the two levels of hell, just as there are two destinations between faith and disbelief. Neither a true disbeliever nor a true believer can take a place in it. On the contrary, it is the destination of those who have sinned greatly.

The third. According to Jahmi's teachings, the knowing of the heart is enough for a person to become a believer. In their eyes, there is no need to the confession of the tongue and to follow the pillars in order to become a believer. According to Jahmi teaching, People of the Book, Hiraql, and Abu Talib also have to be believers.

The fourth. They are the Murjiis, and they say: "Faith consists only of confirmation, and sin does not harm faith, just as obedience does not affect disbelief."

The fifth. According to the doctrine of Karramiyya, faith is only confession with the tongue. According to their definition of faith, hypocrites are also believers.

The sixth. According to the definitions of faith given by Abu Hanifa, Imam Maturidi, Abul Hasan Ash'ari, and the majority of mutakallims, faith consists only of the affirmation of the heart. That is, the confession of tongue is a condition for the introduction of judgments. Action is a condition of perfect faith. However, these two are not components of faith. According to this view, faith is a whole thing that is not made up of anything.

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[29] *Abul Barakat Nasafi. Sharh al-Umda fi Aqida Ahl as-Sunna // Edited by Abdullah Muhammad and Abdullah Ismail. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 370.*
[30] *Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 353.*
[31] *Abuth Thana Mahmud ibn Zayd Lamishi. Kitab at-Tamhid li Qawaid at-Tawhid // Edited by Abdulmajid Turki. – Beirut: Dar al-Gharb al-Islami, 1995. – P. 128.*
[32] *This word is an expression of usul al-fiqh science, and its meaning is "a good deed in itself". The quality of goodness in it does not depend on anything else. Such actions shall not be invalidated under any circumstances. "Hasan li ghayrihi" is sometimes invalidated because the quality of goodness in it is due to something else.*
[33] *Mulla Ali al-Qari. Sharh al-Fiqh al-Akbar. – P. 124.*
[34] *Shamsuddin Samarqandi. Al-Ma'arif fi Sharh as-Sahaif // Edited by Abdurrahman Sulayman, PhD thesis. – Amman, 2021. – P. 322.*

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The seventh. According to imams of three madhhabs and muhaddith scholars, the definition of faith is as follows: "Faith is confirmation of the heart, confession of the tongue, and adherence to the rules." The representatives of this and the previous views are called Ahl as-Sunna wal-Jama'ah. This difference between them is not real, but verbal. In general, one group of Ahl al-Sunnah says that faith is made up of nothing, while the other says that faith is made up of three things. That is, while the Hanafis and the majority of mutakallims say that faith is not complex, the mmams of the three schools of thought and the majority of muhaddiths say that faith is composed of three things. For example, Imam Bukhari, may God bless him and grant him peace, in his "Sahih al-Bukhari", collected many proofs that faith consists of three things.

Although the definitions given by the imams of the three sects and the jumhur muhaddiths are outwardly similar to the definitions of the Mu'tazilites and Kharijites, this is only a outward similarity. However, in essence, the view of the Shafi'is is fundamentally different from the view of the Mu'tazilites and the Kharijites. Because in Mu'tazilites and Kharijites, if one of these three elements of faith is not found, a person is not a believer. To be more specific, according to their teachings, the person who abandons deeds will remain in hell forever. Also, although the definition of faith given by the Hanafis and majority of mutakallims is outwardly similar to the interpretation of the Murjiis, there is only a outward similarity. Because the words of the representatives of the two views are fundamentally different from each other. The Hanafis and majority of mutakallims consider the deed to be necessary and call the person who abandons it a sinner. The Murjiis believe: "A believer is not affected by his deeds."

Based on the outward similarity of the definition given to faith, it is impossible to compare the imams of the three sects and majority of muhaddiths to the Mu'tazilites and the Kharijites. Similarly, based on the definition given by the Hanafis and majority of mutakallims to faith, it is not possible to compare them to the Murjiis.

In general, the Hanafis say that faith consists of the confirmation of the heart, and they say that it is a whole thing, that is, something that is not complicated. The Hanafis cite the following verses as their evidence:

إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ كَانَتْ لَهُمْ جَنَّاتُ الْفِرْدَوْسِ نُزُلًا.

"**Indeed, those who believe and do good will have the Gardens of Paradise as an accommodation**" (*Surah Al-Kahf, verse 107*). In some places of the Qur'an, faith is connected with the letter of atf. According to the rules of the Arabic language, atf requires mughayarat, that is, atif and matuf are different from each other. Therefore, faith and action are different things.

"**Whoever does good, whether male or female, and is a believer, We will surely bless them with a good life**" (*Surah an-Nahl, verse 97*).

In all these verses, faith is a condition for the acceptance of deeds. So, if faith is a shart (condition), action is mashrut (conditional). According to the rule of the Arabic language, shart and mashrut are considered separate things.
One of the issues to be studied and researched under the topic of faith is "Is it obligatory to believe on the basis of reason or by naql?". For example, Nuriddin Sabuni, in his work "al-Bidaya", says: "Belief in Allah is obligatory, and disbelief is haram." Scholars differed on whether faith is obligatory based on reason or naql. In particular, there are different views among scholars regarding the fate of a person who died in areas where the call of Islam did not reach. Also, are the people who grew up in uncivilized areas and died without converting to Islam, sorry or not? The same is the case with the people who lived in the period of Fatra."[35]

Batinis, Rafidhis, Mushabbiha, and Kharijites said: "Nothing is wajib through the reason." Through it, the goodness of faith and the evil of disbelief will not be known. On the contrary, all this will be known through Shariah."[36]

The Mu'tazilites said: "Reason requires faith and gratitude to the benefactor." Judgments are set with the reason itself."[37]
Ash'arites say: "With the reason, something does not become wajib or haram." However, it is known through it that some things are good or bad. According to Imam Ash'ari, all rulings that are imposed on the mukallaf are obtained through narration. He cited the verse **"And We would never punish ˹a people˺ until We have sent a messenger ˹to warn them˺"** (Surah Al-Isra, verse 15) as evidence[38].

According to Imam Abu Hanifa and Imam Maturidi, the reason is the means of understanding what is perceived, just as the ear is the means of knowing what is heard. With it, it is known whether certain things are good or bad, obligatory or forbidden. Mu'tazilites say that the reason is an independent judge. The Hanafis say that the reason actually reveals that God is the one who introduces judgments. According to their interpretation, just as the Messenger identifies wajib and the one who determines the wajib, the reason identifies the wajib and the one who determines the wajib. The Hanafis do not see reason as an independent judge or as a guide to mankind. On the contrary, they interpret it only as a tool.

Hakim Shahid in his book "Muntaqah" quoted the following narration from Abu Hanifa: "It is not an excuse for a person not to recognize his Creator because he sees the creation of the heavens and the Earth, himself, and others." In shar'i matters, he is considered excused until the document arrives. Abu Hanifa said: "Even if Allah had not sent a prophet, it would

[35] *Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 346.*
[36] *Abul Barakat Nasafi. Sharh al-Umda fi Aqida Ahl as-Sunna // Edited by Abdullah Muhammad and Abdullah Ismail. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 362.*
[37] *Nuruddin Sabuni. Kitab al-Bidaya min al-Kifaya // Edited by Fathullah Khulayf. – Cairo: Dar al-Ma'arif. 1969. – P. 150.*
[38] *Abul Barakat Nasafi. Sharh al-Umda fi Aqida Ahl as-Sunna // Edited by Abdullah Muhammad and Abdullah Ismail. – Cairo: al-Maktaba al-Azhariyya lit-Turath, 2011. – P. 366.*

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have been obligatory for the creatures to know Allah through their minds." This view was supported by the scholars of Ahl Sunna wal-Jama'ah.[39] We can see that Abu Hanifa and Imam Maturidi differentiate between jurisprudential issues and religious issues at this point. They argued that all intelligent people are equally responsible in the matter of "Knowing Allah the Exalted". However, they did not raise this topic in other creedal and jurisprudential issues.

According to the hadith "*The pen has been lifted from three*", some representatives of the Maturidiyya doctrine noted that before reaching the age of puberty, a child is not mukallaf (responsible) for any of the creedal and jurisprudential issues. However, the second group of scholars interpreted this hadith by focusing on the issues of fiqh.

In the 12th and 13th centuries, the topic of "the increase and decrease of faith" was the cause of intense debates and discussions among religious sects and groups.

Abu Hanifa in "Al-Fiqh al-Akbar" says: "The Iman [essence of faith] of those in heavens and on earth does not increase or decrease with respect to the content of [essential] faith, but [is vulnerable to] increase and decrease with respect to the [level] of conviction and affirmation. All believers are equal in Iman [essence of faith] and Tawheed [monotheism], but they vary in their deeds."[40] The phrase in this text "but [is vulnerable to] increase and decrease with respect to the [level] of conviction and affirmation" is redundant and has been added to the text. Because it doesn't exist in the original copy of the book[41]. In the work "Wasiyyatu Abi Hanifa", it is said: "Faith does not increase and decrease." Because its decrease is imagined with the increase of disbelief, and its increase with the decrease of disbelief. How can a person be a believer and an unbeliever at the same time? A believer is a true believer, a disbeliever is a true disbeliever. Just as there is no doubt in disbelief, there is no doubt in faith. Allah Almighty said about this: "**It is they who are the true believers. They will have elevated ranks, forgiveness, and an honourable provision from their Lord.**" (*Surah al-Anfal, verse 4*). It is said in another verse: "**They are indeed the true disbelievers. And We have prepared for the disbelievers a humiliating punishment.**" (*Surah al-Nisa, verse 151*)[42].
Lamishi says about this: "As we explained above, if faith consists of confession and confirmation, it does not increase or decrease. Because confession and affirmation do not create the possibility of increase or decrease. Whoever interprets righteous deeds as a part of faith, they said: "Faith increases and decreases."[43] Ghaznavi confirmed this view in his work "Usul ad-Din": "There are several interpretations of the verses[44] in the Holy Qur'an about the increase of faith: First, the Companions believed and affirmed in a general way (ijmali). Then, gradually, as the duties (fardhs) increased, they also believed in the duties. As a result, their faith increased from the attention of detailed (tafsili) faith; second, to be persistent and steadfast in faith every hour is an increase in faith; and thirdly, the belief and sincerity (ikhlas) of the believers increases every hour. When a miracle was shown to the Companions, their faith in the Messenger of Allah, his message, and the religion of Islam increased even more[45].

Sighnaqi said about this in his work "at-Tasdid fi Sharh at-Tamhid": "Faith itself does not increase or decrease independently. Only by apostasy does it become defective. The increase in faith is realized by the addition of the same thing as faith. Therefore, faith does not increase with obedience, because obedience is not the same as faith... Faith is eternal confirmation of what God has announced. Therefore, no increase or deficiency can be imagined in it."[46]

Shamsuddin Samarqandi in his work "as-Sahaif al-Ilahiyya" quotes the words of the scholars of the predecessors and successors about the increase and decrease of faith one by one and says: "Actually, faith increases and decreases. It doesn't matter if obedience is included in it or not. After all, the confirmation of the heart is a firm belief. It embraces strength and weakness. Because religious issues start from simplicity and become more complicated."[47] He said in his work "Al-Ma'arif fi Sharh al-Sahaif": "Whoever looks at the truth of this matter will admit that there is a change in faith and that it increases and decreases. This is the secret of this subject."[48]

Abul Muin Nasafi[49], Khabbazi[50], Kasani[51], and Usmandi also talked about the increase and decrease of faith and said that faith never increases or decreases.[52]

It is noteworthy that in the sources related to the teaching of Maturidiyya in the 12th-13th centuries, the phrase "against the Ash'arites" was not used in the topics of "increase and decrease of faith". However, we can see that the authors repeatedly cited the phrase "Khilafan to the Shafi'is" (against the Shafi'is) in this topic. It is clear from this that the true Ash'arites did not say that faith increases and decreases. Because in their definitions of faith, they did not consider action as a component

[39] *Nuruddin Sabuni. Al-Kifaya fi al-Hidaya // Edited by Muhammad Aruchi. – Istanbul: Dar Ibn Hazm, 2014. – P. 348.*
[40] *Abu Hanifa. Al-Fiqh al-Akbar // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 621.*
[41] *Wahabi Suleiman Ghawji. Minah ar-Rawd al-Azhar fi Sharh al-Fiqh al-Akbar. – Beirut: Dar al-Bashair al-Islamiyya, 1998. – P. 260-262.*
[42] *Abu Hanifa. Wasiyyatu Abi Hanifa // Edited by Zahid Kawthari. - Beirut: Dar al-kutub al-ilmiyya, 2004. – P. 636.*
[43] *Abuth Thana Mahmud ibn Zayd Lamishi. Kitab at-Tamhid li Qawaid at-Tawhid // Edited by Abdulmajid Turki. – Beirut: Dar al-Gharb al-Islami, 1995. – P. 134.*
[44] *Surah al-Anfal, verse 2; Surah al-Tawba, verse 124; Surah al-Fath, verse 4; Surah al-Muddaththir, verse 31.*
[45] *Ghaznawi. Usul ad-Din. – P. 257-258.*
[46] *Sighnaqi. At-Tasdid fi Sharh at-Tamhid.– P. 907-908.*
[47] *Shamsuddin Samarqandi. As-Sahaif al-Ilahiyya // Edited by Ahmad Abdurrahman Sharif. Date of publication and name of publishing house not indicated. – P. 455.*
[48] *Shamsuddin Samarqandi. Al-Ma'arif fi Sharh as-Sahaif // Edited by Abdurrahman Sulayman, PhD thesis. – Amman, 2021. – P. 324.*
[49] *Nasafi. Tamhid. – P. 149.*
[50] *Kitab al-Hadi fi Usul ad-Din – P. 265-266.*
[51] *Kasani. – P. 541.*
[52] *Usmandi. – P. 169.*

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of faith. According to the creedal rule, "Whoever says that faith is complicated", his faith is increasing or decreasing in his eyes. Those who say that faith is a simple thing, in their eyes, the state of faith is always the same.

Imam Radhi, Imam al-Haramayn and Imam Ghazzali from the Ash'arites said: "Faith is neither increased nor decreased."[53] Imam Radhi and many scholars did not accept that faith can be increased or decreased. Because they said that there will be no change in confirmation. Husayn ibn Shihabuddin Kiilani (d. 889) said that the affirmation itself accepts increase and decrease[54].

Shaykh Muhyiddin Nawawi says: "The muhaqqiq scholars of our companions said: "The confirmation itself does not increase and decrease. Shar'i (legal) faith increases and decreases, that is, faith increases due to good deeds, and on the contrary, it decreases."[55]
It is appropriate to consider the following hadiths related to faith:

It is narrated from Anas, may Allah be pleased with him: "When the Messenger of Allah (pbuh) delivered his sermon, he said: "*A person who is not trustworthy has no faith and whoever breaches his pledge has no religion*." (Narrated by Imam Bayhaqi in his work "Shu'ab al-Iman").
In another hadith narrated from Abu Umama, the Messenger of Allah, may God bless him and grant him peace, said: *"Whoever loves for the sake of Allah and hates for the sake of Allah, gives for the sake of Allah and withholds for the sake of Allah, he will have perfected his faith"* (Narrated by Abu Dawud and Imam Tirmidhi).

Anas ibn Malik reported: The Messenger of Allah, peace and blessings be upon him, said: "*The faith of a servant is not upright until his heart is upright, and his heart is not upright until his tongue is upright. A man will not enter Paradise if his neighbor is not secure from his evil*". (Narrated by Imam Ahmad)

All these hadiths are talking about perfect faith, that is, these hadiths mean that "one who does not have trustworthiness does not have perfect faith." For example, in another hadith it is said that the prayer of the neighbor of the mosque is performed only in the mosque. It does not mean that if the neighbor of the mosque prays in his house, his prayer will not be a prayer. Perhaps it is understood that if the neighbor of the mosque does not pray in the mosque, but prays at home, his prayer will not be perfect. Likewise, we should interpret these hadiths as "a person without a deposit does not have perfect faith." Otherwise, a person who harms his neighbor or betrays a deposit must be a disbeliever.

Among the hadiths related to faith, there are hadiths which apparently support the view of the Murjiis, that is, which apparently express the meaning that "the believer is not affected by sin." For example, the Messenger of God (PBUH) said this in a hadith told to Mu'az ibn Jabal: *"Whoever proclaims with a sincere heart لَآإِلٰهَ إِلَّا اللهُ [there is no god but Allah] and مُحَمَّدٌ رَّسُوْلُ اللهِ [and Muhammad is His Messenger], Allah the Almighty will forbid the fire for them."*

'Ubadah ibn al-Samit reported: The Messenger of Allah, peace and blessings be upon him, said, *"Whoever testifies that there is no God but Allah alone without any partners, that Muhammad is His servant and His messenger, that Jesus is the servant of Allah and His messenger, His word which He bestowed upon Mary and a spirit from Him, and that Paradise is the truth and Hellfire is the truth, then Allah will admit him into Paradise by whatever good deeds he had done."* (Narrated by Imam Muslim)

In another narration from Imam Muslim, it is said: "The Messenger of Allah, peace and blessings be upon him, said: "*Whoever testified that there is no God but Allah and Muhammad is the Messenger of Allah, then Allah will forbid him from the Hellfire*."

Many hadiths with the same meaning as these hadiths may appear to mean that there is no need for action to the believer. However, after studying other hadiths in its alternative, one can come to the conclusion that "a person who is a sincere believer will definitely enter heaven after receiving the punishment for his sins, he will never stay in hell forever".

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ENSURING PEDIATRIC MEDICATION SAFETY: STRATEGIES FOR PREVENTING ERRORS AND ADVERSE DRUG REACTIONS

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ABSTRACT

Pediatric medication safety is paramount in healthcare due to children's vulnerability to medication errors and adverse drug reactions. This review delves into the multifaceted nature of pediatric medication safety, exploring factors contributing to errors and proposing strategies for prevention. It emphasizes the importance of standardized dosing, medication reconciliation, and interprofessional collaboration in enhancing pediatric medication safety.

KEYWORDS: *pediatric medication safety, medication errors, adverse drug reactions, medication dosing, medication administration, healthcare quality improvement.*

INTRODUCTION

Ensuring the safety of medication administration in pediatric patients is a critical aspect of healthcare delivery. Children, with their unique physiological characteristics and developmental stages, require specialized attention to prevent medication errors and adverse drug reactions. This review aims to examine the complexities of pediatric medication safety, identify contributing factors to errors, and propose evidence-based strategies for prevention. By addressing these challenges, healthcare providers can optimize medication safety practices and improve patient outcomes in pediatric populations.

Factors Contributing to Pediatric Medication Errors: Pediatric medication errors result from a combination of factors, including inaccurate dosing calculations, lack of standardized dosing guidelines, challenges in medication formulation, communication barriers, and insufficient pediatric-specific training among healthcare providers. Understanding these factors is crucial for identifying vulnerabilities in the medication administration process and implementing targeted interventions to mitigate risks. For instance, inaccurate dosing calculations can lead to under- or overdosing, posing serious risks to pediatric patients. Lack of standardized dosing guidelines exacerbates this problem, as healthcare providers may resort to ad-hoc dosing practices, increasing the likelihood of errors. Additionally, challenges in medication formulation, such as limited availability of pediatric-friendly formulations, further complicate medication administration in children. Communication barriers between healthcare providers, caregivers, and patients also contribute to medication errors, highlighting the importance of clear and effective communication in pediatric medication safety. Moreover, inadequate pediatric-specific training among healthcare providers can hinder their ability to accurately assess dosing requirements and identify potential risks, underscoring the need for ongoing education and training in pediatric pharmacotherapy.

Pediatric medication errors represent a significant challenge in healthcare, with various factors contributing to their occurrence. Understanding these factors is crucial for identifying vulnerabilities in the medication administration process and implementing targeted interventions to mitigate risks.

1. Inaccurate Dosing Calculations: One of the primary factors contributing to pediatric medication errors is inaccurate dosing calculations. Unlike adults, pediatric patients require individualized dosing based on factors such as weight, age, body surface area, and developmental stage. Healthcare providers must perform precise calculations to determine the appropriate medication dosage for each child. However, miscalculations or misinterpretation of dosing guidelines can lead to underdosing, resulting in ineffective treatment, or overdosing, posing serious risks of adverse effects and toxicity.

2. Lack of Standardized Dosing Guidelines: The absence of standardized dosing guidelines for pediatric medications exacerbates the risk of medication errors. Unlike adult medications, which often have established dosing regimens based on standardized criteria, pediatric dosing may vary significantly depending on the child's age, weight, and clinical condition. Without clear and consistent dosing guidelines, healthcare providers may resort to ad-hoc dosing practices, increasing the likelihood of errors. Standardizing pediatric dosing guidelines based on evidence-based practices and age-appropriate considerations can mitigate this risk and improve medication safety.

3. Challenges in Medication Formulation: Medication formulation poses another challenge in pediatric medication safety. Many medications are formulated for adults and may not be available in age-appropriate formulations suitable for pediatric patients, such as liquid suspensions or chewable

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tablets. As a result, healthcare providers may need to manipulate adult formulations to administer accurate doses to children, increasing the risk of dosing errors. Additionally, differences in medication concentrations and strengths among formulations can further complicate dosing calculations and administration.

4. Communication Barriers: Effective communication is essential for safe medication administration in pediatric patients. However, communication barriers between healthcare providers, caregivers, and patients can contribute to medication errors. Poor communication of medication orders, dosing instructions, or patient-specific information increases the likelihood of misinterpretation and misunderstanding, leading to errors in prescribing, dispensing, or administering medications. Language barriers, cultural differences, and health literacy limitations may also hinder effective communication, highlighting the need for clear and concise communication strategies tailored to the needs of pediatric patients and their families.

5. Insufficient Pediatric-Specific Training: A lack of specialized training in pediatric pharmacotherapy among healthcare providers can also contribute to medication errors. Pediatric patients present unique challenges due to their developmental differences, physiological characteristics, and susceptibility to medication-related adverse effects. Healthcare providers must possess the knowledge and skills necessary to accurately assess dosing requirements, calculate medication doses, and monitor for potential adverse reactions in pediatric patients. Insufficient training in pediatric pharmacology and therapeutics may compromise providers' ability to safely prescribe, dispense, and administer medications, increasing the risk of errors and adverse drug events.

Strategies for Preventing Medication Errors: Effective prevention of pediatric medication errors requires a multifaceted approach encompassing standardized dosing guidelines, medication reconciliation processes, medication dosing calculations, medication administration techniques, barcode medication administration (BCMA) systems, and interprofessional collaboration. Standardization of pediatric dosing guidelines based on weight, age, and body surface area is essential to ensure accurate medication dosing and minimize dosing errors. Moreover, the availability of age-appropriate medication formulations, such as liquid suspensions and chewable tablets, facilitates accurate dosing and administration in pediatric patients. Utilization of weight-based dosing calculations and standardized medication dosing tools further reduces the risk of dosing errors and enhances medication safety. Implementation of robust medication reconciliation processes during transitions of care helps identify discrepancies in medication regimens and prevents medication errors. Barcode medication administration (BCMA) systems enhance medication safety by verifying patient identity, medication accuracy, and administration routes at the point of care. Interprofessional collaboration among healthcare team members, including pediatricians, nurses, pharmacists, and caregivers, fosters a culture of safety and facilitates comprehensive medication management. By adopting these strategies, healthcare organizations can mitigate the risk of pediatric medication errors and enhance patient safety.

Preventing medication errors in pediatric patients requires a multifaceted approach that addresses various aspects of the medication use process. Healthcare organizations and providers can implement several evidence-based strategies to mitigate the risk of medication errors and enhance pediatric medication safety.

1. Standardization of Pediatric Dosing Guidelines
Standardizing pediatric dosing guidelines based on weight, age, and body surface area is essential to ensure accurate medication dosing and minimize dosing errors. These guidelines provide clear recommendations for dosing calculations and administration, reducing variability in prescribing practices and enhancing medication safety. By adhering to standardized dosing protocols, healthcare providers can minimize the risk of under- or overdosing, especially in vulnerable pediatric populations.

2. Utilization of Pediatric-Friendly Medication Formulations
Availability of age-appropriate medication formulations, such as liquid suspensions, chewable tablets, and oral dissolvable tablets, facilitates accurate dosing and administration in pediatric patients. Pediatric-friendly formulations are easier to administer and are more palatable to children, increasing medication compliance and reducing the likelihood of dosing errors. Healthcare organizations should prioritize the availability of pediatric-specific formulations to meet the unique needs of pediatric patients and enhance medication safety.

3. Medication Dosing Calculations
Utilization of weight-based dosing calculations and standardized medication dosing tools helps healthcare providers accurately calculate pediatric medication doses. Weight-based dosing accounts for variations in pediatric patients' body weight and ensures that medications are dosed appropriately to achieve therapeutic effects while minimizing the risk of adverse reactions. Standardized dosing tools, such as pediatric dosing calculators and reference guides, assist healthcare providers in making informed dosing decisions, reducing the likelihood of dosing errors and enhancing medication safety.

4. Medication Reconciliation Processes
Implementing robust medication reconciliation processes during transitions of care, such as admission, transfer, and discharge, helps identify discrepancies in medication regimens and prevent medication errors. Healthcare providers should systematically review patients' medication histories, reconcile medication lists, and communicate changes in medication regimens to ensure continuity of care and medication safety. Effective medication reconciliation processes reduce the risk of prescribing errors, duplicate therapies, and adverse drug reactions, enhancing patient safety in pediatric settings.

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5. Barcode Medication Administration (BCMA) Systems
Adoption of barcode medication administration (BCMA) systems enhances medication safety by verifying patient identity, medication accuracy, and administration routes at the point of care. BCMA systems use barcode technology to scan medication labels, patient wristbands, and healthcare provider badges, ensuring that the right medication is administered to the right patient via the right route at the right time. By reducing the risk of medication administration errors, BCMA systems enhance pediatric medication safety and improve patient outcomes.

6. Interprofessional Collaboration
Promoting collaboration among healthcare team members, including pediatricians, nurses, pharmacists, and caregivers, fosters a culture of safety and facilitates comprehensive medication management. Interprofessional collaboration enables healthcare providers to share knowledge, expertise, and resources, leading to more informed medication decisions and enhanced patient safety. By working together to identify potential risks, implement preventive strategies, and monitor patient outcomes, interprofessional teams can optimize medication safety practices and improve patient outcomes in pediatric populations.

In summary, implementing these strategies, including standardizing dosing guidelines, utilizing pediatric-friendly formulations, conducting accurate dosing calculations, implementing medication reconciliation processes, adopting BCMA systems, and fostering interprofessional collaboration, is essential for preventing medication errors and enhancing pediatric medication safety. By addressing various aspects of the medication use process and promoting a culture of safety, healthcare organizations can optimize medication safety practices and improve patient outcomes in pediatric populations.

Preventing Adverse Drug Reactions: In addition to preventing medication errors, healthcare providers must also focus on preventing adverse drug reactions (ADRs) in pediatric patients. Comprehensive medication review, patient and family education, and monitoring and surveillance are key strategies for preventing ADRs. Conducting thorough medication reviews helps identify potential drug-drug interactions, allergies, and adverse drug reactions, enabling healthcare providers to adjust treatment regimens accordingly. Providing education to patients and families about medication indications, dosing instructions, potential side effects, and adherence strategies empowers them to actively participate in medication management and recognize signs of adverse reactions. Robust monitoring and surveillance systems track medication-related adverse events, including near misses and ADRs, enabling timely intervention and quality improvement initiatives. By implementing these strategies, healthcare organizations can enhance pediatric medication safety and improve patient outcomes.
In addition to addressing medication errors, healthcare providers must prioritize efforts to prevent adverse drug reactions (ADRs) in pediatric patients. Adverse drug reactions are unintended and harmful responses to medications, which can range from mild to severe and may occur due to various factors, including patient characteristics, medication interactions, and dosing errors. Preventing ADRs in pediatric populations requires a comprehensive approach encompassing medication review, patient and family education, and monitoring and surveillance.

Comprehensive Medication Review
A critical step in preventing adverse drug reactions is conducting thorough medication reviews for pediatric patients. Healthcare providers must carefully evaluate each medication prescribed to pediatric patients, considering factors such as drug-drug interactions, patient allergies, and potential side effects. This comprehensive review process helps identify medications that may pose a risk of adverse reactions and allows healthcare providers to make informed decisions regarding medication therapy. Additionally, healthcare organizations can implement protocols for regular medication review to ensure ongoing monitoring of pediatric patients' medication regimens and timely intervention when necessary.

Patient and Family Education
Educating pediatric patients and their families about medication use is essential for preventing adverse drug reactions. Healthcare providers should provide clear and comprehensive information regarding medication indications, dosing instructions, potential side effects, and strategies for medication adherence. Empowering patients and families with knowledge about their medications enables them to actively participate in medication management and recognize signs of adverse reactions. Furthermore, healthcare providers can offer guidance on how to respond to adverse reactions, such as contacting healthcare professionals or seeking medical attention promptly. By fostering effective communication and education, healthcare providers can enhance medication safety and reduce the risk of adverse drug reactions in pediatric patients.

Monitoring and Surveillance
Robust monitoring and surveillance systems are essential for detecting adverse drug reactions in pediatric patients and implementing timely interventions. Healthcare organizations can implement protocols for monitoring medication-related adverse events, including near misses and ADRs, through methods such as medication incident reporting systems and medication error tracking systems. Additionally, healthcare providers should conduct regular assessments of pediatric patients for signs and symptoms of adverse reactions, such as allergic reactions, gastrointestinal disturbances, and changes in vital signs. Early recognition of adverse reactions allows healthcare providers to intervene promptly, adjust medication regimens as needed, and prevent further harm to pediatric patients.

CONCLUSION
Pediatric medication safety is a complex yet essential aspect of healthcare delivery, requiring collaborative efforts from healthcare providers, patients, families, and healthcare organizations. By addressing factors contributing to medication errors and adverse drug reactions, and implementing evidence-

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based strategies for prevention, healthcare organizations can optimize medication safety practices and improve patient outcomes in pediatric populations. Embracing a culture of safety, continuous quality improvement, and interprofessional collaboration is paramount to ensuring the safety and well-being of pediatric patients receiving medication therapy.

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FACTORS INFLUENCING LSPU - MASTER IN PUBLIC ADMINISTRATION GRADUATES ON THEIR JOB PERFORMANCE

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ABSTRACT

The main objective of the study is to determine the employment status of the LSPU-MPA 2018-2023 and perform an assessment of various factors influencing their job performance and career progression. Moreover, this research will provide valuable insights for both academic institution and employers. The data collected would consist of the responses and demographic profiles gathered using a standardized and self-designed questionnaire via Google Form, where 104 respondents, including 52 MPA 2018-2023 graduates and 52 supervisors, responded. The data gathered was analyzed through statistical treatment the following; Descriptive statistics e.g. mean, standard deviation, frequency, and correlational analysis and regression analysis, as well as, to test the hypotheses and the significance and strength of the relationship. The result reveals that there is no significant difference in the job performance on the level of LSPU-MPA graduates when the respondent is grouped by age, gender, educational attainment, work experience, and employment status, p-value>0.05. At the same time, there is a significant difference in job performance in competence, commitment, and teamwork in LSPU-MPA graduates the respondent is grouped by job level or position after MPA graduation, p-value < 0.05. Also, there is no significant difference in the level of credibility of the LSPU-MPA graduate when the respondent is grouped by job level or position before the employer. However, there is also a significant difference in job performance when the respondent is grouped by the performance rating, p-value < 0.05. There is no significant difference in job performance on LSPU – MPA when the respondent is grouped by promotions received and by the length of service, p-value > 0.05. Furthermore, there was a statistically significant monotonous relationship between the job performance of the LSPU-MPA graduates and the influential factors. The strength of relationships is weak to strong, connoting changes in the influential factor lead to changes in competence, commitment, teamwork, and credibility of the respondents. Thus, there is a term for a relative change in job performance.

KEYWORDS: *Job Performance, Personal Attributes, Leadership Abilities, Organizational support, Competence, Commitment, Teamwork, Credibility*

INTRODUCTION

Pursuing higher education is one of a person's commitments and opportunities as well, especially to create space for the person to have higher career prospects and thus perform at the job. Lifelong learning commitments provide better opportunities for personal development and career advancement for graduate students. Therefore, higher education is not just a status symbol but rather an obligation that builds greater responsibility to improve performance. Higher education's goal is to produce quality graduates who are versatile to diverse the environment, most zealous to learn more knowledge to improve skills and after employment to use such learned knowledge for new knowledge hence apply it in interpreting problems (Doe, 2015). The Master of Public Administration program at Laguna State Polytechnic University is designed to provide students with the requisite competencies and knowledge to practice in the public administration discipline. Furthermore, the program is intended to enable graduates to serve in various leadership or managerial positions within the government agencies, non-government organizations, and other public service sector. Based on this, the current research is aims to identify the employment status of LSPU-MPA graduates between 2018-2023 and examine the varied factors that influence the individual's job performance and professional growth.

MATERIALS AND METHODS

This study will utilize a quantitative research design to investigate the factors that affect the job performance of MPA graduates from LSPU. Since the target respondents for this study are the MPA graduates and their immediate supervisors, the study provides a directed inquiry into the job performance of these people. The selection of the quantitative research design offers a disciplined, numerically data-driven way to gather and analyze information. According to Siedlecki (2020), descriptive research design is a research process that accumulates data conveying information about a population in the natural environment being studied. The respondent populations are then randomly selected from the population, and a specific survey questionnaire serves as the primary data gathering instrument. In the methodology, the survey instrument's consistency played a significant impact factor. The consistency of survey instrument reliability was checked using Cronbach's Alpha. The survey questionnaire was formulated to collect information about IV and DV. Independent variables for consideration include demographic profile, personal attributes, leadership abilities, and organizational support. The dependent

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variables in this analysis are competence, commitment, teamwork, and credibility in job performance. Survey method is the most fitting method in this research since surveys, according to Babbie (2015), can be seen as vehicles to sample attitudes in populations.

RESULT AND DISCUSSION

Demographic Profile of the Respondents in Terms of Age

The majority of the respondents fall within the age groups of 29-34 and 23-28, with 26.92% and 23.08% of the total, respectively. The percentage of graduates decreases as their age goes beyond 34 years old, and older groups have a smaller proportion. The age group of 59-63 years old has the smallest, with only 1.92% in total.

Demographic Profile of the Respondents in Terms of Gender

In terms of gender, most of LSPU-MPA graduates are female, comprising 73.08% of the total, while male respondents make up the minority, with 26.92% of the total. Percentage of females is markedly high than males.

Demographic Profile of the Respondents in Terms of Educational Attainment

The results show that the majority of the graduates hold a Master's Degree, representing 96.15% of the total. Only small portion have achieved a Doctorate Degree, with 3.85% of the total respondents. There is a significantly higher representation of individuals with Master's Degrees among the surveyed LSPU-MPA graduates.

Demographic Profile of the Respondents in Terms of Year Graduated in MPA Program

In terms of the year of graduations of MPA graduates, year 2023 has the largest percentage of MPA graduates, comprising 40.38% of the total, followed by the year 2022, with 15.38%. The year 2018 and 2020 have the same percentage of graduates, with 13.46% while 2021 have 9.62% of the total graduates. The year 2019 has the smallest number of graduates, accounti ng for 7.69% of the total.

Demographic Profile of the Respondents in Terms of Work Experience

The majority of the respondents have work experience in the Government sector, comprising 71.15% of the total. The other types of work experience, such as Administrative, Private, Office Staff/Clerical, Research, Accounting, and Others, have smaller percentages, ranging from 1.92% to 11.54%.

Demographic Profile of the Respondents in Terms of Employment Status

In terms of employment status, majority of the respondents before enrolling in the MPA were in Regular/Permanent employment, accounting for 57.69% of the total respondents. After completing the MPA program, there was a significant increase in the number of individuals in Regular/Permanent employment, with the percentage increasing to 88.46%. This indicates a positive impact of the MPA program on securing permanent employment. The results illustrate the changes in employment status among individuals before and after completing the MPA program.

Demographic Profile of the Respondents in Terms of Job Level Position

The majority of the respondents before enrolling in the MPA were in Clerical positions, which accounted 50.00% of the total. After completing the MPA program, there was a significant increase in the number of graduates in Professional/Supervisor positions, with the percentage of 59.62%. This indicates a positive impact of the MPA program on career advancement to supervisory roles.

Demographic Profile of the Respondents in Terms of Performance Rating

Most of the respondents before enrolling in the MPA program received a performance rating of Very Satisfactory, accounting for 69.23% of the total. After completing the MPA program, there was a slight increase in the number of individuals with a Very Satisfactory performance rating, with the percentage increasing to 78.85%. Conversely, there were decreases in the number of individuals with Satisfactory and Excellent performance ratings after completing the MPA program. Overall, there is an improvement in performance ratings.

Demographic Profile of the Respondents in Terms of Number of Promotions After Graduation

In terms of number of promotions, most of the graduates, with 51.9% had 1 promotion. This implies that there is an impact when it comes to promotion after graduation of LSPU-MPA graduates. Next is 15.9% which had 2 promotions, followed by 11.54% and 9.62% for 0 and none promotions.

Demographic Profile of the Respondents in Terms of Years in Service

In terms of number of years in service, the MPA graduates from LSPU were mostly in 5-8 years in service, comprising, 42.31% of the total respondents of the study. This is followed by the 9-12 years in service, with 26.92% of the total. For 1-4 and 29-32 years in service have similar percentages of graduates, that is, 9.62% while other years have smallest percentage, accounting for 3.85% of the total.

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Table 11
Level of LSPU-MPA Graduates' Influential Factors in terms of Personal Attributes

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. The level of self-motivation I possess enhances my job performance.	4.73	0.45	Excellent	4.75	0.44	Excellent
2. My ability to work well independently significantly contributes to my job performance.	4.69	0.58	Excellent	4.77	0.43	Excellent
3. I effectively manage my time and prioritize tasks, leading to improved job performance.	4.63	0.53	Excellent	4.75	0.44	Excellent
4. My communication skills positively impact my job performance.	4.69	0.47	Excellent	4.75	0.44	Excellent
5. The level of professionalism and ethical behavior I exhibit significantly influences my job performance.	4.79	0.41	Excellent	4.81	0.40	Excellent
Composite Mean	4.71		**Excellent**	4.77		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

Based on these results, it can be concluded that LSPU-MPA graduates possess strong personal attributes, especially professionalism, ethical behavior, and self-motivation which are equally important in the workplace, and have a positive impact on job performance. However, time management and task prioritization field are seen weak. There may be a need to further enhance the time management, and a training intervention program could be organized to addressed gap. Also, the positive perceptions of supervisors underscore the importance of support and development opportunities to sustain the LSPU-MPA output. According to Beaumont-Oates (2023) study, personality attributes have a significant impact on job work output, coworkers' relationships, and the overall work ambiance. It is essential to understand human characteristics at work to create a harmonious environment, and influence work output.

Table 12
Level of LSPU-MPA Graduates' Influential Factors in terms of Leadership Abilities

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. My ability to take initiative and be proactive positively affects my job performance.	4.62	0.49	Excellent	4.77	0.47	Excellent
2. The level of influence I have in my team positively impacts my job performance.	4.63	0.49	Excellent	4.73	0.49	Excellent
3. My ability to motivate and inspire others contributes to improved job performance.	4.75	0.44	Excellent	4.79	0.46	Excellent
4. My problem-solving and decision-making skills enhance my job performance.	4.71	0.46	Excellent	4.79	0.41	Excellent
5. The level of adaptability and resilience I demonstrate influences my job performance.	4.69	0.47	Excellent	4.79	0.41	Excellent
Composite Mean	4.68	0.39	**Excellent**	4.77	0.39	**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

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The perception of LSPU graduates and supervisors on the leadership abilities of LSPU MPA graduates is significant. If both group of respondents uphold MPA graduates' strong leadership abilities, it is an indication that they are capable of leading in professional situations. This is consistent with the demands in the field of public administration that require effective leaders to foster success and meet organizational objectives. However, the difference in the perception of the graduates' effect on the influence to their respective teams in comparison to their strengths in the areas of leadership attributes is an area of concern. This margin implies that although MPA graduates have strong leadership attributes, they may not be fully using them to have a positive influence on their teams or job performance as perceived by supervisors. This area can be improved by offering more leadership-oriented opportunities or mentoring LSPU MPA graduates on how to influence and inspire their teams. The same can be actualized by facilitating a conducive organizational climate that supports the role of MPA graduates by recognizing their input as leaders. Furthermore, training on leadership attributes can help to bridge the perception gap regarding the graduates' influence to their teams by graduates and supervisors. According to Al-Malki et al., (2018) graduates who have strong leadership attributes meet their task-related objectives towards organizations' success. Leadership skills development can enhance graduates' job performance.

Table 13

Level of LSPU-MPA Graduates' Influential Factors in terms of Organizational Support

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. The resources and tools provided by the organization significantly contribute to my job performance.	4.62	0.49	Excellent	4.67	0.51	Excellent
2. The level of support and guidance received from my supervisor positively impacts my job performance.	4.63	0.53	Excellent	4.71	0.46	Excellent
3. The training and development opportunities offered by the organization enhance my job performance.	4.63	0.56	Excellent	4.71	0.46	Excellent
4. The clarity and effectiveness of organizational policies and procedures facilitate my job performance.	4.63	0.56	Excellent	4.75	0.44	Excellent
5. The level of teamwork and collaboration within the organization positively influences my job performance.	4.73	0.45	Excellent	4.77	0.43	Excellent
Composite Mean	4.65		**Excellent**	4.72		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

On the other hand, the supervisor's perception of the level of teamwork and collaboration within the organization and their assessment of the provision of tools and resources in as much the same way the high level of perception of the MPA graduates on the level of organizational support they are getting. With this kind of perception, the supervisors' level of perception on this aspect is a little bit higher than the MPA graduates. However, the slight discrepancy in perception indicates the potential for supervisors to further advocate for and ensure the provision of necessary resources, tools and support to optimize the job performance of LSPU-MPA graduates. Personal attributes, leadership abilities, and organizational support as perceived by the LSPU-MPA graduates and supervisors are very important in developing job performance. Through the understanding of the performance influencers, graduates and supervisors can pursue as well as efforts towards the right course and develop their job performance. Abou-Moghli (2015) study indicates that the provision of job support is likely to increase job satisfaction and job commitment are fulfilled which results in an improvement in job performance. Therefore, organizational support remains an essential part in the improvement of the graduates' job performance.

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Table 14
Level of LSPU-MPA Graduates' Job Performance in terms of Competence

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. I possess the necessary knowledge and skills to perform my job effectively.	4.77	0.47	Excellent	4.77	0.43	Excellent
2. My job performance demonstrates a high level of competence.	4.73	0.45	Excellent	4.75	0.44	Excellent
3. I consistently meet or exceed the expectations and requirements of my role.	4.69	0.47	Excellent	4.81	0.40	Excellent
4. I continuously seek opportunities to improve my professional competence.	4.71	0.50	Excellent	4.73	0.49	Excellent
5. The level of expertise I bring to my job positively impacts my performance.	4.77	0.43	Excellent	4.81	0.40	Excellent
Composite Mean	4.73		**Excellent**	4.77		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

LSPU-MPA graduates generally show a high level of job performance competence in their self-assessment and rating by supervisors. It means that there is a positive alignment between the perception of graduates and supervisors on graduate's expertise, knowledge, and fit in the job. However, from the results, there is a slight difference in general perspective between graduates and supervisors that graduates looking forward to continuous professional performance improvement. If addressed accordingly, this can improve the overall professional competence of graduates and also ensure further growth and development in their careers. Competence is a matter of cognitive ability that is task-specific, more or less specialized system and domain-specific skills, proficiencies or traits that enable one to learn how to accomplish an objective and do it well, for employers, they require graduates should have a wide-ranging skill in terms of employability, and utilize them efficiently to improve job performance (Abas et al 2016).

Table 15
Level of LSPU-MPA Graduates' Job Performance in terms of Commitment

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. I am dedicated and committed to my work and responsibilities.	4.85	0.41	Excellent	4.73	0.45	Excellent
2. I consistently demonstrate a strong work ethic and a willingness to go the extra mile.	4.81	0.40	Excellent	4.75	0.44	Excellent
3. I am committed to achieving the goals and objectives of the organization.	4.87	0.34	Excellent	4.67	0.55	Excellent
4. My commitment to professional growth and development positively influences my job performance.	4.79	0.41	Excellent	4.71	0.46	Excellent
5. The level of dedication I show towards my work significantly contributes to my performance.	4.83	0.38	Excellent	4.75	0.44	Excellent
Composite Mean	4.83		**Excellent**	4.72		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

Based on the results above, it may be concluded that the LSPU-MPA graduates perceptions of their job performance that related to commitment is generally excellent. This implies that they are highly committed to work and dedicated to helping in achieving organizational goals. This commitment has a positive impact to their overall performance despite being slightly below their own general expectations. However, when it comes to their supervisors about their performance, it is also excellent especially in those that are dedicated and committed to work. The only issue is that supervisors' ratings regarding the

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graduates' commitment to organizational goals are also slightly lower than graduates' own general expectations. However, the fact that the graduates are highly committed is generally valid if both evaluate perceive the actions in a positive way. This implies that the graduates have a strong work ethics and are very proactive in their responsibilities. According to Cobbinah et al., (2020) employees that demonstrate high levels of commitment are generally committed to investing time effort and energy to their task and measures and it is likely that such employees are to behave in ways that leads to high level of job performance and to the achievement of the organizational goal.

Table 16
Level of LSPU-MPA Graduates' Job Performance in terms of Teamwork

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. I effectively collaborate and work well with others in a team environment.	4.67	0.47	Excellent	4.73	0.45	Excellent
2. I contribute positively to team dynamics and foster a cooperative work atmosphere.	4.75	0.44	Excellent	4.81	0.40	Excellent
3. I actively engage in team discussions and contribute valuable ideas and insights.	4.67	0.51	Excellent	4.77	0.43	Excellent
4. I readily offer assistance and support to team members when needed.	4.75	0.48	Excellent	4.71	0.46	Excellent
5. The level of teamwork and collaboration I exhibit significantly impacts my job performance.	4.71	0.50	Excellent	4.75	0.44	Excellent
Composite Mean	4.71		**Excellent**	4.75		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

The results indicate that MPA graduates have high self-perception on their job performance in terms of teamwork, consisting contributing positively to team dynamics. Supervisors accord MPA graduates an excellent teamwork rating. However, while graduates excel in teamwork overall, their level of engagement in team discussions and contribution of valuable ideas and insights falls slightly below their general perception. Additionally, supervisors' diverging perceptions highlight the importance of clear communication and mutual understanding between graduates and supervisors to maximize team effectiveness and performance. Therefore, supervisors should invest time and resources in improving teamwork among their employees to benefit more among staff in order to raise productivity and creativity (Subbalakshmi and Sirisha, 2020).

Table 17
Level of LSPU-MPA Graduates' Job Performance in terms of Credibility

Statements	LSPU-MPA Graduates			Supervisor		
	WM	*SD*	Interpretation	*WM*	*SD*	Interpretation
1. I consistently demonstrate a high level of professionalism and integrity in my work.	4.79	0.41	Excellent	4.83	0.38	Excellent
2. I am regarded as credible and reliable by colleagues and superiors.	4.69	0.47	Excellent	4.85	0.36	Excellent
3. I consistently deliver on my commitments and follow through on tasks.	4.73	0.45	Excellent	4.79	0.41	Excellent
4. My words and actions align with organizational values and goals.	4.73	0.49	Excellent	4.79	0.41	Excellent

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5. The level of trust and confidence bestowed upon me positively influences my job performance.	4.79	0.41	Excellent	4.83	0.38	Excellent
Composite Mean	4.75		**Excellent**	4.82		**Excellent**

Note. The mean is interpreted using the following: 4.20-5.00=Excellent, 3.40-4.19=Very Good, 2.60-3.39=Good, 1.80-2.59= Fair, 1.00-1.79= Poor.

Graduates and supervisors generally rate credibility at a real high level which indicates how consistent one is in behavior and professionalism. Although on graduates' side, there is a slight discrepancy in how they perceive their credibility to colleagues and superiors. Thus, these results generally show the need for a train on how much one sees the other, and excellent performance calls for train and continuous growing. Research by Dewi et al., (2020) Credibility is also a vital factor that the quality of the graduate's work is likely to be accepted based on how much the parties one works with getting convinced.

Table 18
Difference in Job Performance of MPA Graduates when Grouped According to Age

	Age	**Mean**	χ^2	p-value	Decision on Ho	Interpretation
	23-28	4.72				
	29-34	4.64				
	35-40	4.82				
Competence	41-46	4.80	2.1196	0.908	Fail to reject Ho	Not Significant
	47-52	4.75				
	53-58	4.67				
	59-63	5.00				
	23-28	4.87				
	29-34	4.71				
	35-40	4.62				
Commitment	41-46	4.83	3.6264	0.727	Fail to reject Ho	Not Significant
	47-52	4.80				
	53-58	4.60				
	59-63	5.00				
	23-28	4.87				
	29-34	4.60				
	35-40	4.60				
Teamwork	41-46	4.83	5.305	0.505	Fail to reject Ho	Not Significant
	47-52	4.90				
	53-58	4.47				
	59-63	5.00				
	23-28	4.87				
	29-34	4.71				
	35-40	4.62				
Credibility	41-46	4.83	3.229	0.780	Fail to reject Ho	Not Significant
	47-52	4.80				
	53-58	4.60				
	59-63	5.00				

Note. p – value < 0.05 is significant.

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Table 19

Difference in Job Performance of MPA Graduates when Grouped According to Gender

Job Performance	Gender	Mean	Mann-Whitney U	p-value	Decision on Ho	Interpretation
Competence	Female	4.71	235.5	0.472	Fail to reject Ho	Not Significant
	Male	4.81				
Commitment	Female	4.82	234	0.969	Fail to reject Ho	Not Significant
	Male	4.84				
Teamwork	Female	4.68	236	0.498	Fail to reject Ho	Not Significant
	Male	4.79				
Credibility	Female	4.72	214.5	0.229	Fail to reject Ho	Not Significant
	Male	4.81				

Note. p – value < 0.05 is significant.

Table 20

Difference in Job Performance of MPA Graduates when Grouped According to Educational Attainment

Job Performance	Educational Attainment	Mean	Mann-Whitney U	p-value	Decision on Ho	Interpretation
Competence	Master's Degree	4.73	50	1.00	Fail to reject Ho	Not Significant
	Doctorate Degree	4.90				
Commitment	Master's Degree	4.82	45	0.789	Fail to reject Ho	Not Significant
	Doctorate Degree	4.90				
Teamwork	Master's Degree	4.71	48.5	0.958	Fail to reject Ho	Not Significant
	Doctorate Degree	4.80				
Credibility	Master's Degree	4.75	43.0	0.723	Fail to reject Ho	Not Significant
	59-63	4.60				

Note. p – value < 0.05 is significant.

Table 21

Difference in Job Performance of MPA Graduates when Grouped According to Year of Graduation in MPA Program

Job Performance	Year of Graduation in MPA Program	Mean	χ^2	p-value	Decision on Ho	Interpretation
Competence	2018	4.86	2.007	0.848	Fail to reject Ho	Not Significant
	2019	4.75				
	2020	4.71				
	2021	4.80				
	2022	4.75				
	2023	4.68				
Commitment	2018	4.97	3.139	0.679	Fail to reject Ho	Not Significant
	2019	4.95				
	2020	4.83				
	2021	4.80				
	2022	4.68				
	2023	4.82				
Teamwork	2018	4.86	4.917	0.426	Fail to reject Ho	Not Significant
	2019	4.90				

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	2020	4.66				
	2021	4.80				
	2022	4.55				
	2023	4.69				
	2018	4.91				
	2019	4.80				
Credibility	2020	4.69	4.986	0.418	Fail to reject Ho	Not Significant
	2021	4.84				
	2022	4.58				
	2023	4.74				

Note. p – value < 0.05 is significant.

Table 22

Difference in Job Performance of MPA Graduates when Grouped According to Work Experience

Job Performance	**Work Experience**	**Mean**	χ^2	p-value	Decision on Ho	Interpretation
	Government	4.69				
	Administrative	5.00				
	Private	4.85				
Competence	Office Staff/Clerical	4.70	7.791	0.254	Fail to reject Ho	Not Significant
	Research	5.00				
	Accounting	4.00				
	Others	5.00				
	Government	4.77				
	Administrative	5.00				
	Private	4.90				
Commitment	Office Staff/Clerical	5.00	5.747	0.452	Fail to reject Ho	Not Significant
	Research	5.00				
	Accounting	5.00				
	Others	5.00				
	Government	4.66				
	Administrative	4.80				
	Private	4.90				
Teamwork	Office Staff/Clerical	5.00	6.766	0.343	Fail to reject Ho	Not Significant
	Research	5.00				
	Accounting	4.00				
	Others	5.00				
	Government	4.70				
	Administrative	4.93				
	Private	4.80				
Credibility	Office Staff/Clerical	5.00	6.334	0.387	Fail to reject Ho	Not Significant
	Research	5.00				
	Accounting	4.20				
	Others	5.00				

Note. p – value < 0.05 is significant.

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Table 23

Difference in Job Performance of MPA Graduates when Grouped According to Employment Status

Job Performance	Employment Status	Mean	χ^2	p-value	Decision on Ho	Interpretation
Competence	Regular/Permanent	4.72	1.113	0.573	Fail to reject Ho	Not Significant
	Contractual	4.80				
	Others	5.00				
Commitment	Regular/Permanent	4.80	2.600	0.273	Fail to reject Ho	Not Significant
	Contractual	5.00				
	Others	5.00				
Teamwork	Regular/Permanent	4.68	2.620	0.270	Fail to reject Ho	Not Significant
	Contractual	4.95				
	Others	5.00				
Credibility	Regular/Permanent	4.72	2.011	0.366	Fail to reject Ho	Not Significant
	Contractual	4.95				
	Others	5.00				

Note. p – value < 0.05 is significant.

As can be seen in Table 18-23, there is no significant difference in the levels of job performance of LSPU-MPA graduates when grouped according to age, gender, educational attainment, year graduated in MPA program, work experience, and employment status, *p-values* > 0.05. The result implies that the MPA values everyone's abilities and contributions equally in the organization and rather than factors like age, gender, or job title. This result can help build a culture of fairness in a work environment to develop professionally.

Table 24

Difference in Job Performance of MPA Graduates when Grouped According to Job Level Position

Job Performance	Job Level Position after MPA	Mean	χ^2	p-value	Decision on Ho	Interpretation
Competence	Professional/Supervisor	4.81	9.913	0.024	Reject Ho	Significant
	Others	4.80				
	Clerical	4.36				
	Manager/Executive	5.00				
Commitment	Professional/Supervisor	4.89	9.770	0.021	Reject Ho	Significant
	Others	4.94				
	Clerical	4.48				
	Manager/Executive	5.00				
Teamwork	Professional/Supervisor	4.76	8.433	0.038	Reject Ho	Significant
	Others	4.83				
	Clerical	4.36				
	Manager/Executive	5.00				
Credibility	Professional/Supervisor	4.79	5.886	0.117	Fail to reject Ho	Not Significant
	Others	4.80				
	Clerical	4.48				
	Manager/Executive	5.00				

Note. p – value < 0.05 is significant.

There is a significant difference in the job performance as to competence, commitment, and teamwork of MPA graduate when grouped according to job level position after their graduation, *p-values* < 0.05. However, there is no significant difference in the level of credibility of MPA graduates when grouped according to job level position. This suggests that the level of credibility of MPA graduates remains consistent regardless of their job level position.

Table 25

Post-Hoc Analysis of the Significant Difference in Competence of MPA Graduates when Grouped According to Job Level Position

Pair	Mean Rank difference	Z	SE	Critical value	p-value	p-value/2
x1-x3	12.465	2.627	4.7449	12.518	0.0086	0.0043
x2-x3	19.9	2.5781	7.7187	20.364	0.0099	0.005

Note: x1- Professional/Supervisor; x2 - Manager/Executive ; x3- Clerical

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Table 26

Post-Hoc Analysis of the Significant Difference in Commitment of MPA Graduates when Grouped According to Job Level Position

Pair	Mean Rank difference	Z	SE	Critical value	p-value	p-value/2
x1-x3	11.521	2.6151	4.4055	11.623	0.0089	0.0045
x2-x3	17.65	2.4628	7.1666	18.908	0.0138	0.0069
x3-x4	-14.29	2.3942	5.9698	15.75	0.0167	0.0083

Note: x1- Professional/Supervisor; x2 - Manager/Executive ; x3- Clerical ; x4-Others

Table 27

Post-Hoc Analysis of the Significant Difference in Teamwork of MPA Graduates when Grouped According to Job Level Position

Pair	Mean Rank difference	Z	SE	Critical value	p-value	p-value/2
x1-x2	20.95	2.6044	8.0442	21.223	0.0092	0.0046

Note: x1 - Manager/Executive ; x2- Clerical

The post-hoc analyses in Tables 25-27 indicate the following findings: MPA graduates on professional/supervisory and managerial/executive positions demonstrate significantly higher levels of competence than those on clerical positions. They also exhibit significantly higher levels of commitment than clerical job MPA graduates. Finally, the MPA graduates on managerial/executive positions show significantly higher teamwork than their clerical level counterparts.

Table 28

Difference in Job Performance of MPA Graduates when Grouped According to Performance Rating

Job Performance	Performance rating after MPA	Mean	χ^2	p-value	Decision on Ho	Interpretation
Competence	Very Satisfactory	4.74	3.635	0.162	Fail to reject Ho	Not Significant
	Excellent	4.84				
	Satisfactory	4.20				
Commitment	Very Satisfactory	4.81	5.772	0.056	Fail to reject Ho	Not Significant
	Excellent	4.96				
	Satisfactory	4.50				
Teamwork	Very Satisfactory	4.71	4.136	0.126	Fail to reject Ho	Not Significant
	Excellent	4.87				
	Satisfactory	4.00				
Credibility	Very Satisfactory	4.74	6.672	0.036	Reject Ho	Significant
	Excellent	4.93				
	Satisfactory	4.00				

Note. p – value < 0.05 is significant.

Findings resulted that there is a significant difference in job performance of MPA graduates when grouped according to their performance rating, *p-value* < 0.05. From the post hoc analysis in Table 29, MPA graduates with excellent performance rating have a significantly different level of credibility compared to those with a satisfactory performance rating. On the other hand, their level of competence, commitment, and team is not different irrespective of the performance rating.

Table 29

Post-Hoc Analysis of the Significant Difference in Job Performance of MPA Graduates when Grouped According to Performance Rating

DSCF Pairwise comparisons - Credibility			
		W	**p**
Excellent	Satisfactory	-3.475	0.037

Note. p – value < 0.05 is significant.

This outcome suggests that, depending on the performance rating, credibility can differ, but other important attributes such as competence, commitment, and teamwork do not, reflecting the importance of these traits in professional setting.

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Table 30

Difference in Job Performance of MPA Graduates when Grouped According to Number of Promotions After Graduation

Job Performance	**Number of Promotions**	**Mean**	χ^2	p-value	Decision on Ho	Interpretation
Competence	0	4.80	9.437	0.223	Fail to reject Ho	Not Significant
	1	4.81				
	2	4.73				
	3	5.00				
	4	4.00				
	None	4.60				
	N/A	4.20				
	Confidential	5.00				
Commitment	0	4.93	5.319	0.621	Fail to reject Ho	Not Significant
	1	4.84				
	2	4.83				
	3	5.00				
	4	4.80				
	None	4.80				
	N/A	4.47				
	Confidential	5.00				
Teamwork	0	4.87	10.961	0.140	Fail to reject Ho	Not Significant
	1	4.80				
	2	4.68				
	3	5.00				
	4	4.80				
	None	4.32				
	N/A	4.13				
	Confidential	5.00				
Credibility	0	4.80	8.043	0.329	Fail to reject Ho	Not Significant
	1	4.81				
	2	4.73				
	3	5.00				
	4	4.60				
	None	4.56				
	N/A	4.27				
	Confidential	5.00				

Note. p – value < 0.05 is significant.

There were no significant differences in job performance based on the number of promotions attained by LSPU-MPA graduates, p-values > 0.05. This suggests similar levels of competence, commitment, teamwork, and credibility, regardless of the number of promotions MPA graduates have received in their profession. In other words, a graduate's performance and dedication to their work remained steady despite career progress. This may be seen as an evidence of the efficacy of the LSPU MPA program in preparing graduates for each stage of their careers.

Table 31

Difference in Job Performance of MPA Graduates when Grouped According to Years in Service

Job Performance	**Years in Service**	**Mean**	χ^2	p-value	Decision on Ho	Interpretation
Competence	1-4	4.68	3.280	0.773	Fail to reject Ho	Not Significant
	5-8	4.78				
	9-12	4.70				
	13-16	5.00				
	17-20	4.50				
	21-24	4.40				
	29-32	4.80				
Commitment	1-4	4.92	4.683	0.585	Fail to reject Ho	Not Significant
	5-8	4.86				
	9-12	4.71				
	13-16	5.00				
	17-20	4.70				

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	21-24	4.60				
	29-32	4.96				
	1-4	4.80				
	5-8	4.80				
	9-12	4.53				
Teamwork	13-16	5.00	6.162	0.405	Fail to reject Ho	Not Significant
	17-20	4.60				
	21-24	4.50				
	29-32	4.76				
	1-4	4.76				
	5-8	4.80				
	9-12	4.67				
Credibility	13-16	5.00	2.420	0.877	Fail to reject Ho	Not Significant
	17-20	4.50				
	21-24	4.50				
	29-32	4.80				

Note. p – value < 0.05 is significant.

There is no significant difference in the job performance of LSPU-MPA graduates when grouped according to their length of service, *p-values* > 0.05. This implies that regardless of the length of service of MPA graduates in their profession, their level of competence, commitment, teamwork and credibility in their profession remains the same. This is an indicator of the effectiveness of MPA programs enabling their graduates to perform their work as expected regardless of the time they have offered their service to the profession. Professional development programs are therefore effective in maintaining and improving one's professional performance.

Table 32

Relationship between Job Performance and Influential Factors

Job Performance	Influential Factors	Spearman's rho	p-value	Decision on Ho	Interpretation
Competence	Personal Attributes	0.63	< .00001	Reject Ho	Significant
	Leadership Abilities	0.55	0.00003	Reject Ho	Significant
	Organizational Support	0.38	0.00517	Reject Ho	Significant
Commitment	Personal Attributes	0.54	0.00004	Reject Ho	Significant
	Leadership Abilities	0.71	< .00001	Reject Ho	Significant
	Organizational Support	0.58	< .00001	Reject Ho	Significant
Teamwork	Personal Attributes	0.74	< .00001	Reject Ho	Significant
	Leadership Abilities	0.70	< .00001	Reject Ho	Significant
	Organizational Support	0.58	< .00001	Reject Ho	Significant
Credibility	Personal Attributes	0.61	< .00001	Reject Ho	Significant
	Leadership Abilities	0.70	< .00001	Reject Ho	Significant
	Organizational Support	0.59	< .00001	Reject Ho	Significant

Note. p – value < 0.05 is significant. The strength of *r* is interpreted as follows. [0, .2) – very weak; [0.2, 0.4) – weak; [0.4,0.6) – moderate; [0.6,0.8) – strong; [,0.8,1) – very strong

There is a statistically significant monotonic relationship between LSPU-MPA graduates' job performance and the influential factors, *p-values* < 0.05. It shows the strength of the relationship which ranges from weak to strong. If the graduates' personal attributes, leadership abilities and organizational support increases, their competence levels, levels of commitment, teamwork and credibility will also increase. Therefore, positive changes in influential factors leads to positive changes in job performance.

CONCLUSIONS

In conclusion, the factors influencing LSPU Master in Public Administration (MPA) graduates on their job performance contributed to the development of professional effectiveness in public administration. Based on the results, personal attributes, leadership abilities, and organizational support mattered the most, while the latter had a somewhat more powerful effect. Thus, the areas identified for improvement were time management and task prioritization in the personal context and some of the aspects of leadership skills. On the other hand, MPA graduates were effective in their jobs, in terms of competence, commitment, teamwork, and credibility. Focusing on the efforts in aligning graduates and supervisors' expectations, concentrating on the identified areas of improvement, and promoting interests that can enhance in an overall professional effectiveness and organizational performance The equality factor is also manifested in evaluating the job performance indicators against individual characteristics, and not for age, gender, and job title. Credibility remains high, whereas the difference in performance is possible

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for different job levels. The credibility measure shows a connection with performance rates, proving the value of feedback and recognition. The job length does not affect job performance, which means the MPA grad preparation works regardless of experience. At the same, the positive effect of the improvements in personal attributes, leadership abilities, and organizational support resulting in the improved job performance was evident, indicating the high importance of these factors for graduates' success in public administration.

RECOMMENDATIONS

The following are some recommendations drawn from the findings.

1. Develop and enhance training programs, the institution might create short courses or organize workshops or seminars that bring together MPA Graduates and industry supervisors to discuss expectations, challenges and strategies to show success. These sessions can assist graduates to match their abilities with organizational goals. Alternatively, such sessions could be incorporated into the present curriculum or provided as additional development opportunities.
2. Launch leadership development programs like mentorship programs. Graduates might have the opportunity to learn from successful alumni or professionals in their field
3. Implement structures feedback mechanisms where graduates can share what they have experienced This input can help the institution determining areas that may require further support and how well its graduates applying their skills in the real world based on evidence and feedback.
4. Offer the graduates continuous learning and professional development opportunities tailored to their needs. These opportunities must also be extended to graduates throughout the working and career journey.
5. Future researchers should continue research on significant interventions concerning the measurements of job performance and career progress from MPA graduates.

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DECODING COVID-19: HARNESSING CNN MODELS FOR CHEST X-RAY CLASSIFICATION

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ABSTRACT

COVID-19 is a new virus that infects the respiratory tract of the upper respiratory system and organs. Based on the worldwide epidemic, the number of illnesses and deaths was growing every day. Chest X-ray (CXR) pictures are beneficial for monitoring lung diseases, especially COVID-19. Deep learning (DL) is a popular computing concept that has been widely used in medical applications. Efforts to automatically diagnose COVID-19 have been beneficial. This study used convolution neural networks (CNN) models to develop a DL technology for binary classification of COVID-19 using CXR pictures. By reducing the number of layers and tweaking parameters, training time was reduced. The suggested model for training loss of 0.0444 and accuracy of 98.53%. In validation it demonstrates even higher proficiency attaining a loss of 0.0181 and accuracy of 99.17%. These findings highlight the need of using deep learning (DL) for early COVID-19 diagnosis and screening.

KEYWORDS— ***CNN, COVID-19, X-ray, Model, Deep convolutional neural networks.***

I. INTRODUCTION

Coronavirus has emerged as a global medical issue. Pursuant to current World Health Organization statistics, the number of ill people and fatalities is steadily growing. As of this writing, the illness has claimed the lives of nearly 1.26 million people. Several Artificial Intelligence experts have offered frameworks and tactics to predict the progress of the virus and identify the condition. Chest X-ray pictures can be analyzed to determine a patient's COVID-19 infection status. In hospitals, traditionally processing large numbers of X-ray images can be time-consuming and complex.

COVID-19 is mostly spread by personal contact with infected individuals, Commonly utilized for managing this ailment are antibiotics, antimalarial drugs, antipyretics, cough suppressants, and analgesics, whether through inhalation, tactile contact, or mucosal interaction. The decision to hospitalize the infected patient is based on their illness status, symptoms, and severity [2]. The COVID-19 virus continues to spread globally. The World Health Organization (WHO) reported 3,128,962 fatalities till April 28, 2021. Early detection and treatment are crucial for preventing or minimizing the impact of pandemics on the health system.

The real-time RT-PCR method is often used to detect COVID-19. Chest radiology Early stages of COVID-19 are best diagnosed utilising techniques for imaging that involve CT and X-ray. Computed tomography provides comprehensive pictures that includes our bones, organs, soft tissue, and blood vessels. This allows doctors to distinguish interior structures, their forms, sizes, densities, and textures, as well as any damage that has occurred. CT pictures provide a precise slice of a specific body location, whereas conventional X-Rays encompass the complete body structure. The resulting body slice provides a thorough perspective of the patient's condition.

We pre-processed and trained X-ray scans from the Kaggle data pool for categorization, including Normal and COVID-19 images. X-ray imaging is a low-cost way to diagnose lung infections and identify coronaviruses. X-ray scans of COVID-19 patients show patchy infiltration or opacities similar to viral pneumonia symptoms'-rays during the early stages of COVID-19 showed no abnormalities. COVID-19 causes unilateral patchy infiltration in the middle, upper, or lower zone of the lungs, with occasional consolidation as the illness advances.[4]. Deep CNN has been utilized to address a variety of issues, including skin cancer, pneumonia, brain tumors, arrhythmia, Covid-19, image classification , lung segmentation, and breast cancer. Abbas and Abdeslam [10] employed a deep neural network dubbed Transfer, Decompose, and Compose in their study, aiming to classify COVID-19 cases according to a chest X-ray imagery. The authors recommended incorporating a class segmentation layer into previously trained models from the picture database. This layer separated every category into several sub-classes.

Deep learning (DL) stands out as a branch of machine learning, empowering computers to independently undergo training and

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assimilate pertinent data. Extracting traits from extensive amounts of unstructured data [8], recent advancements in medical imaging have witnessed remarkable expansion in the application of Deep Neural Network techniques. Deep convolutional neural networks (CNN) automate feature extraction from data, allowing for this breakthrough [9].

This study uses a binary classification technique To discern the presence of abnormalities in a chest X-ray picture COVID-19 either negative or positive? The suggested architecture is trained and evaluated using the COVID-19 chest CT-scan database. Experiments demonstrate the suggested architecture's great accuracy in COVID-19 detection.

II. RELATED WORKS

Soares et al. [6] used deep learning approaches such as DNN, Resent, Google Net, VGG16, Alex Net, Decision Tree, and AdaBoost to predict Covid-19 cases. The dataset undergoes an 80:20 partitioning for examination and instruction, respectively. According to the research findings, the DNN deep learning model attained a peak accuracy of 97.38%. Endeavored to identify Cifci [7] COVID-19 utilizing the Inception-V4 and Alex Net models. The training dataset comprised 4640 (80%) CT images, while the testing set consisted of 1160 (20%) CT scans. Experimental findings showed that Alex Net outperformed Inceptionv4. Alex Net obtained a accuracy 94.74%.

Wang et al. [2] analyzed 1,119 CT images from pathogen- They discovered verified COVID-19 instances with an accuracy of 89.5%, using the Inception model and deep learning approaches. Nefoussi et al. [9] compared classic histogram equalization, constrained adaptive histogram equalization, and transfer learning models for COVID-19 detection with DL approaches. The VGG19 model combined using a customized histogram equalization that is constrained by contrast outperformed the other models in the CT scan dataset, obtaining an accuracy of 95.75%.

Kumar, S. P., et al. [10] carried out research focused on COVID-19 identification in Iran, leveraging a novel database comprising 48,260 CT scan images. Employing ResNet50V2, a 50-layer network pre-trained on the ImageNet database, the research achieved an impressive accuracy of 98.49% for CT scanning. Diallo et al. [11] used deep transfer learning to detect COVID-19 in computed tomography images. The model demonstrates training of 96.22% and testing of 93.01% accuracies respectively.

Naresh, P. V et al. [12] attempted for the identification of Covid-19, deep learning methodologies were employed such as ResNet50, VGG16, and SVM. The dataset is split 80:20 for training and testing. The 1985 training test had 496 data points. During training, the application of a 5-fold cross-validation approach was implemented.

ResNet50 achieved the best accuracy (95.16%). Avcı, I et al. [13] used the ResNet50 approach to classify the COVID-19 in X-ray pictures. The diagnosis method yielded 98.18% accuracy, 98.14% precision, 98.24% recall, and 98.19% F1-Score.

Güngör, S et al. [14] employed DenseNet201, ResNet152V2, VGG16, and Inception Resent models from deep learning to identify Covid-19. The investigations resulted in a test validation rate of 96.25% for DenseNet201. Raheem et al. [15] conducted cross-dataset analysis using CT scan and Covid CT datasets, unlike previous studies. The study employed Efficient Net, a deep learning model, and achieved the maximum accuracy of 87.68.

III. METHODLOGY

Training a convolutional neural network to classify covid is the goal of the proposed study model. processed and managed beforehand before receiving CNN architecture training. In this instance, the most effective feature extraction techniques are convolution neural networks. Kaggle provided the X-Ray scans that were used as input. The methodological flow of the suggested technique is depicted in Figure 1.

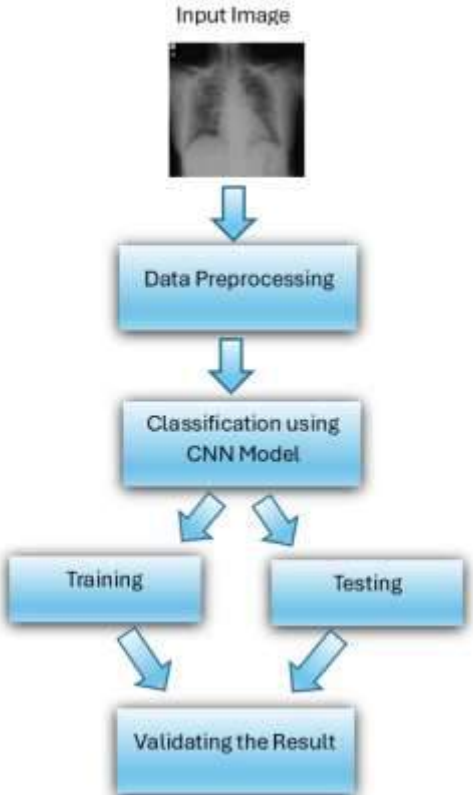


Figure 1. Proposed method flow chart.

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A. *Data Set*

The first step in this inquiry is to get a publicly available dataset from Kaggle within this dataset, two categories of chest X-ray images are encompassed: Covid Positive and Covid Negative (normal). This study included 1191 photos, including 821 for training, 184 for testing, and 186 for validation. It involves the following activities: Collect chest X-ray images, preprocess them, then divide them into three halves.

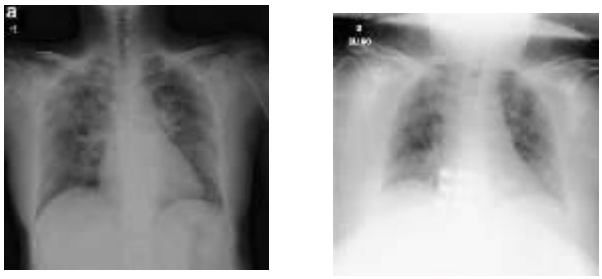


Figure 2 Images of Covid Classes

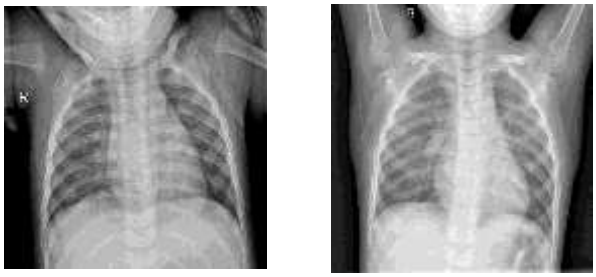


Figure 3 Images of Normal Classes

B. *Preprocessing*

Convolutional neural networks (CNNs) need all of their input pictures to be a fixed size, and in the dataset that was chosen, that size was changed to 128x128, which is the optimal size for preserving the information in the input images. In each dataset, if a fixed size There is ample variety, feature It's not required to shrink, preserving the characteristics of an input picture and improving prediction classification accuracy. A suitable size of 128x128 is chosen for resizing in this proposed approach because if the picture size is too large, it would lead to time and space complexity.

C. *CNN Model*

The CNN model design includes an attention mechanism that considers the key elements in the input images [8]. The input pictures are initially sent through a 32-filter convolutional layer with a 3x3 dimension that employs the ReLU activation function [5]. To increase stability, normalize the output from the preceding layer, and speed up training [16], batch normalization is used to this layer's output. This is followed by a dropout layer that randomly removes 25% of the neurons, a convolutional layer with 64 filters, a second convolutional layer, and a layer with a maximum pooling size of 2x2. The next layers employ convolutional layers with 128 and 256 filters [9], followed by max pooling and dropout.

The Activation function that generates attention maps for the predicted features. That maps are then multiplied with the feature maps to get the important regions of the input images. Finally, a flattened layer and fully linked layers with 512 neurons and the ReLU activation function receive the outcome of the CNN. At the end batch normalization, dropout, and

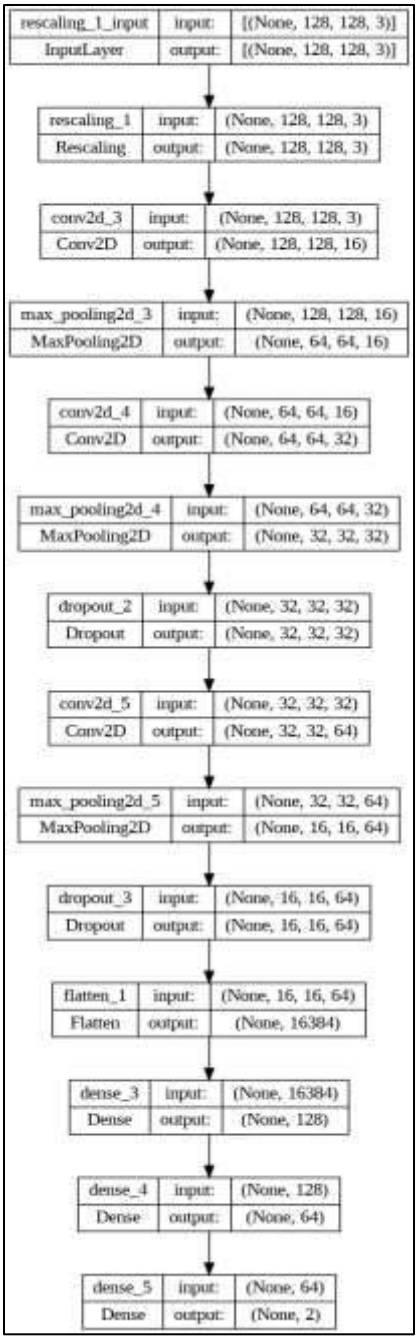


Figure 4 CNN Model Architecture

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SoftMax activation function with 2 output classes and with the top score considered as a predicted class. L2 regularization is applied to the fully connected layers to prevent overfitting.

Model: "sequential_2"

Layer (type)	Output Shape	Param #
rescaling_1 (Rescaling)	(None, 128, 128, 3)	0
conv2d_3 (Conv2D)	(None, 128, 128, 16)	448
max_pooling2d_3 (MaxPooling2D)	(None, 64, 64, 16)	0
conv2d_4 (Conv2D)	(None, 64, 64, 32)	4640
max_pooling2d_4 (MaxPooling2D)	(None, 32, 32, 32)	0
dropout_2 (Dropout)	(None, 32, 32, 32)	0
conv2d_5 (Conv2D)	(None, 32, 32, 64)	18496
max_pooling2d_5 (MaxPooling2D)	(None, 16, 16, 64)	0
dropout_3 (Dropout)	(None, 16, 16, 64)	0
flatten_1 (Flatten)	(None, 16384)	0
dense_3 (Dense)	(None, 128)	2097280
dense_4 (Dense)	(None, 64)	8256
dense_5 (Dense)	(None, 2)	130

Total params: 2129250 (8.12 MB)
Trainable params: 2129250 (8.12 MB)
Non-trainable params: 0 (0.00 Byte)

Figure 5 CNN Model Summary

This model is intended to categorize images of 2 classes Normal and Covid based on images of Chest X-ray. Multiple layers are present in the proposed CNN architecture for image classification. Convolutional layers and input layers come first, then batch normalization and max pooling. Overfitting is avoided by dropout regularization. max pooling is applied to the network after the convolutional and batch normalizations layers. The element-wise multiplication is done in a lambda layer, which is present in a final convolutional layer with a 1x1 kernel. The output is flattened and then fed through thick layers following another round of max pooling. Before the final dense layer, which comprises 2 units representing different categories, batch normalizations and dropout are performed with 21,29,250 trainable parameters.

The following layers make up the model architecture:

a. Input layer:

It accepts input pictures with a resolution of 128x128 and three RGB channels.

b. Convolutional layers:

These layers learn features from the input images using convolutional filters. There are two sets of Convolutional layers with 32 and 64 filters respectively[1], followed by Batch Normalization to normalize the convolutional layer and a ReLU activation function, a Max Pooling layer with a pool size of 2x2 is employed to diminish the dimensionality of the output feature maps [2]. Additionally, to mitigate overfitting, a Dropout layer with the rate of 0.25 is incorporated.

c. Set of Convolutional layers:

A Max Pooling layer is introduced with a pool size of 2x2, Batch Normalization, ReLU activation function[7], and a convolutional layer with 128 and 256 filter respectively are used. Once more to mitigate overfitting, a Dropout layer is introduced with a rate of 0.25.

d. Fully Connected Layer:

Two Dense layers are then added after . The first dense layer consists of 512 units and used L2 regularization with a 0.001 penalty and a ReLU activation function. to avoid overfitting, To enhance training stability and further mitigate overfitting, Batch Normalization is introduced along with a Dropout layer featuring a rate of 0.5. To anticipate the probability distribution between 2 classes a SoftMax activation function is introduced to the final 2 class dense layer.

e. Output

The final layer is the dense layer to anticipated probability distribution of 2 classes

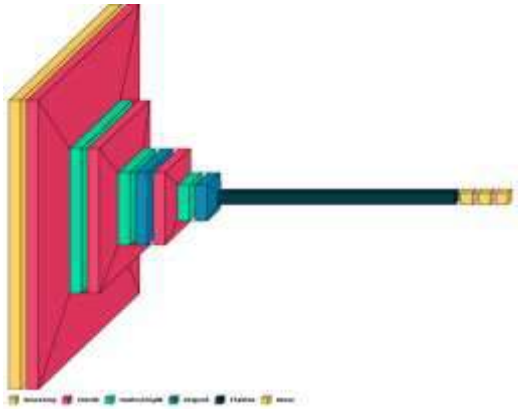


Figure 6 CNN Model Architecture 3D Plot

IV. RESULT

We evaluate the efficacy of our approach using the matrix presented in Figure 7 and 8. The variables consist of False Positives (FP), True Negatives (TN), True Positives (TP), and False Negatives (FN). The term "TP" indicates that the patient has diabetes, as determined by the models. FP indicates that the patient does not have covid, but the models incorrectly identified it as such. Patients with normal cases are referred to as TN, whereas models are categorized as Normal. According to FN, the patient had Covid, but the models wrongly recognized them as not having it.

The classifier's dependability defines the fraction of right positive items among genuine. Recall is the proportion of

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properly identified circumstances compared to the overall count of anticipated situations, While accuracy is the percentage of precisely classified instances compared to the total number of occurrences. The F1-score is calculated by taking the harmonic average of accuracy and recall. A model with a score closer to 1 is considered more effective. The following formulas are used to calculate all metrics [14].

• Accuracy A = (TP+TN)/ (TP+FN+FP+TN)

• Precision P = TP/ (TP+FP)

• Recall R = TP/ (TP+FN)

• F1-score F1 = 2P∗R/ (P+R)

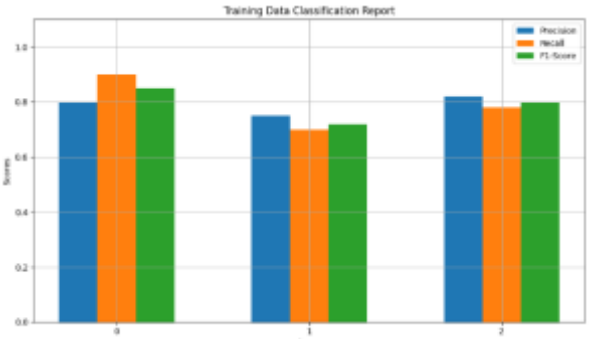


Figure 7 Training data classification report.

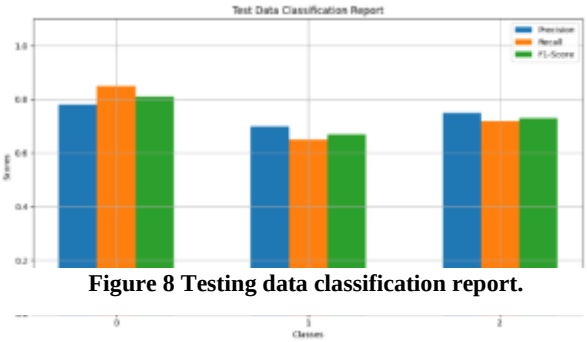


Figure 8 Testing data classification report.

Figure 6 and 7 classification reports for both the training and test data shows robust model performance, with high precision and recall scores. In the training set the model demonstrates exceptional accuracy achieving 98.53% it effectively distinguishes between the two classes with a precision of 96% for class 0 and 100% for class 1 albeit with a slightly lower recall for class 1 at 88%. Similarly on the test set the model maintains its high accuracy at 99.17% showcasing its generalization capability. Although there's a slight decrease in recall for class 1 compared to the training set, it remains at a commendable 89%. Overall, the model exhibits consistent and reliable performance, demonstrating its effectiveness in classifying instances accurately and efficiently.



Figure 9 depicts the Confusion Matrix of the Training data.



Figure 10 illustrates the Confusion Matrix of the Test data.

Figure 8 and 9 represent the confusion matrices illustrate the model classification performance on both the training and test datasets. Within the training set, The representation is correct identifies 1778 instances of class 0 and 561 instances of class 1.it misclassifies 79 instance of class 0 and 17 instances of class 1. Similarly on the test set the model accurately predicts 445 instances of class 0 and 143 instances of class 1 while misclassifying 17 instances of class 1. These matrices provide a clear visual representation of the model's ability to correctly classify instances as well as its tendency for misclassification thereby offering valuable insights into its performance characteristics.

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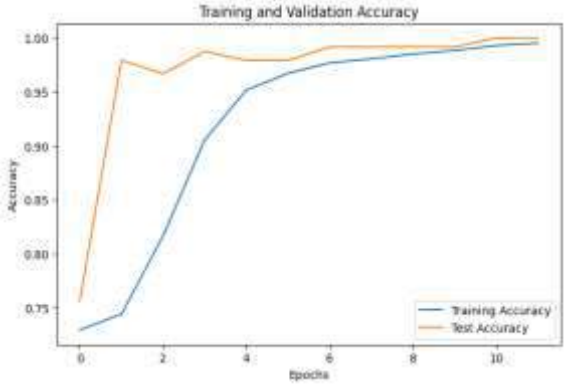


Figure 11 CNN model training and validation accuracy.

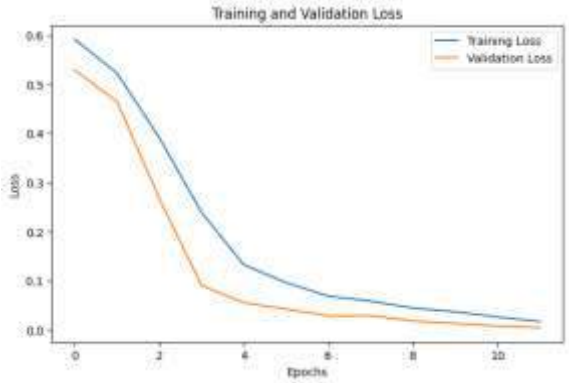


Figure 12 CNN model training and validation accuracy.

The Convolutional Neural Network model achieves remarkable performance with a training loss of 0.0444 and accuracy of 98.53%. In validation it demonstrates even higher proficiency attaining a loss of 0.0181 and accuracy of 99.17%. These results underscore the effectiveness of the CNN architecture in accurately classifying data particularly in distinguishing between different classes with high precision.

Tabel I. Accuracy report of training and testing.

	Class	Precision	Recall	F1-Score
Training	Normal	0.96	1.00	0.98
	Covid	1.00	0.88	0.93
Testing	Normal	0.96	1.00	0.98
	Covid	1.00	0.89	0.94

Tabel 1 represent the training and testing stages, the CNN model scores between 0.96 and 1.00, indicating great accuracy for both normal and COVID situations. The recall shows a modest drop, especially in testing, indicating that some COVID instances were missed, even if accuracy for COVID cases is flawless. Even so, the total performance is still good, suggesting that the CNN model can effectively detect COVID.

V. CONCLUSION

The present study uses a deep learning strategy to distinguish between covid-19 afflicted and unaffected individuals in mammography X-ray pictures. We propose deep model comparisons to determine which models perform better in illness categorization. Deep models demonstrated higher accuracy and lower loss rates during training and validation for covid-19 illness detection. Our findings show that deep learning-based CNNs can accurately and efficiently recognize and diagnose covid-19 disease. Modality processing leads to significant improvements in accuracy measures.

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EFFECTIVENESS OF CORE STABILITY EXERCISES TO IMPROVE THE BALANCE AMONG ELDERLY PEOPLE - A NARRATIVE REVIEW

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ABSTRACT

In this study the literature review focus on the available evidence for physiotherapy intervention to improve the balance among elderly people. Research involved a computerized data base pertaining to studies that include the physiotherapy among elderly people seven articles that showed outcome relative to improve balance, physiotherapy intervention to improve the balance among elderly patient, in among elderly people are at an impaired balance especially when walking, due to age related changes reduce in sensory perception, muscle strength coordination vestibular system and proprioception. In this literature review explained physiotherapy intervention core stability exercises improve balance among elderly people, affect balance leads to difficult of walking and difficult functional activity minimal literatures on improve balance there is scarcity of study which intervention among core stability exercises and Cawthorne Cooksey exercises.

***AIM** – The Study Aimed to Find the Effectiveness of Core Stability Exercises to Improve the Balance Among Elderly People*

KEY WORDS: *Balance, Elderly People, Intervention, Sensory Perception, Proprioception.*

SEARCH METHOD: *Balance On Elderly Population (Definition, Incidence, Prevalence, Etiology, Pathophysiology) Core Stability Exercises, Cawthorn Cooksey Exercises on Search Bar in Google Schooler, PubMed, Scopus Index.*

SELECTION CRITERIA

INTRODUCTION

Impairments to the sensory, motorcentral nervous systems can also result in instability in the elderly. Pathologies that target specific parts of these systems or the overall progressive loss of function brought on by aging in a healthy way can both lead to impairments. Regardless of the reason, balance control becomes more difficult, and there is a greater dependence on the remaining components when a sensory, motor, or central processing system component is compromised [1]. The ability to keep the body's center of gravity within the stability parameters set by the base of support is the simplest definition of balance. Age-related balance issues are most common among the elderly. The elderly are most likely to experience age-related balance problems; each year, one-third of people 65 years of age or older fall. Seniors' mental and physical health may suffer greatly due to the psychological fallout from poor balance. These ramifications include low self-esteem, concern about falling again, feelings of vulnerability, and decreased confidence in one's ability to perform physical tasks.[2]

Ageing is a physiological process that is dynamic, progressive, and accompanied by changes in morphology, biochemistry, psychology, and function. India, the world's second-most populated nation, has experienced a notable surge in the number of senior people, with projections indicating that by 2050, the number will reach approximately 324 million [3] When assessing an elderly subject's health, balance and gait are crucial factors to take into account. For those 65 to 69 years old, the projected percentage of self-report imbalance is 13%; for those 85 years and older, the proportion rises to 46%. [4] The muscles of the core act as a bridge between both the lower and upper limbs and force is transferred from the core, often called the powerhouse, to the limbs [5]. The core is important in providing local strength and balance and is central to almost all kinetic chains of daily activities. Core stability exercises refer to exercises that activate specific motor patterns of the muscles in the trunk by challenging spinal stability and trunk postural control. [6] The core is considered an integral link in the kinetic chain [7].

Exercises for core physical fitness may help lower the likelihood of developing other musculoskeletal diseases. [8] Core stability training is a form of training that challenges the spine's stability while training muscle activity patterns and postures that ensure sufficient stability without unnecessarily overloading tissue. [9]

The abdominals are in the front, the paraspinals and gluteals are in the back, the diaphragm is the roof, and the pelvic floor and

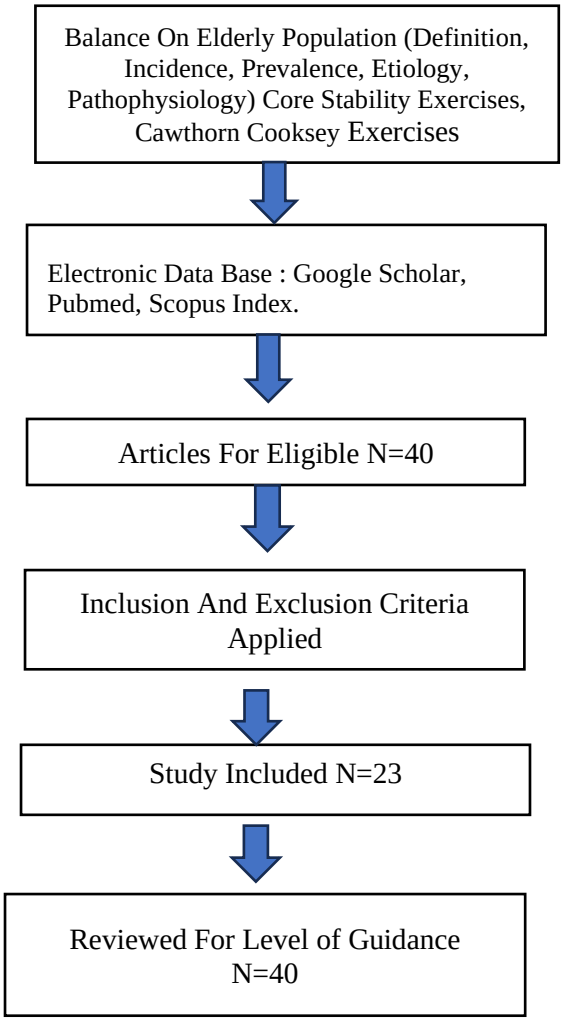
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hip girdle musculature are the bottom of the muscular box that represents the core. [10] The dynamic function of muscle components is principally in responsible for maintaining core stability Lower extremity movement is clearly correlated with activation in the trunk muscles. Research indicates that improving one's core strength can help with functional abilities. decreased ability to move around in the musculoskeletal system is the main manifestation of the systemic deterioration of aging. Age-related deficiencies have traditionally been reduced through lower limb resistance training and or balance. Nevertheless, There is not much evidence that resistance exercise enhances balance, functional skills, daily living activities, or fall rates. Therefore, in order to combat age-related deficiencies, it is imperative that new intervention programs be created and carefully designed.[11]

NEED OF THE STUDY

Balance and gait are important considerations in the health of elderly subjects. It is estimated that 13% of adults self-report imbalance from ages 65 to 69, and this proportion increases to 46% in those aged 85 and older. [4] Many studies have been conducted. on the elderly to improve balance, but limitation studies on the Cawthorne Cooksey exercises and core stability exercises on improving balance require more further studies. Therefore, I sought to be a comparative study of the Cawthorne Cooksey exercises and core stability exercises to improve balance among the elderly.

METHODOLOGY



METHODOLOGY

SEARCH METHOD AND ELIGIBILITY CRITERIA

PubMed, Google Scholar, Medline, and Pedro were utilized to conduct a comprehensive literature search. English-language publications of the articles were excluded**.** Here, the articles were searched with the keywords. Criteria for inclusion and exclusion.are filtered and finally, twenty three articles were obtained for the examine articles that weren't published in English were eliminated.

INCLUSION CRITERIA

1.Articles Discussing About Elderly People
2.Articles published most recent years.
3.Full-text articles.
4.Articles published in English.

EXCLUSION CRITERIA

1.Articles explaining surgical interventions.
2.Articles published in English language only

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SNO	TITTLE OF THE ARTICLE	NAME OF THE AUTHOR	YEAROF PUBLICATION	TYPE OF STUDY	MODE OF INTERVENTION	CONCLUSION
1.	The effect of adding core stability training to a standard balance exercise program on sit to stand performance in older adults: a pilot study	Cathy Arnold, Joel Lanovaz,	2015	Pilot study	Core stability exercises (EB group) and another receiving standard balance exercises (SB group).	In conclusion core stability training added to SB did not result in STS reps improvement compliance may modify these result s and future larger sample studies should evaluate the impact of training for core stability on sts biomechanics .
2.	Effect of Core Stabilization Exercises on Balance Performance in Older Adults	Ketki Ponde1, Ronika Agrawal2, Nazneen Khalil Chikte3	2021	Comparative study	Core Stabilization Exercises on Balance Performance in Older Adults	According to statistical analysis, The Experimental group demonstrated a notable enhancement in BBS, Y – Balance Test and Functional Reach Test scores with ($p < 0.05$) post six weeks of intervention. Control group showed not much of an improvement in the Scores Core stabilization exercises had significant improvement on balance variable in Comparing the external group to the control group
3.	The effects of core stability exercises on balance and walking in elderly fallers with mild cognitive impairment: a randomized control trial	Hassan Sadeghi1 , Seyed Sadredin Shojaedin2 , Elham Alijanpour	2020	Randomized control trails	Core Stability Exercises, Continued with daily activities without specific intervention	Strengthening the muscles in the central region of the body appears to help older people maintain their balance during daily activities. As independence is essential for individuals who have already falling, doing these exercises at home can increase their independence and level of participation. They are also easy, affordable, and suitable for people with a history of falling.
4.	Randomized controlled trial of core strength training in older adults: effects on functional mobility	Nishad abdul latheef majida* 1 , nizar abdul majeed kutty2	2015	Randomized control trails	Experimental Group (Core Strength Training) CONTROL GROUP Received no specific intervention	Together, our findings show that a core strength training regimen improved functional flexibility in older persons living in communities. Other senior independent living facilities could effectively implement the CST program to enhance mobility and balance while possibly lowering the risk of falls. Additional core strength exercise is inexpensive and safe to perform both inside and outside.
5.	The effect of selected core stability exercises on balance and muscle endurance in the elderly	Mehrdad bastani, gholamalighasemi	2017	Quasi experimental study	The intervention group (n=15) performed specific core stability exercises. The control group	Based on the results, the therapist recommended core stability exercises as a safe and practical way to help patients receiving hemodialysis with their balance and muscle endurance. This could lead

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	patients undergoing hemodialysis				(n = 15) did not take part in the intervention. .	to a decrease in the risk of falling because of poor balance and an increase in the patients' independence of movement.
6.	Comparative Effect of Core Stabilization Exercise and Active Video Gaming on Dynamic Balance in Elderly Female People: a single blind Randomized Controlled Clinical Trial	chatwalai Sonthikul, M.Sc.1 , Nurulhuda Hadhoh, B.Sc.2	2021	Single - blind Randomized control trail design	Core Stabilization Exercise and Active Video Gaming on Dynamic Balance in Elderly Female People:	Based on the study's findings, it appeared that performing core stability exercises could increase the strength of the muscles in the lower limbs and core. Active video gaming has the potential to enhance not only lower limb muscular strength and reaction time, but also dynamic balance,it is highly recommended that using active video gaming in elderly in addition they should provide significant information of improvement s of muscle power and balance which may be beneficial for geriatric rehabilitation program .
7.	Effects of integrative core stability training on Balance And walking speed in healthy elderly people	Italo sannicandro	2020	Comparati ve study	Core stability program exercises recreational group , adapted plank exercises, turn and twist with light ball on one leg stance.	The results revealed a change in test score across the two time periods for csg in the mcgill sit up test ($p<0.01$), in the trunk extention ($p<0.01$)
8.	Differences in the effect of the combination of square stepping and gaze stabilization with square stepping and core stability on dynamic balance in the elderly	Muslimainia* Dita Mirawatib ;Asita Rohmah Mutnawasitoh c	2023	Quantitative study with a quasi-experimental design.	4 weeks, with square stepping, gaze stabilization, and core stability exercises conducted multiple times per week.	The study comes to the conclusion that the impact of exercise treatments on dynamic balance varies significantly among the elderly.
9.	Effects of Core Instability Strength Training on Trunk Muscle Strength, Spinal Mobility, Dynamic Balance and Functional Mobility in Older Adults	Urs granacher andre lacroix b	2013	Randomized controlled trial (RCT).	underwent a nine-week regimen of progressive core instability strength training (CIT), with no intervention given to the control group.	With a strong adherence rate, CIT has shown to be a workable workout regimen for seniors. CIT can help to reduce age-related losses in measures of spinal mobility, dynamic balance, trunk muscular strength, and functional mobility. Conventional resistance training and/or balance methods could be supplemented, if not replaced, with this training schedule.

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10.	Impact of core fitness on balance performance in the elderly	Xu Y.	2022	randomized controlled trial	The experimental group receives the intervention (while the The control group is not given any assistance.	Core training can improve the elderly´s functional physical ability and static balance capacity. *Evidence level II; Therapeutic Studies - Investigating the results.*
11	Effect of Core Strengthening Exercise Programs on Symmetric Double Limb Support and Balance Ability for the Elderly	Kang KY, Choi JH, Lee SB	2012	randomized controlled trial	Core Strengthening Exercise Programs	This study sought to apply the activities for strengthening the core to enhance the balance ability for elderly in a bid to study an effective exercise method to prevent getting a bruise from a fall. In conclusion, the core strengthening exercise was proven that it was effective in improving balance ability of elderly and in preventing getting a bruise from a fall. The subjects for this group was comparatively healthy. For a better research, it is considered that a study with elderly who have experience of getting a bruise from a fall is necessary.
12.	Effects of core muscle stability training on the weight distribution and stability of the elderly	Kwon-Young Kang, PhD, PT1)	2015	randomized controlled trial (RCT)	core muscle stability training, specifically targeting the transverse abdominis, multifidus, and pelvic floor muscles. Participants in the experimental group performed co-contractions of these muscles in various positions, such as maintaining a bridging position, crawling position, and stretching exercises involving the limbs.	Core muscle stability training should be considered as a therapeutic method for the elderly to increase their WDI, and SI, and as a fall prevention measure.
13.	Comparisons of berg balance scale following corestabilization training in women elderly	Amin Farzaneh Hesari 1, Solmaz Mahdavi 2	2012	Comparative study	Berg balance scale comparisons after core stability training	Programs for core stability Exercise is beneficial for senior citizens. with their postural control. Thus, Exercises for core stability can improve dynamic balance in addition to bolstering the central muscles, thereby reducing the aged population's risk of falls. Lastly, it is strongly advised that older adults who use core stabilization training enhance their daily living activities and reduce their chance of falling.

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14.	Development of core strength training equipment and its effect on the Performance and stability of the elderly in activities of daily living	Kyung Koh1,3, Yang Sun Park	2016	quasi-experimental study	Participants in the intervention carried out core strengthening exercises with a rope and a stability ball that they pulled or pushed with two hands while lying on the ball.	Using the apparatus created for this study, the elderly's both efficiency and stability during daily living tasks were enhanced through the strengthening functional flexibility in
15.	The Effect of Eight Weeks Aquatic Balance Training and Core Stabilization Training on Dynamic Balance in Inactive Elder Males	Hajarjahadian Sarvestani, hosseinberenjeian Tabrizi,	2012	Randomized Controlled Trial (RCT)	Aquatic Balance Training (ABT), Core, Stabilization Training (CST), Control group.	It is possible to use both ABT and CST training methods. Furthermore, it is more appropriate and this type of training can be recommended to the geriatric society, even though both training types had an equal impact on improving balance in the inactive elder males. This is also because ABT is linked with greater safety and subject satisfaction.
16.	Effect of 6 week six of functional training and core stability on balance and quality of life in elderly women	Fateme Pourshian NajafabadiReza Mahdavi Nejad2 ,	2013	randomized controlled trial (RCT).	intervention in this study is a training program focused on functional training and core stabilization.	This study demonstrated how a functional core stabilization exercise program can enhance older women's quality of life as well as their static and dynamic balance. Therefore, it seems that a functional training and core stabilization program is a helpful exercise to enhance standard of living and balance, lower the chance of falling, and lower medical expenses.
17.	The Effect of 8 Weeks of Core Stability and Pilates Trainings on Ankle Proprioception, Postural Control, Walking Performance, Self-efficacy and Fear of Falling in Elderly Women	Zohreh Naderi Tehrani 1 , Khosro Jalali Dehkordi *	2018	Randomized control trails	involves two different training methods: core stability training and Pilates training.	It seems that Pilates and core stability trainings can be used in medical centers as a complementary rehabilitation method in order to Increase the ankle proprioception, balance, walking performance and decreasing the fall of old ladies.

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18.	The Effects of cognition and functional performance on core stability in the elderly population: a cross-sectional study	Agris Liepa, Undine Gudina	2020	cross-sectional design	involve a combination of exercises and activities designed to improve static balance (e.g., standing on one leg, balance board exercises), cognitive tasks (e.g., dual-task training, cognitive exercises targeting attention and working memory), and core stability exercises (e.g., planks, pelvic tilts, stability ball exercises)	The core stability is significantly affected by cognition and static balance identifying the presence of neural circuits between them which when challenged may play a crucial role during the locomotor tasks.
19.	To compare the effect of modified pilates and core stabilization exercise on balance, core muscle endurance and lumbopelvic flexibility in elderly women	Dr. Naina Aggarwal1 , Dr. Mukesh Sharma2	2023	experimental design	effect of modified pilates and a core stabilization drill on balance, core muscle endurance and lumbopelvic flexibility in senior ladies.	The study provides evidence that both the interventions are effective and can be applied in clinical setup to improve balance and endurance of the central muscles and lumbopelvic flexibility in elderly women.
20.	The effects of core stability exercise in improving back muscle Strength, limb muscles and dynamic balance in the elderly in Singaraja, indonesia	Kadek Dio Agus Bagiartana 1 Titih Huriah	2023	randomized controlled trial	Core stability exercise in improving back muscle Strength, limb muscles and dynamic balance	This study proved that workout for core stability for four weeks Effectively increased back strength and leg muscles and Dynamic balance in the old age compared to controls. workout for core stability can be performed at home to maintain and Improve muscle strength in the legs, back, and dynamic balance
21.	Differences in the Influence of Core Stability and Balance Training Training on the Risk of Falling in the Elderly	Linda Sahru Ramadani1, Dwi Kurniawati2,	2023	randomized controlled trial (RCT).	Core stability and balance training	Core stability has more influence on reducing the elderly's danger of falling than balance training Group.
22.	Design and development of a core strengthening exercise and rehabilitation machine for elderly	Sairag Saadprai1, Supattra Silapabanleng2	2021	Experimental study	Core strengthening exercise and rehabilitation machine	The developed machine offers a safe and reliable solution for elderly individuals to improve core muscular power and overall health. Future studies could test the machine with elderly participants to further validate its effectiveness.
23.	The effect of abdominal drawing-in exercise and myofascial release on pain, flexibility, and balance of elderly females.	Seong Hun Yu, PhD, PT1)	2016	randomized controlled trial (RCT)	abdominal drawing-in group or group for myofascial release	According to the above research, myofascial release had an impact on the discomfort and flexibility of senior ladies who engaged in abdominal drawing-in exercise.

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DISCUSSION

In this discussion on core stability exercises among people The exercises showed significant improvement in balance. Balance improvements may result from core stability workouts that focus on the deep spine stabilizers, which are necessary to build a strong foundation for the limb muscles to move on The result of the lumbopelvic-hip complex's muscular capacity and motor control is the core stability system. Cathy Arnold, Joel Lanovaz conducted that The impact of adding core stability training to a standard balance exercise program on Older seniors' performance from sit to stand a pilot study In conclusion training for core stabilityadded to SB did not result in STS reps improvement compliance may modify these result s and future larger sample studies should evaluate the impact of training for core stability on sts biomechanics [12]

Ketki Ponde1, Ronika Agrawal2, Nazneen Khalil Chikte3 et al conducted study on Impact of the Core Stabilization Exercises on The ability to balance in older adults According to statistical analysis, The Experimental group demonstrated a notable enhancement in BBS, Y – Balance Test and Functional Reach Test scores with ($p < 0.05$) post six weeks of intervention. Control group showed not much of an improvement in the Scores Core stabilization exercises had significant improvement on balance variable in Comparing the external group to the control group [13]

Hassan Sadeghi1 , Seyed Sadredin Shojaedin2 , Elham Alijanpour et al conducted study on The benefits of walking and core stability exercises in older fallers with mild cognitiveImpairment a randomized control trial Strengthening the muscles in the central region of the body appears to help older people maintain their balance during daily activities. As independence is necessary for people who havea history of falling, doing these exercises at home can increase their independence and level of participation. They are also easy, affordable, and suitable for people with a history of falling.[14] Nishad abdul latheef majida* 1 , nizar abdul majeed kutty2 et conducted study on Randomized controlled trial of core strength training in older adults: effects on functional mobility Together, our findings show thata core strength training regimen improved functional mobility in older persons living in communities. Other senior independent living facilities could effectively implement the CST program to enhance mobility and balance while possibly lowering the risk of falls. Additional core strength exercise is inexpensive and safe to perform both inside and outside.[15]

Mehrdad bastani, gholamalighasemi et al conducted study on Based on the results, the therapist recommended core stability exercises as a safe and practical way to help patients receiving hemodialysis with their balance and muscle endurance. This could lead to a decrease in the risk of falling because of poor balance and a rise in the patients' independence of movement.[16] chatwalai Sonthikul, M.Sc.1 , Nurulhuda Hadhoh, B.Sc.2 et al conducted study on Active video gaming has the potential to enhance not only lower limb muscular strength and reaction time, but also dynamic balance,it is highly recommended that using active video gaming in elderly in addition they should provide significant information of improvement s of muscle power and balance which may be beneficial for geriatric rehabilitation program [17]

Italo sannicandro et al conducted study on Effects of integrative core stability training on Balance And walking speed in healthy elderly people The results revealed a change in test score across the two time periods for csg in the mcgill sit up test ($p<0.01$), in the trunk extention ($p<0.01$) [18]

Muslimainia*Dita Mirawatib ;Asita Rohmah Mutnawasitohc et al conducted study on Differences in the effect of the combination of square stepping and gaze stabilization with square stepping and core stability on dynamic balance in the elderly The study comes to the conclusion that the impact of exercise treatments on dynamic balance varies significantly among the elderly.[19]

Urs granacher andre lacroix b et al conducted study on Impact of Core Instability Strength Training on Spinal Mobility, Dynamic Balance, Functional Mobility, and Trunk Muscle Strength in Elderly Adults With a strong adherence rate, CIT has shown to be a workable workout regimen for seniors. CIT can help to reduce age-related losses in measures of spinal mobility, dynamic balance, trunk muscular strength, and functional mobility. Conventional resistance training and/or balance methods could be supplemented, if not replaced, with this training schedule.[20] Xu Y et al conducted study on Impact of core fitness affecting elderly people's ability to balance Core training can improve the elderly´s functional physical ability and static balance capacity. Evidence level II; Therapeutic Studies - Investigating the results.[21]

Kang KY, Choi JH, Lee SB et al conducted study on This study sought to apply the activities for strengthening the core to enhance the balance ability for elderly in a bid to study an effective exercise method to prevent getting a bruise from a fall. In conclusion, the core strengthening exercise was proven that it was effective in improving balance ability of elderly and in preventing getting a bruise from a fall. The subjects for this group was comparatively healthy. For a better research, it is considered that a study with elderly who have experience of getting a bruise from a fall is necessary [22]

Kwon-Young Kang, PhD, PT1)et al conducted study on consequences of core muscle stability instruction in the weight distribution and consistency of the elderly conclusion Core muscle stability training ought to be taken into account as a therapeutic method for the elderly to increase their WDI, and SI, and as a fall prevention measure. [23]

Amin Farzaneh Hesari 1, Solmaz Mahdavi 2 et al conducted study on Berg balance scale comparisons in older women after core stability training Programs for core stability Exercise is beneficial for senior citizens. with their postural control. Thus, Exercises for core stability can improve dynamic balance in addition to bolstering the central muscles, thereby reducing the aged population's risk of falls. Lastly, it is strongly advised that older adults who use core stabilization training enhance their daily living activities and reduce their chance of falling.[24]

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Kyung Koh1,3, Yang Sun Park et al conducted study on Development of core strength training equipment and its effect on the Performance as well as the steadiness of the elderly in regular living activities Using the apparatus created for this study, the elderly's both efficiency and stability during daily living tasks were enhanced through the strengthening of the core exercise.[25]

Hajarjahadian Sarvestani, hosseinberenjeian Tabrizi, et al conducted research The Impact of Eight Weeks of Core Stabilization and Aquatic Balance Training on Dynamic Balance in Elderly Males Who Are Not Active It is possible to use both ABT and CST training methods. Furthermore, The geriatric society can benefit from this kind of training as it is more suited, even though both kinds of training had an equal impact on enhancing equilibrium in the sedentary elderly males. This is also because ABT is linked with greater safety and subject satisfaction.[26]

Fateme Pourshian NajafabadiReza Mahdavi Nejad2 , et al conducted study on Effect of 6 week six of Core stability and functional training on equilibrium and standard of living in older women In summary This research showed how a functional core stabilization exercise program can enhance older women's quality of life as well as their static and dynamic balance. Therefore, it seems that a functional training and core stabilization program is a helpful exercise to enhance standard of living and balance, lower the chance of falling, and lower medical expenses.[27]

Zohreh Naderi Tehrani 1 , Khosro Jalali Dehkordi et al conducted study on The Effect of 8 Weeks of Core Stability and Pilates Trainings on Ankle Proprioception, Postural Control, Walking Performance, Self-efficacy and Fear of Falling in Elderly Women It seems that Pilates and core stability trainings utilised in medical centers as a complementary rehabilitation method to raise the ankle proprioception, balance, walking performance and decreasing the fall of old ladies.[28]

Agris Liepa, Undine Gudina et al conducted study on The Results of cognition and functional performance on old people's core stability population: a cross-sectional study conclusion The fundamental stability is significantly affected by cognition as well as static equilibrium identifying the presence of neural circuits between them which when challenged may play a crucial role during the locomotor tasks.[29]

Dr. Naina Aggarwal1 , Dr. Mukesh Sharma2 et al conducted study on To contrast the impact of modified pilates and balance exercises using the core stabilization, core muscle endurance and lumbopelvic flexibility in elderly women The research shows that both the interventions are effective and can be applied in clinical setup to improve balance and endurance of the central muscles and lumbopelvic flexibility in elderly women.[30]

Kadek Dio Agus Bagiartana 1Titih Huriah et al conducted study on The effects of core stability exercise in improving back muscle Strength, limb muscles and dynamic balance in the elderly in Singaraja, Indonesia This study proved that core stability exercise for four weeks Effectively increased back strength and leg muscles and Dynamic balance in the old age compared to controls. Core Stability exercises can be performed at home to maintain and Improve muscle strength in the legs, back, and dynamic balance [31]

Linda Sahru Ramadani1, Dwi Kurniawati2,et al conducted study on Differences in The Impact of Core Stability and Balance Training Training on The Elderly's Risk of Falling Core stability has more influence on reducing the elderly's danger of falling than balance training Group. [32]

Sairag Saadprai1, Supattra Silapabanleng2 Design and development of a core strengthening exercise and rehabilitation machine for elderly The developed machine offers a safe and reliable solution for elderly individuals to improve core muscular power and overall health. Future studies could test the machine with elderly participants to further validate its effectiveness.[33] Seong Hun Yu, PhD, PT1) et al conducted study onThe impact of myofascial release and abdominal drawing-in exercises on older women's discomfort, flexibility, and balance According to the above research, myofascial release had an impact on the discomfort and flexibility of senior ladies who engaged in abdominal drawing-in exercise.[34]

CONCLUSION

All the above-reviewed strategies for enhancing elderly people's balance population are effective; hence, the above interventions are recommended. Core stability exercises offer promising benefits for improving balance, functional mobility, and muscle endurance in older adults. These exercises should be considered an integral component of comprehensive geriatric rehabilitation programs aimed at promoting healthy aging and preventing falls in elderly populations.

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A STUDY ON THE RELATIONSHIP BETWEEN STUDENTS' LISTENING SKILLS AND ACADEMIC ACHIEVEMENTS: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

The intent of this systematically reviewed literature was to assess the connection between students' listening skills and their academic achievements. The researcher gathered previously conducted articles from Scopus data base. He examined papers that were released in the years from 2000-2022. To guide the review, the researcher performed six actions; systematic literature review using PRISMA method (Mihret, G. et al., 2024). Among 39 scrutinized articles, the researcher retained 12 articles. The researcher used key words: academic achievement, skill, academic performance, listening skill, listening comprehension and academic achievements to run his study. The retrieval date for articles was 16 of May 2024. The publication stage that the researcher used was final articles not article in press and the document type was articles which were published in English language. Predominantly, the subject areas he used were Social Sciences, Psychology and Arts and Humanities. The findings seem to suggest students learn instructions more successfully when they are quiet, concentrated, and not twitching. As a result, teachers may not need to repeat instructions as often. This means, students' listening skill and their academic achievements have direct or positive relationships. Future research on the area indicated that when learners are eager and keen on listening, they will achieve their educational goals easily.

1. INTRODUCTION

Students' academic success is directly correlated with their listening comprehension. In light of this, the targeted sixth and eighth grade pupils have subpar listening skills that impede their ability to succeed academically. Personal documentation that show discipline referrals to the administration and teacher observations of pupils disobeying written and oral instructions are indications that the issue exists. More precisely, these noticed behaviors occur in labs where particular instructions must be followed, during homework assignments that are turned in incomplete or erroneous, and during cooperative learning activities that take place in the classroom.

This literature's goal was delineating the association between pupils' academic success and the skill of listening comprehension. Teacher assessments that showed poor academic performance, anecdotal notes from teacher observations that described poor listening practices, learners, parent, and educators surveys, learner journals, teacher checklists, student work samples, and grade reports that showed a gap between performance and ability were all evidence of their correlation issues. The failure to use listening as an effective learning tool, insufficient exposure to formal listening instruction, difficulty focusing on and differentiating between essential and nonessential auditory input, and a lack of knowledge about the intricate processes involved in effective listening were among the likely causes. Weak concept imagery, a lack of internal desire, and a lack of the necessary social and physical abilities were other culprits.

One of the most important abilities for learning in an academic setting is listening. Concentrating and listening comprehension can be enhanced by using the right listening techniques. They could score better on the listening test if they examined the cognitive process during the listening activity from the standpoint of metacognitive awareness. That is being said, and when learning English as a second language or as a foreign language, listening is the skill that is least practiced and sometimes overlooked. In order to improve students' proficiency, it is necessary to tackle inattention and do research on listening techniques (Anneliza et al., 2020).

Age is just one of many factors that may have an impact on the intricate process of developing listening comprehension in a foreign language. It is also linked to the advancement of other language skills. The relationship between students' academic progress and their listening comprehension is examined by the students in this study. While age is widely acknowledged as a critical component in language learning, there is a paucity of

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research demonstrating the connection between age and adult learners' achievement in listening comprehension in a foreign language (Stankova et al., 2022).

The pupils' academic progress was measured using the grades from the courses using English as the medium of instruction. The findings demonstrated a strong and positive relationship between learners' self-perceptions of the four competencies and their subjective or objective assessments of their vocabulary knowledge. Furthermore, it was discovered that the largest correlation between language proficiency and academic success was self-perception, trailed by language proficiency. It's noteworthy to see that vocabulary knowledge provided the most unique explanation for the students' academic success. Even though it was projected as an additional value to the model of academic achievement, vocabulary knowledge explained a larger portion of the contribution from students' perceptions of their own second language usage (Masrai et al., 2022).

2. OBJECTIVE

Conduct a thorough assessment of the literature about the connections between the students' listening skills and their academic achievements.

3. RESEARCH QUESTION

How does students' listening skill relate to their academic achievement?

4. SYSTEMATIC LITERATURE REVIEW

The research focused to determine the academic buoyancy of the Iraqi students studying English as a foreign language in terms of their reading and listening skills, as well as the distinctions between the two. The following is demonstrated by the variations between each scale's five predictors: In reading, kids exhibit high levels of academic performance and low levels of control; conversely, in listening, they have high levels of relationship buoyancy with their teachers and low levels of anxiety. Thus, it is possible to draw the conclusion that in order for the kids to become more buoyant readers and listeners, they require new reading and listening practices (Robertson, 2020).

The lexical quality hypothesis was supported by latent profile analyses done independently for English language learning and English as a first languages, which revealed the formation of two profiles: Insufficient language skills (linguistic perceptions and, to a lesser extent, auditory understanding) and word-reading abilities (phonologically related understanding and an orthographic thinking) were linked to a low comprehension profile. Great auditory and an orthographic analyzing skills, paired with strong conceptual and listening comprehension skills, all lead to high sensing comprehension. A good listening profile is associated via standard or above-average results on each of the skills. For both the English language learning and the English as a first language groups, the good and poor comprehension qualities were comparatively similar. On the other hand, low comprehension had trouble with these same constituent abilities. (Connor & Geva, 2018).

Impaired phonological processing is linked to dyslexia and is connected to left temporal lobe activities. Dichotic listening is a commonly used activity to evaluate left temporal lobe functions. In the dichotomy listening exercise, a right ear advantage represents the left hemisphere's greater ability to comprehend the right ear signal, which is explained by the preponderance of contralateral neural networks. However, the results of earlier research utilizing dichotic listening in dyslexia are inconsistent and may indicate the severity of the condition (Helland et al., 2008).

The constructive listening gives students a tool for processing difficult new information and developing emotional literacy by helping them to examine their own experiences, feelings, and knowledge. It can be used in teaching settings and in discussions regarding race. These methods can assist students in developing the interpersonal and conceptual abilities necessary for effective scientific listening practice (Chew, 2014).

5. METHODOLOGY

Systematic literature review using PRISMA method (Mihret, G., et al., 2024). Extraction of data: in the data extraction stage, 19 papers were retrieved and limited to the following requirements.

1. Articles must be either original, review papers or published reports.
2. The reviewed article must be in English and from the fields of social sciences, arts and humanities and psychology.
3. Systematically reviewed articles were published between the ranges of 2000-2022.
4. The extracted paper was from all countries.
5. The database used to extract the articles was "Scopus database".
6. Keywords used to extract the articles are academic achievement, skill, academic performance, listening skill, listening comprehension and academic achievements

6. DATA COLLECTION TOOLS

The researcher took the data for this study in textual form; in other words, he used the secondary data. On 16 May 2024, data from the Scopus academic search engine (https://www.scopus.com) were obtained. Additionally, 'Advance' search terms were used through TITLE-ABS-KEY (relationship AND listening AND skill AND academic AND achievement) AND (LIMIT-TO (EXACTKEYWORD , "Academic Achievement") OR LIMIT-TO(EXACTKEYWORD , "Skill") OR LIMIT-TO (EXACTKEYWORD , "Academic Performance") OR LIMIT-TO (EXACTKEYWORD , "Listening Skill") OR LIMIT-TO

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(EXACTKEYWORD , "Listening Comprehension") OR LIMIT-TO (EXACTKEYWORD , "Academic Achievements")) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "PSYC") OR LIMIT-TO (SUBJAREA , "ARTS")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (LANGUAGE , "English"))

PRISMA) Diagram

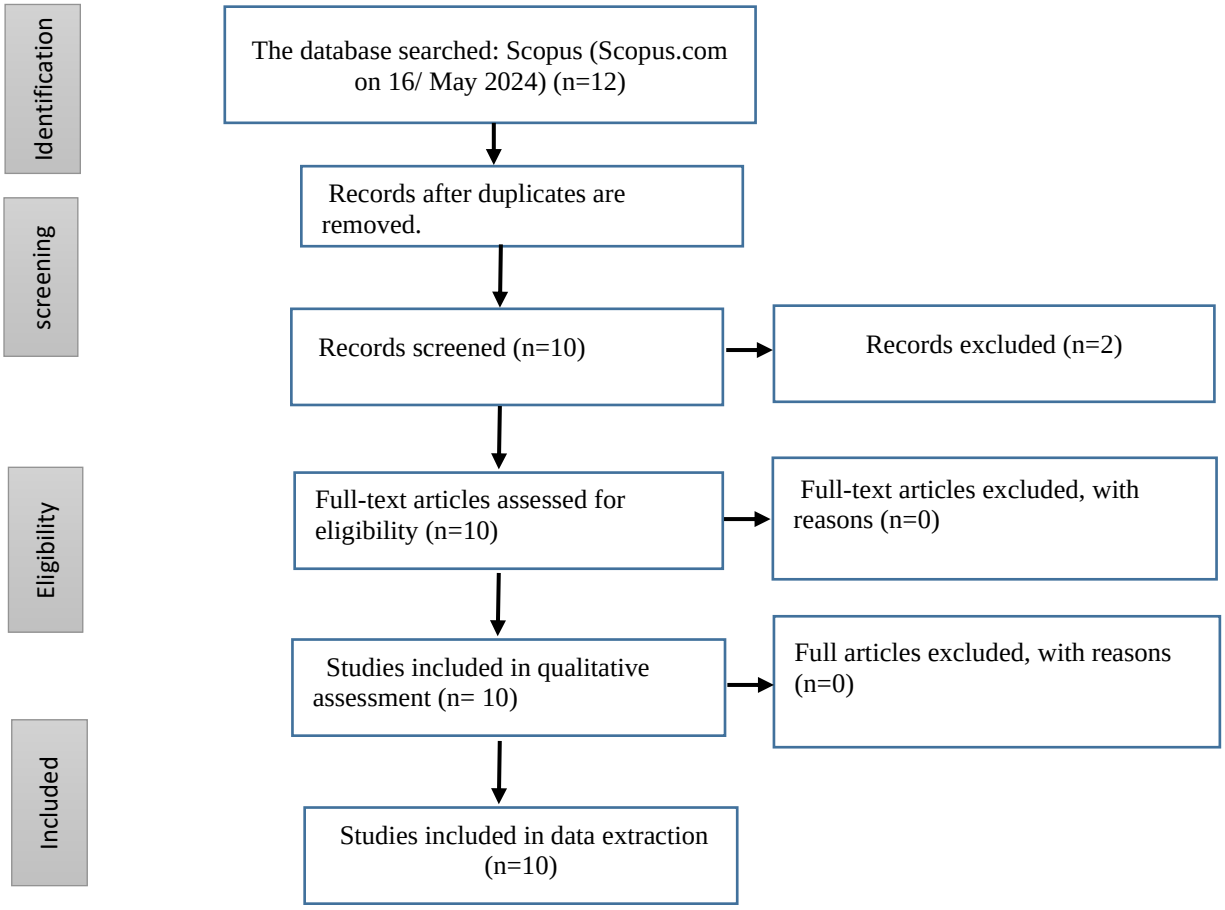


Figure 1: (PRISMA) Diagram

Source: Preferred reporting items for systematic reviews and meta-analysis (PRISMA) Diagram **(**Mihret, G., et al., 2024**).**

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7. ANALYSIS

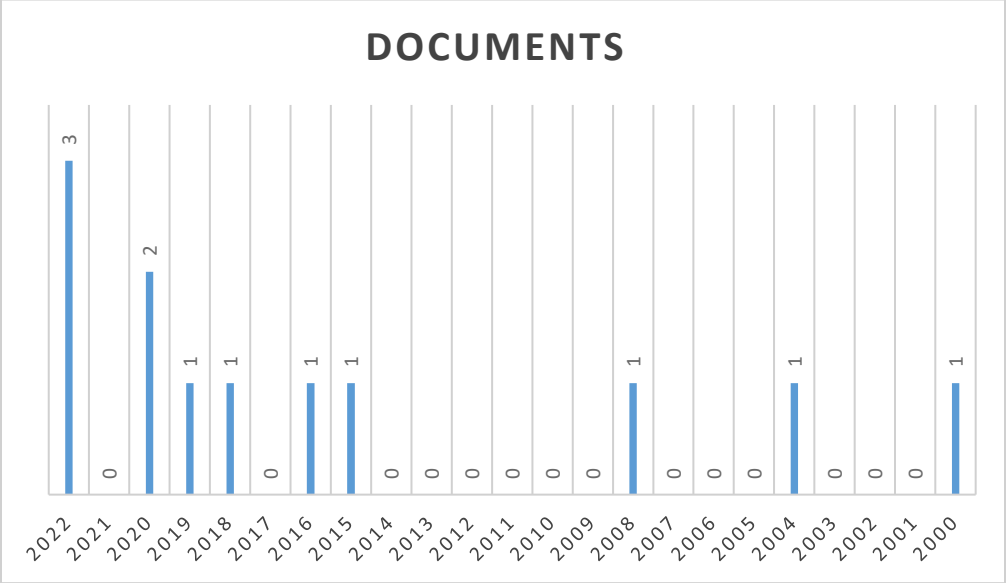


Figure 2: Documents by Year

(Source: Scopus database academic search engine (https://www.scopus.com.
(Specifically, Advanced Search through TITLE-ABS-KEY)

The graph above presents a distribution of documents over the years from 2000-2022. As data vividly displays in the histogram graph above, researchers conducted 12 papers during these ranged years of span. In these years, researchers conducted 12 papers in total. The year 2000, 2004, 2008, 2015, 2016, 2018 and 2019 contributed one article each for publication. The year 2020 was witnessed by 2 published papers. The last year (2022) witnessed a substantial increase with 3 documents published. Within these years, the number of published papers were varied. However, there were majority of years contributed nothing for publication as displayed in the above histogram graph. This histogram offers a visual representation of the annual publication trends, highlighting fluctuations and patterns in the number of documents.

Documents by Country/ Territory

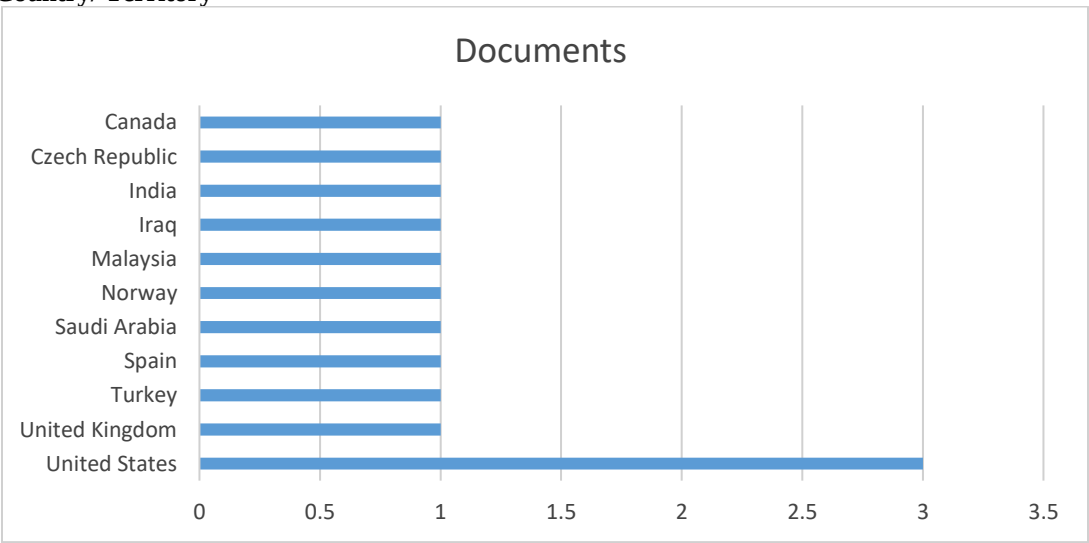


Figure 3: Document by Country/ Territory

(Source: Scopus database academic search engine (https://www.scopus.com.
(Specifically, Advanced Search through TITLE-ABS-KEY)

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The figure shows the distribution of documents across different countries or territories. United States leads with three published documents as presented in a data sheet. The rest countries: UK, Turkey, Spain, Saudi Arabia, Norway, Malaysia, Iraq, India, Czech Republic and Canada each contributed one article for publication. This distribution suggests variations in the level of attention or emphasis on different regions within the dataset. The graph gives a brief summary of the distribution of documents among different nations and shed light on the geographic concentration of the related content.

Documents by Subject Area

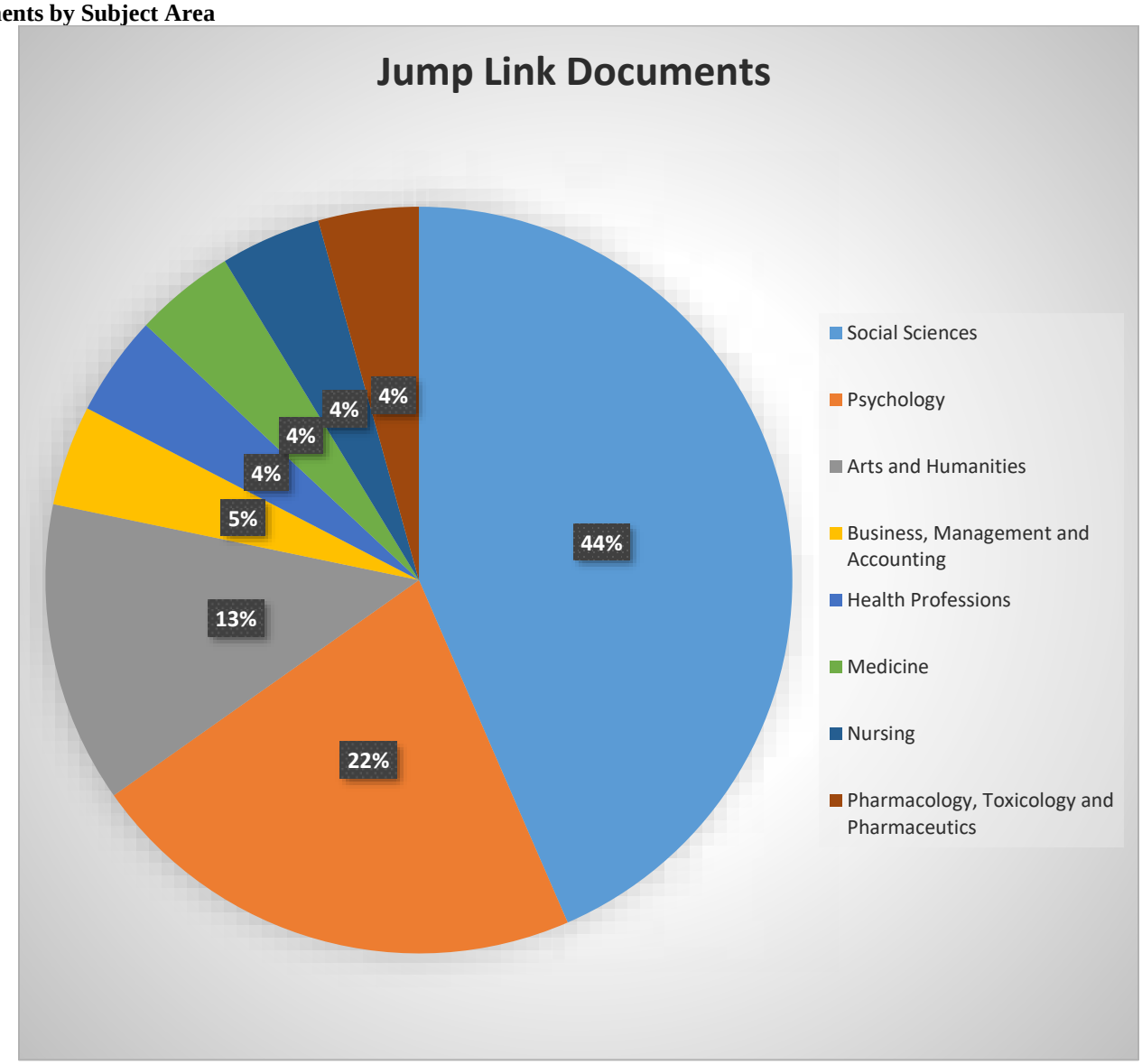


Figure 4: Document Analysis by Subject Area

(Source: Scopus database academic search engine (https://www.scopus.com.
(Specifically, Advanced Search through TITLE-ABS-KEY)

The figure provides a breakdown of documents across different subject areas, offering insights into the distribution of content within the dataset. Social Sciences dominate with the highest representation, comprising 44% of documents, indicating a significant focus on topics within this field. Psychology follows with 22% of documents, highlighting a substantial but comparatively lesser emphasis than social sciences. Arts and Humanities, holds 13%. Business, Management and Accounting represented 5% of published documents. The rests: Medicine, Nursing, Pharmacology, Toxicology and Pharmaceutics comprised 4% each. This distribution provides a clear overview of the subject areas covered, with a notable concentration of Social Sciences, followed by Psychology, Arts and Humanities and Business, Management and Accounting, while the remaining disciplines exhibit a more balanced and equal representation. The

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data suggests that the documents' themes are diverse, which is indicative of the multidisciplinary character of the content within the designated subject areas.

Documents by Source

The reviewed articles were those published on the publishers as shown in the figure below. Each publishers published one article as vividly displayed in the graph. Those 12 articles were published by different publishers. All these listed publishers were for Scopus indexed journals. Therefore, these systematically reviewed articles were sourced and published in reputed and trusted journals.

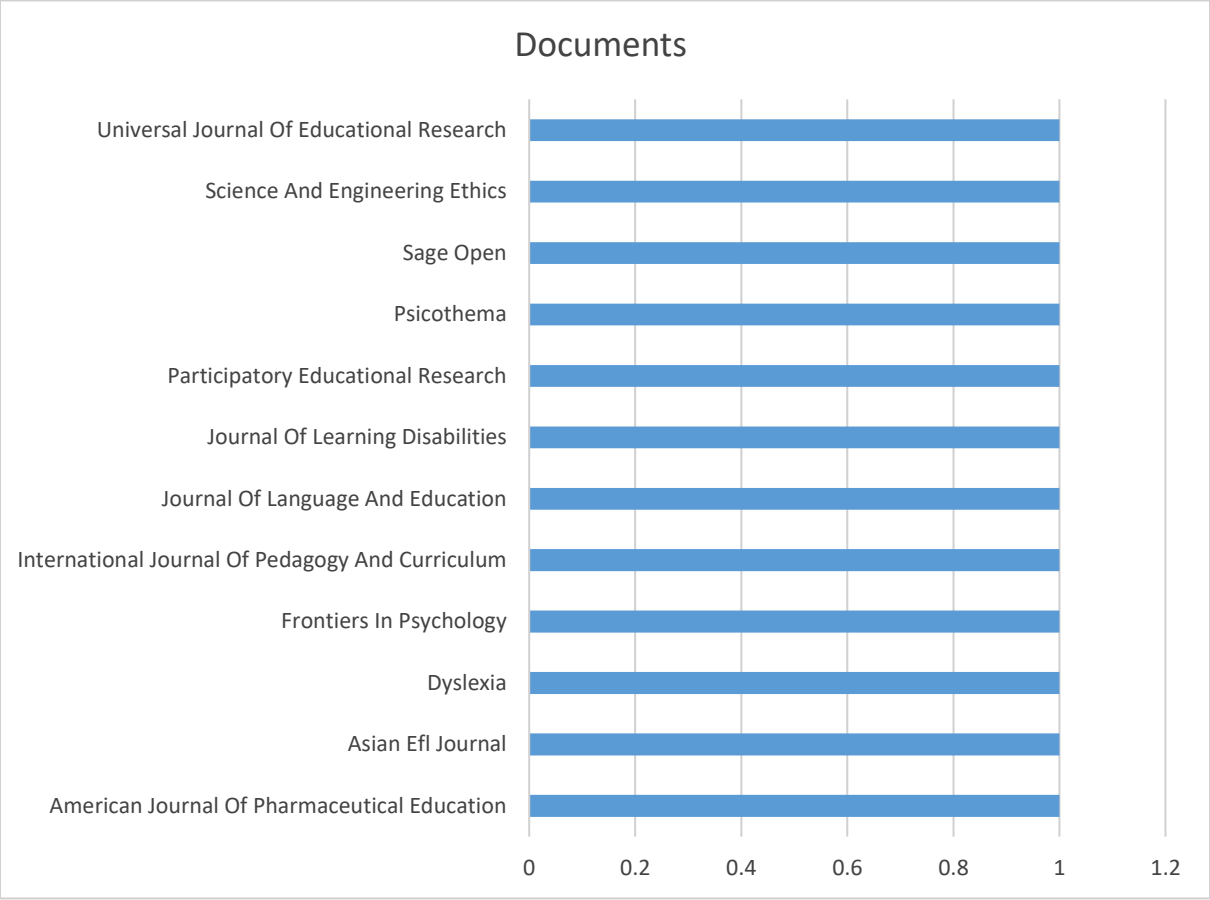


Figure 5: Documents by Source

(Source: Scopus database academic search engine (https://www.scopus.com.
(Specifically, Advanced Search through TITLE-ABS-KEY)

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8. Word Cloud

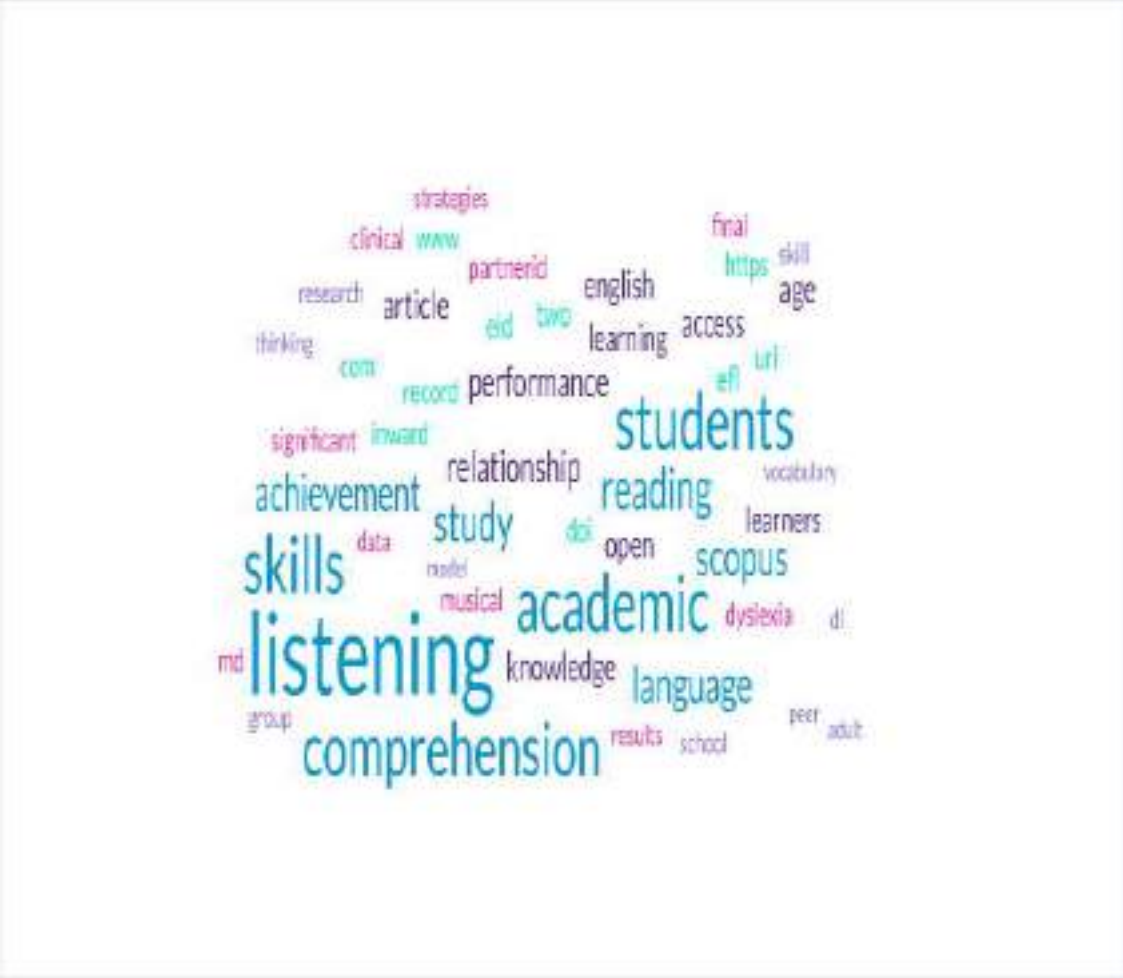


Figure 6: Word Cloud

(Source: online word cloud generator by using csv files)

The word cloud analysis, focusing on the topic "The relationship between students' listening skills and their academic achievement," reveals key thematic elements. Words such as "listening," "comprehension," "academic," "skills," "achievement," "students," "reading" "study", "language" and "Scopus" prominently stand out largely in the word cloud figure above. The prevalence of these terms underscores the central focus on "The relationship between students' listening skills and their academic achievement". The word cloud highlights the significance of topics related to the title of this study.

9. FINDINGS AND CONCLUSIONS

The aim of this systematical literature review was to delineate the association between students' listening skills and their academic achievement. It is obvious that listening skill is the root for all other language skills. It is also a tough and challenging skill in comparison to other language skills. In fact, so as to achieve a good grade or academic mark, the students must listen their teachers' lectures and thoughts in the classrooms and outside of classrooms. Pupils who are good listeners typically get better scores and exhibit increased academic achievement in general. Therefore, as the reviews of all articles implied, the findings vividly displayed a direct or positive relationships. Deservedly, in order to score a good academic achievement in their school subjects, the students have to attend their lectures, tape-records, cassettes or any others which require their careful and attentive listening.

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HEALTH SERVICE DELIVERY OF SELECTED MUNICIPAL HEALTH CENTER IN IV DISTRICT PROVINCE OF LAGUNA

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ABSTRACT

The purpose of this study was to evaluate the current state of health service provision at a particular municipal health center located in District IV, Province of Laguna. 93 healthcare professionals and 253 patients from various local health institutions participated in our self-administered survey. The research design used in the study was descriptive-correlational, and statistical measures including mean, standard deviation, and Pearson Correlation Coefficient (r) were utilize. Results showed that the correlations of quality of health service of health workers to the provided services of municipal health center are statistically significant at .05 level of significant. On the other hand, the relationship between the respondent's profile and their provided services such as outpatient consultation, minor surgery, blood donation, vaccination, cervical cancer screening, drugs screening and intervention, dental care found that there is a slight but statistically significant correlate.

Furthermore, result showed that the relationship between respondent demographic profile age, sex, marital status is statistically significantly correlate with the four quality of health services variable while, position and length of service is not statistically significantly correlate with the four quality of health service variable such as timeliness, compassion, competency and patient-centeredness. The test of significance of differences between Health Workers and Constituents in the Quality of Health Services Delivered result shows that there's no statistically significant difference found any of four quality of services variables between health workers. This could mean that a respondent will rate the quality of service regardless of whether they are a health worker or a constituent.

KEYWORDS: *Municipal Health Center, Health Workers, Quality of health services, Patient- Centeredness*

INTRODUCTION

The provision of health services in Municipal Health Centers is crucial in the fast-paced world of today. Workers are essential to making sure that these services are deliver successfully and efficiently. The study intends to assist the Municipal Health Center in Laguna's IV District that has choose to receive health services.

The Municipal health office is charge with the delivery of basic health services, which are primitive, preventive, curative and rehabilitative in nature. It also promotes, protects and maintain the health of the citizenry. A methodical, long-term strategy for improving patient outcomes and service delivery is continuous improvement. Developing a continuous improvement culture is a journey that requires dedication, perseverance, and commitment rather than a turnaround project or a fast fix. Republic Act 11223 This Act shall be refer to as the "Universal Health Care Act" (Sowell, 2020). People-centered, culturally sensitive, and diversity-aware approach to health care delivery that emphasizes on the demands and wellbeing of individuals. Republic Act 1082, "An act strengthening health and dental services in the rural areas, and providing funds accordingly," is another relevant piece of government. Example of quality improvement initiatives are when healthcare professionals employ data-driven strategies to reduce the average length of hospital stays or examine patient data to create a plan to lower postoperative infections. One of the main functions of health systems is service delivery, which is influence by governance, financing, and resource development. The accomplishment of intermediate health system goals and, eventually, the ultimate health system goals are directly impact by service delivery.

The research seeks to identify the most effective and efficient health services delivery of Municipal Health Center employees and explore how it will affect them and to the constituents they serve. The researchers intend to offer insightful analysis and helpful suggestions to enhance the overall quality of health care provided through the study's findings. The results of this study will also help municipal health centers understand the caliber of healthcare provided. All things consider, this study will offer insightful information about the ongoing quality care municipal health center staff provide to the community or clients they serve.

MATERIALS AND METHOD

A fact-finding study using a sufficient and accurate interpretation of the results is a descriptive approach of research. It highlights the events, activities, and phenomena of the present. It makes a significant contribution to the development of quality standards and norms for the delivery of healthcare services at a particular municipal health center in Laguna's IV District. Given that this study will focus on the provision of healthcare services in a particular municipal health center, the descriptive method will be the most suitable approach to employ. In particular, the correlational research approach was utilize in this study to

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examine the health services provided by a chosen municipal health center in Laguna's IV district.

The questionnaires that will be given to research participants will provide the data that this investigation will use. The demographic profile of the respondents—including age, sex, marital status, position, and length of service—is provided in Part I of the questionnaire. The status of services like consultation, dental care, cervical cancer screening, minor surgery, blood donation, drug screening and intervention, and vaccination is reported in the Part II questionnaire. A five-point rating system was used to assess each of the services mentioned above, which each had five questions. The likert scale for provided services is, 5 – Always, 4 – Often, 3 – Sometimes, 2 – Rarely, 1 – Never. Part III is a researcher-made survey instrument based on RA 1082 that will be utilize to determine the act of strengthening health services in the rural areas of the respondents in terms of health services delivery which are timeliness, compassion, competency and patient-centered. Each of the aforementioned health services delivery consisted of five questions and this will be measure using a five-point scale. The likert scale for quality of health service delivery is, 5 – Excellent, 4 – Very Satisfactory, 3 – Satisfactory, 2 – Needs Improvement, 1 – Poor. Questions on performance were also a researcher-made survey instrument based on the Validation Sheet and Cronbach alpha of nonrespondent. It will measure the health services delivery of the health workers in terms of timeliness, compassionate, competency and patient-centered.

RESULT AND DISCUSSION

The demographic profile of the respondents according to age reflected out of 349 respondents mostly were in the range of 18 – 30 years old a total of 173 (49.60 %) then 31 – 40 years old total of 89 (25.5%) third were 61 – 70 years old total of 35 (10%) fourth were 41 – 50 years old total of 32 (9.2%) and lastly, 51 – 60 years old total of 20 (5.7%) fall on this age. Moreover, 199 (57%) were female while 150 (43%) were male. On marital status, 187 (53.6%) or majority of the respondents were single while 117 (33.5%) were married then 25 (7.2%) were widowed Lastly 20 (5.7%) were separated. According to the study 256 or 73.4% of the respondents who took part in the research were constituents, next were administrative aide which comprises 30 or 8.60% of the total respondents, third were nurse which comprises 25 or 7.16%, fourth were midwife which comprises 16 or 4.58%, fifth were health officer which comprises 12 or 3.44% and lastly were physician which comprises 10 or 2.87% of the total respondents. Additional fall under 1 year below of service which were 66 in total (44.0%). Second largest group was 54 in total (36.0%) who had 1 – 10 years in service, third group was 20 (13.3%) who had 11 – 20 years in service while only small percentage or 0.7% fall under 21 years above in service.

Table 1. Reliability Analysis

LATENT CONSTRUCT	CRONBACH'S	RECOMMENDED VALUE
Outpatient Consultation	0.87	>0.7
Dental Care	0.88	>0.7
Cervical Cancer Screening	0.84	>0.7
Minor Surgery	0.81	>0.7
Blood Donation	0.93	>0.7
Drug Screening & Intervention	0.85	>0.7
Vaccination	0.87	>0.7
Timeliness	0.77	>0.7
Competency	0.83	>0.7
Compassionate	0.79	>0.7
Patient-Centered	0.72	>0.7

Reliability coefficients measured by Cronbach Alpha for each of item is 0.9 and above therefore it will be considered as "excellent", whereas if it is 0.8 will be considered as "good", if it is 0.7 will be considered as "acceptable", if it is 0.6 will be considered as "questionable" and if it is less the 0.5 it will be considered as "poor". This study, reliability test was conducted by 10 number of samples.

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Table 2. Relationships between Five Demographic Profile and Seven Provided Services

PROFILE VARIABLE	PROVIDED SERVICES VARIABLE						
	Outpatient consultation	Dental care services	Cervical cancer screening	Minor surgery services	Blood donation	Drug screening and intervention	Vaccination
Age	rs=–.090 Slight corr. p=.094	rs=–.104 Slight corr. p=.052	rs=–.109* Slight corr. p=.041	rs=.030 Slight corr. p=.577	rs=–.203*** Low corr. p< .001	rs=–.115* Slight corr. p=.031	rs=–.096 Slight corr. p=.073
Sex	t(337) =0.64a p=.523	t(347)= 0.73 p=.465	t(347)=1.18 p=.240	t(347)=–1.27 p=.205	t(347)=1.30 p=.195	t(347)=1.11 p=.276	t(288)=–1.57a p=.117
Marital Status	F(3,345)=1.04 p=.374	F(3,345)=3.33* p=.020	F(3,61.1) =8.10b*** p<.001	F(3,54.9) =0.41b p=.744	F(3,345) =14.27*** p<.001	F(3,559) =16.49*** p<.001	F(3,345)=9.29*** p<.001
Position	t(147) =–2.82a** p=.006	t(347)= 0.29 p=.770	t(347)=–2.16* p=.031	t(347)=0.78 p=.434	t(347)=–5.14*** p<.001	t(347)=–5.88*** p<.001	t(347)=–4.31*** p<.001
Length of Service	r_s=–.15** Slight corr. *p*=.007	r_s=.04 Slight corr. *p*=.498	r_s=–.12* Slight corr. *p*=.023	r_s=.06 Slight corr. *p*=.239	r_s=–.26*** Low corr. *p*< .001	r_s=–.30*** Low corr. *p*< .001	r_s=–.22*** Low corr. *p*< .001

Table 2 show that is a statistically significant linear relationship between Position and level of Outpatient Consultation, $t(147)=-2.82$, $p=.006$. This means that health workers and constituents have different perceptions on the levels of services provided in terms of outpatient consultation. Compared to their single coworkers, married employees are happier in their jobs.

Table 3. Relationships Between Five Profile Variables and Four Quality of Health Services Variables

PROFILE VARIABLE	QUALITY OF HEALTH SERVICES VARIABLE			
	Timeliness	Competency	Compassion	Patient-centeredness
Age	rs=–.31*** Low corr. p< .001	rs=–.19*** Slight corr. p< .001	rs=–.35*** Low corr. p< .001	rs=–.25*** Low corr. p< .001
Sex	t(347)=1.53 p=.026	t(284.63)=2.52a* p=.012	t(289.13)=3.37a*** p<.001	t(347)=2.53* p=.012

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Marital Status	F(3,58.55)=4.36b** p=.008	F(3,60.33)=4.62b** p=.006	F(3,59.26)=5.02b** p=.004	F(3,61.77)=3.13b* p=.032
Position	t(347)=–0.98 p=.330	t(144.45)=1.56a p=.121	t(347)=–0.31 p=.755	t(347)=–0.03 p=.980
Length of Service	rs=–.06 Slight corr. p=.245	rs=.05 Slight corr. p=.334	rs=–.04 Slight corr. p=.478	rs=–.03 Slight corr. p=.546

Table 3 shows that the Age, sex marital status is statistically significantly correlate with the four quality to health services variable with all p value of less than .05 level of significance. Hence, position and length of service is not statistically significantly correlate with the four quality of health service variable.

In line with Robards' (2018) research, a person's health and mortality might be affected by changes in their living arrangements and marital status as they age and reach middle age. The body of research on the relationship between marital status and mortality has repeatedly shown that single people generally report worse health and a higher risk of dying than married people, with men being disproportionately affected. Given the increasing evidence of alterations in living arrangements and partnerships among older adults, along with the counterbalancing effect of rising divorce rates among younger generations on the likelihood of widowhood, it is crucial to take into account the potential health consequences of these changes in later life in order to minimize the need for hospital visits.

Table 4. Correlations between Seven Provided Services Variables and Four Quality of Health Services Variables

PROVIDED SERVICE	QUALITY OF HEALTH SERVICES VARIABLE			
	Timeliness	Competency	Compassion	Patient-centeredness
Outpatient consultation	0.21*** Low corr.	0.21*** Low corr.	0.11* Slight corr.	0.10 Slight corr.
Dental care services	0.23*** Low corr.	0.14* Slight corr.	0.27*** Low corr.	0.25*** Low corr.
Cervical cancer screening	0.54*** Moderate corr.	0.32*** Low corr.	0.45*** Moderate corr.	0.53*** Moderate corr.
Minor surgery services	0.39*** Low corr.	0.19*** Slight corr.	0.26*** Low c0orr.	0.34*** Low corr.
Blood donation	0.44*** Moderate corr.	0.32*** Low corr.	0.36*** Low corr.	0.36*** Low corr.
Drug screening and intervention	0.30*** Low corr.	0.29*** Low corr.	0.28*** Low corr.	0.34*** Low corr.
Vaccination	0.36*** Low corr.	0.20*** Low corr.	0.28*** Low corr.	0.27*** Low corr.

Table 4 shows that all correlation coefficients are statistically significant. A moderate and statistically significant correlation in between cervical cancer screening and timeliness, r=.54, p<.001, cervical cancer screening and compassion r=.45, p<.001, patient centeredness of r=.53, p<.001 Hence, the positive correlation coefficient indicates that the higher the services provided in terms of cervical cancer screening, the higher the quality of service in terms of timeliness, compassion and patient centeredness.

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Table 5. Test of Significance of Differences between Health Workers and Constituents in the Quality of Health Services Delivered

Quality of service	Type of respondent and their perceived level of quality of service				*t*	*p*
	Health worker (*n*=93)		Constituent (*n*=256)			
	M	*SD*	*M*	*SD*		
Timeliness	3.98	0.52	4.03	0.48	–0.98	.330
Competency	4.07	0.50	3.98	0.43	1.56[a]	.121
Compassion	3.96	0.54	3.98	0.48	–0.31	.755
Patient- centeredness	4.04	0.47	4.04	0.42	–0.03	.980

Table 5 shows there's no statistically significant difference found any of four quality of services variables between health workers and constituents (all *p* values are greater than .05). This could mean that a respondent will rate the quality of service regardless of whether they are a health worker or a constituent.

According to Blizzard's (2019) research, there are notable differences in the patient treatment needs between men and women from a clinical standpoint. However, there is no discernible difference between hospitals and their staff in terms of their capacity to meet the demands of patients, regardless of gender, according to Gallup's patient satisfaction survey on the quality of healthcare services and loyalty scores of performance. The one significant difference is that women are generally more trusting of inpatient care than male. Hospitals should take heart from this discovery, as female staff members frequently make healthcare decisions for their families. Xiao & Barber (2018) discovered in another study that an individual's own characteristics had an impact on patient satisfaction.

CONCLUSIONS

The study concluded that clinical worker performance in areas such as punctuality, compassion, competence, and patient-centeredness were significantly predicted by the quality of care provided in our owned municipal health clinics. This emphasizes how crucial it is to support high-quality healthcare in certain of the municipal health center's services, since doing so can enhance the delivery of healthcare services and boost public confidence in public hospitals and government agencies.

RECOMMENDATIONS

The following are some recommendations drawn from the findings.

1. The municipal health center should prioritize the development and implementation of training programs and workshops that aim to enhance the skills of their employees. The training should focus on improving the employees' timeliness, competency, compassionate and patient centeredness. Furthermore, to be aware of the potential for outbreaks and pandemics and to remain alert.
2. Regular monitoring and evaluation of the quality of health workers' delivery of services should be conduct by the municipal health center. By doing so, the local health center will be able to pinpoint areas that require improvement and offer the assistance and treatments that are required.
3. Future researcher should continue research the impact of health service delivery on provided services in other industries and sectors. This will assist in identifying tactics and best practices that work well in various situations.

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THE LIFE SKILLS OF OUTSTANDING INDEPENDENT READERS IN SECONDARY SCHOOLS: A MULTIPLE CASE STUDY

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ABSTRACT

The purpose of this multiple case study was to describe the five different cases of outstanding independent readers in the public secondary schools in Davao del Norte in terms of their life skills. The unique cases revolved around a campus journalist, a volleyball athlete, a student leader, a consistent honor student, and a student with autism spectrum. The cases were identified using maximum variation sampling, and in-depth interviews were employed to explore and gather data in this research. Salient findings were noted as to the experiences of outstanding independent readers which include early reading opportunities and support, sharing of reading abilities to other students, allocation of time for reading, and utilization of gadgets for reading. More so, their coping strategies were summarized in the following themes: enrichment of vocabulary, adoption of reading tactics, development of set of values for reading, and application of leadership skills. In the cross-case analysis of research data, all cases were generally similar. Notably, the only difference is that the student with autism preferred reading by himself unlike the other cases of students who viewed reading as a collaborative experience. It was realized that while cognitive capacities are essential in learning reading, socio-emotional aspects of outstanding readers such as their life skills must also be considered in schools.

KEYWORDS: *independent reading, life skills, public secondary schools, multiple case study, Philippines*

INTRODUCTION

Learning reading enables adolescent students to navigate their academic life successfully. Being able to read enables one to acquire more knowledge and learn more skills as they go through one grade level and proceed onwards (Lalicic & Dubravac, 2021). However, in the realm of secondary education, the challenge of cultivating strong reading skills and holistic development among students is a significant concern, with various factors impeding the success of students to develop such (Toste et al., 2020; Ramadhani et al., 2023). Pressing issues such as limited critical thinking, poor comprehension as well as socio-emotional skills, and inadequate communication abilities contribute to the complexity of this challenge (Rani & Neeraj, 2020). Recognizing that these mentioned components are subsumed under the life skills that high school students must typically have, there exists a potential avenue for developing the reading skills of struggling students by capitalizing on the improvement of their life skills as individuals.

In Indonesia, it was recently found that high school students ranked third from the bottom in the Programme for International Student Assessment (PISA) which aimed to assess high school students across numerous countries globally in terms of reading, mathematics, and natural science (Fenanlampir, 2019). Another study concluded that this poor performance in reading in international assessments such as PISA is grounded on the major misconceptions of Indonesian teachers in the aspect of teaching reading. High school teachers viewed such endeavor as a shallow task which only focused on the pronunciation of words and literal meaning of texts (Fauzan et al., 2023). In contrary, Ahmed et al. (2021) posited that teaching reading among students is beyond the surface level, as it must involve the complex stimulation of different life skills such as critical thinking skills, socio-emotional empathy, and cultural awareness in order to aid students to effectively understand human emotions and cultural connotations in texts, obtain information, master knowledge, utilize this information to overcome any challenges, and construct new substantial ideas.

In the meantime, developing the reading skills of Filipino students have been a challenge for educators and policymakers alike. Despite government efforts to improve literacy rates in the Philippines, recent studies have shown that many students need help with reading comprehension, vocabulary development, and critical thinking skills. Aside from dwelling only on the surface meaning of texts, they could not also evaluate the factual information and infer meaning from certain texts (Idulog et al., 2023; Gulo & Deloy, 2022). The evidence of this phenomenon was further reinforced in the previous results of PISA Report in 2019 which illustrated that Philippines ranked lower than majority of its Southeast Asian counterparts, let alone in the global setting. In fact, it concluded that 80 percent of the students

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around the age of 15 did not meet the minimum proficiency in reading (Manlapig, 2020). By extension, it was determined in the articles of the Philippine Exporters Confederation (2023) and Elmouhtarim (2018) that Filipino students lagged behind in terms of critical thinking and problem-solving, leading to the conclusion that these are few of the factors which make students struggle extensively in adapting to and overcoming reading challenges and in life in view of the information explosion in the 21st century.

Locally, the pervasiveness of reading skill problems in secondary schools is no less serious compared to international and national data. In fact, there exists a constant surge of non-readers and struggling readers in secondary level, which causes an alarm to teachers and educational leaders in the locality. In a public secondary school in Asuncion, Davao del Norte, it was reported in the study of Tan et al. (2019) that there were as many as 10 students under the frustration level. This one was already an improvement from the previous years which had at least 32 students under the frustration level. This study was extended by Magallanes (2021) in the same locale which claimed that there were as many as 34 students under the frustration level. Such situation led to many social-related problems, particularly because struggling students felt demotivated at school and they do not want to be engaged with the lesson and their classmates. These problems also call for concerned teachers and agencies to look for possible solutions to improve the reading skills of many high school students.

There was an evident explorable research gap in terms of the life skills and its relevance or intersection with the reading skills of high school students. Previous pieces of literature mostly concentrated on the topics of reading, struggling readers, phenomenon of non-readers in secondary schools, reading disabilities, and factors that are contributory to reading achievement in the international settings (Ziegler, 2020; Lllego & Decano, 2018; Barshay et al., 2021; MS & Rachmadtullah, 2018; Ardhian et al., 2020; Liu et al., 2022). More so, studies focusing on independent readers were likewise limited and underexplored, as most of the available studies only focused on the other side of the coin – the dilemmas and problems associated with the macro skill of reading and the toils of struggling readers (Nanda & Azmy, 2020; Albano, 2020; Sison & Tecson, 2019). Hence, a gap in literature was identified, and an opportunity to probe the life skills of outstanding independent readers was apparent in the case of this paper.

Grounded on this, I expressed my desire to conduct a study relative to this topic. Studying the experiences and best practices of outstanding independent readers could potentially help struggling readers, teachers, parents, reading coordinators, school administrators, officials of the Department of Education, and stakeholders in joining hands together to combat the phenomenon of struggles in reading. The findings of this study may be used as a baseline data in ideating programs and policies which can optimize the student learning outcomes, educational practices, student development, assistance, and instruction extended to the struggling readers. There was also the urgency to conduct the study due to the fact that there was an increasing number of struggling readers and non-readers even in secondary level, which was supposed to be addressed already in the elementary level because this one was where the foundation for basic literacy is being strengthened. The fear of having more struggling readers in secondary level called for urgent research attention among the ranks of researchers.

LITERATURE REVIEW

Demands in Reading

Reading as illustrated by Banditvilai (2020) is a sophisticated cognitive process that demands for a wide range of abilities and proficiencies from its users. One must have a clear reading goal to read nowadays. One must find out why they are reading a given material, be it academic inquiry, amusement, or simply for information collection. As proposed by Grindle et al. (2020), a well-defined goal allows readers to follow the content while also increasing comprehension by providing a foundation for comprehension and identifying main points.

Moreover, Halim et al. (2020) found that one of the fundamental prerequisites for reading is comprehension, and that refers to the ability to understand and interpret written material. Proficient readers employ critical thinking to unlock clues and implications buried inside the text instead of merely absorbing what is being said. Besides, Hashim and Yunum (2018) emphasized fluency as essential to reading because readers must master the ability to read rapidly and effortlessly. Fluent individuals may read at a quicker pace and speed, which boosts comprehension and enables them to engage with more material overall.

In addition, in accordance to Jamal and Dehraj (2018), reading also requires a range of analytical skills beyond basic decoding. Experts in reading can enhance their general understanding by analyzing, evaluating, and synthesizing information from various texts and other sources. The mentioned above kind of reading comprehension described by Karasu (2020) implies text interpretation. This involves the reader in activities to understand the relationship between concepts, draw inferences, and make judgments based on the data obtained. Fulfilling these reading requirements helps people succeed academically as well as develop critical thinking abilities, which help people navigate and comprehend the complexity of the world.

Life Skills

Life skills are a wide range of competencies that allow people to deal effectively with the challenges of everyday life and contribute to the well-being of a person as well as the society, as mentioned by World Health Organisation (2020). As per Saravanakumar (2020), the skills are vital for success in different aspects of life and personal development and interactions with others, such as empathy and self-awareness, problems and critical thinking, talking and relating to others, and stress and emotions.

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In consonance, interpersonal and communication skills are components of life skills that are vital and must be acquired. This is because, as per UNICEF (2019), life skills enable us to listen actively, communicate effectively, and meet and interact with other people in social contexts. Saravanakumar and Padmini (2020) also argued that these skills are beneficial for establishing and maintaining healthy relationships, both on a personal and professional level. Effective communication is also necessary to address any disputes that might arise and to cooperate which fosters peace and collaboration in the society due to the ability to help each other.

Further, Nair and Fahimirad (2019) introduced problem-solving and critical thinking as another crucial life skills that allow individuals to evaluate situations, analyze information, and make informed decisions. In the article by Lakshmana (2020), it is mentioned that such skills are essential for facing problems, adapting to changes, and developing creative solutions to difficult problems. The ability to think critically and solve problems is a critical factor in success in personal and professional life in a changing society.

Furthermore, empathy and self-awareness are another key element of life skills. Chung et al. (2020) define self-consciousness as self-awareness, including social skills and compassion. From the article by Purwanti et al. (2022), it is understood that self-conscious people understand their feelings, abilities, and lack of competence; therefore, they are able to make informed decisions and cope with life's difficulties. By contrast, empathy is the share and understanding of another person's feelings; thus, people can create a socially just world devoid of discrimination.

Meanwhile, Ozer et al. (2020) disclosed that the ability to cope with stress and emotions is a vital life skill that helps individuals successfully manage stressors and emotion regulation. To add, Koyuncu (2018) developed this notion that life skills include an ability to grow emotional intelligence and coping strategies and cultivate resilience against life's intended failures and obstacles. In fact, the success in many life spheres, personal growth, and life experience are determined by life skills and their components.

Regarding the relationship between life skills and reading, Ismail (2022) noted one significant aspect. Reading is the basis for acquiring life skills, as it develops critical thinking, knowledge-gathering skills, and effective communication. As shown by research, in particular by Klass (2023), reading skills help people access information at high speed and understand it, allowing them to make competent decisions quickly. At the same time, reading develops empathy, helping understand other people, or a different point of view. As one can see, life skills and reading are closely related since literacy ensures that people quickly master the necessary knowledge in various fields of life and easily navigate through life's difficulties.

PURPOSE OF THE STUDY

This qualitative study multiple case study aimed to describe the challenges, life skills, and coping strategies of outstanding independent readers in the secondary schools in Davao del Norte. At this stage in research, the life skills of outstanding independent readers were defined as the adaptive and positive behaviors in an ever-demanding world of those outstanding students who passed the Group Screening Test (GST) of the Revised Philippine Informal Reading Inventory (Phil-IRI) and were identified as successful readers.

RESEARCH QUESTIONS

1. What are the experiences of outstanding independent readers in terms of their life skills in reading?
2. What are the coping strategies of outstanding independent readers in terms of their life skills in reading?
3. What explains the similarities and differences of each case?

METHODS

Research Design

This qualitative study utilized the multiple case study approach. Creswell and Creswell (2018) defined multiple case study as a tradition of qualitative research which seeks to delve deeper into the varying realities of a specific phenomenon from the lens and different angles of the unique cases of the participants. The entire endeavor highlights the similarities and differences of all unique cases enjoined in the study, making the in-depth study of the research topic more comprehensive and insightful. Using multiple case study approach in this study granted me the lens to view the unique cases of the participants and gain understanding of the research topic which is the life skills of outstanding independent readers in public secondary schools.

Participants

The participants of this study were the five different cases of outstanding independent readers in three public secondary schools in the Division of Davao del Norte. They were selected as the participants of this study because they hold invaluable information about the life skills which can possibly contribute to their success in mastering the macro skill of reading. Moreover, each case differed in terms of the circumstances or fields wherein each participant excelled. The outstanding cases specifically include a Grade 7 student journalist, a Grade 8 volleyball athlete, a Grade 9 student leader, a Grade 10 consistent student achiever, and a Grade 9 student with autism spectrum.

Given that there was urgency to guarantee that the participants of the study must legitimately hold rich, valuable information of the phenomenon in question, purposive sampling, particularly maximum variation sampling, as espoused by Patton (2002) was utilized to select the participants of this study. In looking for my participants, I tapped the reading coordinators as reference persons.

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In general, I had the following inclusion criteria. My participants must be outstanding junior high school students who excelled in academics and/or extra-curricular activities and who were identified by the reading coordinator of the public school as independent readers by using Group Screening Test (GST) in the Revised Philippine Informal Reading Inventory (Phil-IRI), a discrete-point reading assessment tool officially utilized by the Department of Education for the purpose of identifying non-readers, struggling readers, and independent readers in basic education. In almost all regions, GST was only utilized until Grade 8. However, the Division of Davao del Norte was an exception wherein the same tool was utilized in all grade levels until senior high school. For the exclusion criteria, this study did not include students from elementary, senior high school, and college departments. Private school students did not also take part in this study.

Procedure

Human participants were party to in this study, since they were the sources of data in this dissertation. Standard protocols were conformed to in this study. The first step was the obtainment of permission to implement the study. This document was gleaned from the Research Ethics Committee (REC) of the University of the Immaculate Conception in consonance with that of the Dean of the Graduate Studies. Simultaneously, the self-made interview guide was subjected to validation procedure which was spearheaded by the panel members who also functioned as expert validators. After this one, an endorsement letter was requested from my dissertation adviser.

The second step was to seek the permission of the Schools Division Superintendent (SDS) of the Department of Education (DepEd) – Division of Davao del Norte using the documents I obtained in the earlier process. Once I was granted permission by the aforementioned department, I also sought the permission of the concerned Public Schools Division Superintendent and school heads to give due courtesy to the authorities.

Three schools within the Division of Davao del Norte were randomly selected, and I contacted in advance the school head and the reading coordinators thereof to help me look for the study participants that fit my inclusion criteria. The unit of this study involved people, particularly the outstanding independent readers, who potentially had experiences and insights on how their life skills became integral in ensuring their success in developing and sharpening their reading skills. This one was important due to the fact that many struggling readers need support and intervention to improve their inferior skills in reading, and untangling the life skills of outstanding independent readers may facilitate another avenue for these poor performing students to be supported or scaffolded in reading.

As to the sampling method that was employed in this research, maximum variation sampling was applied, given that I looked for heterogeneous information-rich cases of outstanding independent readers for my study. Once I shortlisted the prospect participants for my study, I proceeded to the next step.

For the third step, the participants together with their parents or guardians were given a comprehensive orientation about my study in person. Individual orientation was done for confidentiality purposes. I introduced myself to my participants and I was frank with my purpose of inviting each of them. I explained to them the purpose and details of my study. Then, I invited them to take part in this study, having met all the criteria that I was looking for among my prospect participants. Once they initially responded affirmatively to the invitation, the junior high school students, teachers, and parent signed the informed consent form as attestation to their voluntary participation. Meanwhile, the differently abled participant signed the informed assent form and his mother was provided with informed consent form for her to sign as attestation of the same. Of course, the young students and their parents or guardians were given the option to refuse in doing so as well as the options to ask questions. Giving them these options further enhanced the ethical criterion of voluntary participation in this study.

The interviews were scheduled at a time that was mostly convenient for the participants. Face-to-face interviews were done with the participants while adhering to health and safety standards. Still, they were afforded with utmost care and freedom to withdraw participation or ask questions while the interview was happening. This one was done to uphold the entitlements of the participants for ethical consideration. Coercion was avoided at all costs, and questions during the interview only focused on the life skills of outstanding independent readers. Their permission was also asked before the interview was recorded. I explained that the purpose of recording such was to help me recall the vital answers of the participants during the interviews. Moreover, the interviews were kept confidential in consideration to their safety and well-being.

After the interviews, I manually transcribed the responses of my participants during the interviews. Before I subjected the transcribed responses to thematic analysis, I proceeded first to the verification process wherein I went back to the participants and asked their aid to verify the accuracy of the transcripts against the responses that they made in the interview. Once they testified to the accuracy of the transcripts by signing the member checking certificate, the transcripts were subjected to data analysis with the supervision of my designated qualitative data analyst.

DATA ANALYSIS

The data from the interviews was subjected to thorough transcription, translation, and data analysis to enable the researcher to understand the complexities of the phenomenon in question. In consonance, Maguire and Delahunt (2017) espoused that one of the methods in analyzing qualitative research data is thematic analysis. This is summarized as the endeavor of identifying, analyzing, and presenting patterns that exist within a large amount of data. The thick, rich, and detailed descriptions of

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the phenomenon will be unlocked through undergoing this process.

In applying the thematic analysis in this dissertation, the proposed model of Braun and Clarke (2006) was emulated in this context. This one indicated that I adhered to the intricate processes of thematic analysis which include the familiarizing of the data, formulating the initial codes, identifying the potential themes, double-checking the themes that were generated, deciding on theme labels, and completing the report.

Ethical Considerations

This paper was evaluated thoroughly by the Research Ethics Committee of the University of the Immaculate Conception based on the ten ethical tenets of research: social value; informed consent; vulnerability of the research participants; risks, benefits, and safety; privacy and confidentiality; justice; transparency, qualifications of the researcher; adequacy of facilities; and community involvement. As such, the study was subjected to careful scrutiny to affirm that the ethical principles were strictly applied in the research process at all times to protect human participants, most particularly those who belong in the vulnerable sectors.

RESULTS AND DISCUSSION

Participants' Profile

As depicted in the Table 1, the five cases of outstanding independent readers were differentiated in terms of their demographics and unique aspects. The first case consists of a campus journalist who is a timid Grade 7 student who bagged a win in the National Schools Press Conference (NSPC) in the category of Science and Technology Writing, while the second case involves a Grade 8 student who has been part of a team of women volleyball players who conquered numerous competitions including those that are in national level. She is also a timid girl who has an evident passion for doing volleyball. The third case is a Grade 9 student who has a strong personality and excellent communication skills, certain manifestations of a student leader since elementary grades, while the fourth case centers on a bubbly and eloquent Grade 10 student who has been a consistent top 1 student since her kindergarten days. She shared with me her passion for watching Korean dramas and anime as well as her drive for excellence and competition, whether in curricular or extracurricular activities. The fifth case is a Grade 9 student who has an autism spectrum. While he has certain manifestations of such as his tendency to avoid eye contact, he speaks his immense love for reading and thirst for knowledge, particularly in politics and economy.

Table 1. Profile of the Participants in In-depth Interviews

	GRADE 7 CAMPUS JOURNALIST (Case A)	GRADE 8 VOLLEYBALL ATHLETE (Case B)	GRADE 9 STUDENT LEADER (Case C)	GRADE 10 ACADEMIC ACHIEVER (Case-D)	GRADE 9 STUDENT WITH SPECIAL NEEDS (Case-E)
AGE	13	14	15	16	16
SEX	Female	Female	Female	Female	Male
SCHOOL	School A	School B	School B	School C	School A
GRADE LEVEL	Grade 7	Grade 8	Grade 9	Grade 10	Grade 9
UNIQUE ASPECTS	Winner in the National Schools Press Conference	Winner in Various National Women's Volleyball Competitions	Consistent Classroom Leader and Student Government Official	Consistent Honor Student since Kindergarten	Voracious Reader with Autism Spectrum
PARTICIPANT CODE	P01	P02	P03	P04	P05

Presentation of Findings

Experiences. Using Braun and Clarke's (2006) model of thematic analysis: four themes emerged which explained the experiences of outstanding independent readers in relation to their life skills in reading. As shown in Table 2, these themes are: *early reading support and opportunities; sharing of reading abilities to other students; allocation of time for reading; and utilization of gadgets for reading.*

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Table 2. Experiences of Outstanding Independent Readers in Secondary Schools

Essential Theme	Core Ideas
Early Reading Opportunities and Support	- being provided by parents with various reading materials - being taught and assisted by parents on how to read - parents teaching reading at home - using books and other reading gadgets enjoyably - receiving overwhelming support of the family in terms of reading - being exposed to school events that develops reading - receiving rewards and recognition for accomplishing something attributed to reading - learning to read together with siblings
Sharing of Reading Abilities to Other Students	- sharing strategies in reading with friends - helping students with difficulty in reading - sharing one's understanding of the text happily - developing a sense of accomplishment by helping others read - teaching classmates on how to analyze using context clues
Allocation of Time for Reading	- making reading a habit - setting time for reading at home - considering reading as a bonding moment with family and peers - making reading a part of home-routine - creating alone time for reading
Utilization of Gadgets for Reading	- accessing the internet to read - using reading apps and e-books - using e-dictionaries for word meanings - gathering new ideas from the social media - researching summaries and meaning of a text in the internet

Early Reading Opportunities. The participants recognized that their journey towards reading began when they were reared by their parents to become readers early on at home. This journey also had its kick-off when the participants were taught by their siblings and exposed them to various reading materials provided by their parents at a young age. For all of the cases of outstanding independent readers, they had adequate opportunities to establish their firm foundation in reading. Pertinent to this idea, here is the statement of Case A:

> It is how my mama and papa taught me how to read since I was 3 years old. They taught me how to read before I started going to school. They also taught me and even disciplined me to help me learn it. (P01_CQ1.S1)

Sharing of Reading Abilities to Other Students. Majority of the participants relayed that they also impart what they knew and learned about reading. In other words, majority of the participants attested that they share whatever tips and knowledge that they have about reading to their classmates and friends. This means that the case participants derive a sense of accomplishment and fulfillment in helping others on how to read. In connection, a pertinent statement of this idea was made by Case C below:

> Perhaps, it is when I help my teacher teach reading or help my classmates read. As a leader in the classroom, I do not only focus on my own needs but I also see the needs of my classmates. I also ensure that my classmates succeed, especially those struggling with reading because I genuinely feel for them, Sir. I am not selfish, not boastful. It is just that I cannot stand idly by when I see them having difficulty. That is why I also assist our English teacher in teaching them. (P03_CQ1.S3)

Allocation of Time for Reading. One of the typical practices of outstanding independent readers is the allocation of time for reading. This only means that all case participants already made reading as part of their routine and habits. They even set a schedule to read wherein they do this either by themselves or with their family. In consonance, here is a statement of Case E who has an autism spectrum that is relevant to the idea discussed above:

> For me, I cannot get enough of reading because I love it. There are days when I just want to read and skip eating for the entire day because I enjoy it. I get upset if my parents disturb me while I am reading because I get absorbed in my reading. I enjoy reading because it brings me joy knowing that I learn a lot from it. (P05_CQ1.S9)

Utilization of Gadgets for Reading. All case participants have already utilized the power of internet to expand their respective horizons in reading. Being able to access various reading materials and resources online, all participants opened up that they read certain texts online. They were also able to accumulate vast amounts of information from different websites as well as search for summaries and meanings of text to aid them in their reading activities. In connection, Case D made a statement about this one:

> On social media, it may not have a significant influence because it is not really about academics, but it is more

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about fun. I spend a lot of time on apps like comics, manga, and watching K-dramas, where reading subtitles helps improve my vocabulary. While multitasking by listening and watching, it also greatly contributes to my learning. (P04_CQ1.S4)

Coping Strategies. Meanwhile, the coping strategies of outstanding independent readers in association to their life skills were also unveiled in this study. As shown in Table 3, four emerging themes were presented: *enrichment of vocabulary; adoption of reading tactics; development of set of values for reading; and application of leadership skills.*

Table 3. Coping Strategies of Outstanding Independent Readers in Secondary Schools

Essential Theme	Core Ideas on Coping
Enrichment of Vocabulary	-using the dictionary on how to pronounce word -observing correct pronunciation of words -seeking guidance from teachers -gathering information from other people -humbly accepting help from others -using newly learned words and ideas in writing -applying ideas in the classroom -becoming updated with the trends in reading using technology
Adoption of Reading Tactics	-relating what has been read to real-life, to another text or experience -developing questions while reading -exposing oneself to different reading genres -looking back for keywords and rereading in order to clarify or answer questions -dividing text into sections for understanding -highlighting important words or ideas
Development of Set of Values for Reading	-becoming diligent in comprehending the text -motivating oneself to improve reading skills -gaining eagerness to learn from what has been read -being humble in receiving feedbacks -having the willingness to help others
Application of Leadership Skills	-developing good communication skills, open-mindedness, sound organizational skills -leading the class or the group -developing the ability to discern and decide for others

Enrichment of Vocabulary. The participants were able to devise the coping strategy of enriching their vocabulary to effectively read different texts. As such, they adopted various means to add more items in their vocabulary such as seeking guidance from one's teachers, using the dictionary to unravel the meaning of the words, and being humble enough to accept help from others, to name a few. Pertinent to this idea, Case A stated that:

> I guess the practice which I alone have is that, I do not think that it is bad to ask questions if you cannot understand what you are reading. I do not pretend that I know everything because I know that there are people who can help me, such as my English teachers. That is why I really wonder why others are ashamed of asking questions. It is because for me, it is perfectly okay to ask. (P01_CQ2.S8)

Adoption of Reading Tactics. Another coping strategy that was attained by the participants is the adoption of different reading tactics. This in response the challenges about difficulty in understanding on what they are reading which they also mention in the interviews. Certain tactics such as relating what one has read to real-life experience, looking for keywords or rereading texts to clarify or answer certain questions, or developing questions about the text that one is reading, to name a few, were noted among the responses of the participants. In relation to this idea, Case D has something to say:

> I am also a critical thinker, capable of comprehending and evaluating things based on the information provided in what I read. I can organize my ideas and thoughts to better understand the story or literature I am reading. (P04_CQ2.S7)

Development of Set of Values for Reading. In response to the challenges presented by the endeavor of reading itself, outstanding independent readers were able to develop their own values which amplify their eagerness and willingness to see through the end of the reading process. All participants mentioned that they exercised due diligence in reading texts, in order for them to understand its meaning completely. They were also able to motivate themselves to read in the process so that they would find the journey to be fun and worthwhile. With regards to this idea, Case B cited that:

> I found ways to learn how to read, Sir. If I have difficulty understanding a story. I always make an effort to find ways

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to help myself. I do not give up immediately because I believe there is always a way. (P02_CQ2.S2)

Application of Leadership Skills. Majority of the participants mentioned that they enhanced their reading skills in various ways. One of which is through using one's leadership skills to influence and teach others how to read. By organizing one's class section and helping them grasp the dynamics of reading using one's leadership skills as a leverage, majority of the outstanding independent readers would not only develop their reading skills. In return, they are also honing the reading skills of their classmates and friends. Case C claimed that:

> I can also utilize my leadership skills in reading because I teach my classmates who are not very knowledgeable. In this way, I have helped them and myself. Perhaps, that strategy or practice that I have is what made me unique. (P03_CQ2.S8)

Similarities and Differences. As part of the cross-case analysis, similarities and differences among cases are analyzed in the context of the life skills of outstanding independent readers. It can be generally inferred that most of the cases were similar, and only few differences were noted in this multiple case study. Only Case E who has an autism spectrum manifested a difference, given the fact that he preferred reading on his own, rather than associate closely with his peers during reading activities. These inferences can be better understood in Table 4, where the check mark (✓) indicates presence of the theme in a case and an X-mark (X) which indicates absence of the same.

Table 4. Similarities and Differences of Experiences and Coping Strategies of Outstanding Independent Readers in Secondary Schools

Themes on Experiences	GRADE 7 CAMPUS JOURNALIST (Case A)	GRADE 8 VOLLEYBALL ATHLETE (Case B)	GRADE 9 STUDENT LEADER (Case C)	GRADE 10 ACADEMIC ACHIEVER (Case-D)
Early Reading Opportunities and Support	✓	✓	✓	✓
Sharing of Reading Abilities to Other Students	✓	✓	✓	X
Allocation of Time for Reading	✓	✓	✓	✓
Utilization of Gadgets for Reading	✓	✓	✓	✓
Themes on Coping Strategies	**GRADE 7 CAMPUS JOURNALIST (Case A)**	**GRADE 8 VOLLEYBALL ATHLETE (Case B)**	**GRADE 9 STUDENT LEADER (Case C)**	**GRADE 10 ACADEMIC ACHIEVER (Case-D)**
Enrichment of Reading Vocabulary	✓	✓	✓	✓
Adoption of Reading Tactics	✓	✓	✓	✓
Development of Set of Values for Reading	✓	✓	✓	✓
Application of Leadership Skills	✓	✓	✓	X

IMPLICATIONS

The study has been regarded as a treasure trove of lessons that secondary school students, parents, language teachers, reading coordinators, head teachers, master teachers, and future researchers can use in resolving the problems that were part of the premise of this study. Thus, this section is dedicated to discuss the implications that can be derived by different authorities and agencies from this study to combat the phenomenon of the prevalence of struggling readers in public schools.

Students may find this study meaningful, as they can emulate the examples of the outstanding independent readers who were interviewed in this study. They may allocate more time for reading, enrich their vocabulary, as well as adopt productive and positive socioemotional values to cultivate their love for reading and learning. Parents are also enjoined in this study, as they are the partners of teachers in providing early reading opportunities and support to the learners. As per the findings of this research, early reading support is crucial to develop the foundation of students in reading, which they can use in the long run to navigate the complexities and uncertainties of life in the future.

Moreover, the faculty composed of language teachers, reading coordinators, head teachers, and master teachers, may also find invaluable insights in this study, as they can use this one to devise programs, activities, and initiatives which are targeted to augment the life skills of students. Teachers may direct their focus in providing activities that are geared to enhance the vocabulary,

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love for reading, and adaptive learning strategies to increase the odds of reading success among learners. The findings also deliver the fact that equal and adequate opportunities for reading must be provided to all students with no exception, in order to make a community inhabited by literate learners a reality. This may be challenging for teachers of today to realize, but this is a vision that is worth persevering for.

Also, the scholarly endeavor has managed to unveil the significant aspects of the life skills of outstanding independent readers, specifically the experiences and coping strategies adopted by the participants in the study. Findings were derived from the analysis which bore comprehensive accounts that describe the research topic in detail. Albeit, the study has not managed to cover all aspects of the investigated phenomenon, which merits further research by other interested scholars and researchers in the field of applied linguistics.

Given that the limitations of research participants and study sites were cited after this study is conducted, future research may be devoted to conducting more studies about the life skills of outstanding independent readers in different study sites and including different or more diverse cases of participants. College students or senior high school students may also be considered in the succeeding studies to be pursued. Moreover, future research may also be directed to conducting quantitative studies employing higher statistical methods such as structural equation modeling or path analysis to discover in what way does life skills significantly influence the reading skills of outstanding independent readers. Experimental studies on enhancing the life skills may be tested as well to determine which can affect the reading skills of students.

CONCLUSIONS

The study is concluded on a positive note, as this research was successful in unearthing the significant practices of outstanding independent readers which shaped them into who they are as students and as individuals. Thus, it is hoped that the scholars who received the information stipulated in this manuscript will be used by proper agencies, authorities, and professionals to solve the menace of reading difficulties among Filipino students in public schools.

One striking insight which caught my attention is the values that outstanding independent readers possess and apply in their reading and study pursuits. One can even tell that this aspect sets them apart from other Filipino readers, and it is, indeed, worthy of emulation among the students in the country. As it takes an entire village to raise a child properly, the community comprising of the parents, teachers, leaders, and stakeholders are urged to take action in proliferating the Filipino values to cultivate the students' love for study, which is now dying due to the emergence of globalization, information explosion, and the digital era.

As I close the page of this chapter, it is aspired that the life skills of students will be considered by the Department of Education, as another avenue to solve the plague of being unable to read. Future perspectives may be directed to exploring more innovations in teaching reading, and one of which is on capitalizing on the socio-emotional aspects of students to enhance their reading capacities.

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FACTORS INFLUENCING JOB PERFORMANCE AMONG EMPLOYEES OF THE NATIONAL IRRIGATION ADMINISTRATION (NIA) REGION IV: BASIS FOR INTERVENTION ENHANCEMENT FORMULATION

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ABSTRACT

This study aimed to determine and assess the factors influencing job performance among the National Irrigation Administration (NIA) Region IV-A (CALABARZON) employees. A total of sixty (60) employees from the different Field Offices of NIA Region IV-A (CALABARZON) were surveyed using a self-determined questionnaire. By analyzing various variables, the researcher aims to identify the critical areas for intervention and enhancement. The study entails determining the factors that influence the employees' job performance, such as work motivation, satisfaction, organizational culture, leadership style, and physical work environment. The study used a mixed method using qualitative and quantitative approaches and statistical tools such as mean, standard deviation, One-way ANOVA and Pearson's correlation coefficient to analyze the data gathered.

Based on the results, the relationship between the demographic profile of the respondents and the level of performance of the employees of NIA Region IV-A has no significant effect on job performance. On the other hand, the results on the relationship of the influential factors of work motivation, work satisfaction, leadership style, organizational culture, and physical work environment significantly affect the employees' work quality, work productivity, and managerial efficiency, which implies job performance.

Thus, it is recommended that the National Irrigation Administration (NIA) Region IV-A (CALABRZON) review and assess the factors that affect the employees' job performance. The influential factors such as the incentives, the workload distribution, the physical environment, and the organizational culture may delve deeper into the possible enhancement of the interventions for employees to be more motivated and satisfied in the organization and produce a better work output and job performance. This study provides valuable insights for NIA Region IV-A (CALABARZON) in intensifying their employees' job performance through the development of the influential factors that impact job performance.

KEYWORDS: *NIA Region IV-A (CALABARZON), Job Performance, Influential Factors*

INTRODUCTION

Organizations constantly seek ways to enhance performance and gain a competitive edge in the competitive and changing business environment. Numerous factors influence the success of an organization; one of the most critical is the performance of its employees. Job performance encompasses various dimensions, such as productivity, quality of work, efficiency, and overall job satisfaction. The effectiveness and efficiency of an organization heavily rely on the employees' performance in delivering their services. Therefore, to compete in the global market and achieve organizational goals, the organization should do more for an employee than the job requires, which could lead to higher job performance, as stated by Munisamy, S. (2013).

Understanding the factors that influence job performance is paramount for employers and employees. For employers, improved job performance leads to increased productivity, higher customer satisfaction, and greater profitability. On the other hand, employees who exhibit high job performance are more likely to experience job satisfaction, career advancement, and financial rewards.

Numerous studies have been conducted to explore the factors influencing job performance, and it has been found that a combination of individual, organizational, and environmental factors plays a significant role in shaping employee performance. Personal factors include the employee's Age, length of service, job position, and job status. Organizational factors encompass leadership style and organizational culture, while environmental factors involve the physical work environment.

Extensive research shows a need to delve deeper into the specific factors that affect job performance. This study seeks to expand current understanding by conducting a thorough analysis of the factors that influence the job performance of National Irrigation Administration (NIA) Region IV-A (CALABARZON) employees.

The research objectives of this study are to identify and examine the individual, organization, and environmental factors that influence job performance, to understand the interrelationships between these factors, and to be a basis for developing interventions to enhance job performance and create a conducive work environment.

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By understanding the factors that influence job performance, the organization can implement effective strategies to optimize employee performance, improve job satisfaction, and ultimately achieve their organizational goals. Furthermore, this research will provide valuable insights for employees to enhance their job performance and career development. This research aims to clarify job performance's intricate and varied nature and offer useful recommendations for both employers and employees.

By examining the variables that significantly impact job performance, this study will add to the body of information already in existence and lay the groundwork for further research in this area.

MATERIALS AND METHODS

The research design for this study will involve a mixed–methods approach, combining qualitative and quantitative methods to gain a comprehensive understanding of the factors influencing job performance. By employing a mixed-methods approach, this research design will provide a holistic understanding of the factors influencing job performance, combining statistical analysis of quantitative and qualitative data. This approach will enhance the validity and reliability of the findings and provide a rich and nuanced understanding of the complex dynamics involved in job performance.

The population for this study will consist of employees from the Regional and Field Offices of NIA Region IV-A (CALABARZON). It will include individuals from the Engineering and Operations Division and Administrative and Finance Division with various job roles, levels of experience, and job status. The size of the population will depend on the scope and resources available for the study.

A research instrument to collect data is needed to conduct the study on the factors influencing employees' job performance. A mixed questionnaire and interview for the population will be used as the research instrument. Developing a questionnaire to gather self–reported data from the employees will include items related to job performance and the factors that may influence it. A Likert scale questionnaire (5-Strongly Disagree; 4-Disagree; 3-Neither Agree nor Disagree; 2-Agree; 1-Strongly Agree) will be used to measure the extent to which employees perceive the influence of various factors on their job performance. Also, an interview with the respondents will be conducted to gather in-depth qualitative data. It can provide a deeper understanding of job performance factors and allow employees to provide detailed insights and examples.

These research instruments will be aligned with the research objectives, questions, and data collection needs. It will also ensure that the instruments have been validated and are reliable to ensure the accuracy and validity of the collected data.

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Table 1. Age

Age Group	Frequency	Percentage
22-25	6	10.34
26-29	25	43.10
30-33	8	13.79
34-37	10	17.24
38-41	6	10.34
42-45	2	3.45
46-49	1	1.72
Total	**58**	**100.00**

Note: Two respondents did not provide their Age

As reflected in the table above, 25 out of 60 respondents were mainly 26-29 years old, which is 43% of the respondents. Most respondents are in their middle to late twenties, which may imply that they are establishing their careers, navigating career experiences, and having a clearer sense of self.

Table 2. Gender

Gender	Frequency	Percentage
Male	34	56.67%
Female	26	43.33%
TOTAL	**60**	**100%**

The table above shows that 57% of the respondents are female. It suggests a slightly higher representation of female employees in NIA Region IVA (CALABARZON).

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Table 3. Educational Attainment

Educational Attainment	Frequency	Percentage
High School Graduate	1	1.67%
College Graduate	55	91.67%
Master's Degree	3	5.00%
Doctorate Degree	1	1.67%
TOTAL	**60**	**100%**

The findings of Table 3 show that out of the 60 respondents among the employees of NIA Region – IVA (CALABARZON), 55 or 91.67% of the respondents participated in the research. It means that college graduates are the most common employees of NIA Region IV-A (CALABARZON).

Table 4. Length of Service

Length Of Service	Frequency	Percentage
One month – 5 years	30	50.00%
6 – 10 years	19	31.67%
11 – 15 years	10	16.67%
21 years – higher	1	1.67%
TOTAL	**60**	**100%**

Table 4 displays the distribution of the respondents in terms of the length of service. The largest group of employees have a length of service ranging from 1 month to 5 years, comprising 50% of the population. It implies that most employees are relatively young in their profession because of the shorter length of service.

Table 5. Employment Status

Employment Status	Frequency	Percentage
Casual	42	70.00%
Permanent	15	25.00%
Job Order	2	3.33%
Contract of Service	1	1.67%
TOTAL	**60**	**100%**

Based on the data shown in Table 5, the majority of the respondents are classified as casual workers, which is 70%. Various other employment statuses indicate various employment arrangements within the organization.

Table 6. Employment Position

Employment Position	Frequency	Percentage
Engineering and Technical	38	67.86%
Administrative and Support	18	32.14%
TOTAL	**56**	**100%**

Note: Four respondents did not provide employment position

Based on the data shown in Table 5, the majority of the respondents are classified as casual workers, which is 70%. Various other employment statuses indicate various employment arrangements within the organization.

Table 7. Status of the influential factors in terms of Work Motivation

Statement	Weighted Mean (WM)	SD	Verbal Interpretation
1. The incentives provided by the organization are satisfying.	2.15	1.13	Agree
2. Encouragement from the organization is experienced to develop new and better ideas for improving work output.	2.53	1.17	Agree
1. The work output is recognized by the organization, which becomes an inspiration for doing excellent work.	2.53	1.05	Agree
2. The job duties and responsibilities given are exciting.	2.44	1.07	Agree
COMPOSITE MEAN	**2.42**		

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Overall, the high mean score of 2.53 indicates that Organizational support and acknowledgment of their accomplishments should be strengthened to increase employees' motivation. Employees find the work incentive to be fulfilling as well. A study by M.C. Manalo et al. (2021) focused on the motivational factors and their impact on the job performance of non-academic staff in a university. It showed a positive and significant relationship between the motivational factors. Hence, this study shows that the influential factors identified in the study affect the job performance among the employees of NIA Region – IV-A (CALABARZON).

Table 8. Status of the influential factors in terms of Work Satisfaction

Statement	Mean	SD	Verbal Interpretation
5. The task given is a fulfilment to carry out the responsibility.	2.38	1.11	High
6. The work output done is meaningful and valued.	2.45	1.14	High
7. The workload is reasonable.	2.65	0.97	Moderate
8. The distribution of work is satisfying.	2.71	1.07	Moderate
9. The match between the job description and the current roles is satisfactory.	2.67	1.05	Moderate
COMPOSITE MEAN	**2.57**		**High**

Job satisfaction refers to a worker's positive feelings and attitude towards their job based on the evaluation of job characteristics (A. Askolani et al., 2019). The data presented provides that with a composite mean of 2.57, the employees generally agree with satisfaction at work. However, with a mean of 2.71, the distribution of work could be improved to enhance overall employee satisfaction and productivity.

Table 9. Status of the influential factors in terms of Leadership Style

Statement	Mean	SD	Verbal Interpretation
10. Management involves the opinions and suggestions of the employees when making decisions.	2.47	1.22	Good
11. The management gives orders and procedures.	2.28	1.08	Good
12. The management directs most of the activities with minimal employee input.	2.55	0.91	Good
13. Management gives the employees the authority to make decisions and makes them accountable for their decisions.			
14. The management spends time to mentor and teach his subordinates.	2.57	1.01	Good
15. The management makes the decisions that promote the organization's performance and productivity.	2.33	0.99	Good
COMPOSITE MEAN	**2.47**		**Good**

The data presented in Table 9 reveals the status of influential factors related to leadership style among employees of NIA – Region IV-A (CALABARZON). Overall, the findings suggest a generally positive perception of the organization's leadership style, with a Composite Mean of 2.47. Employees perceive management to give orders and procedures, *WM* = 2.28, *SD* = 1.08, and to make decisions that promote the organization's performance and productivity, *WM* = 2.33, *SD*= 0.99. According to J.Y. Akparep et. Al (2019), leadership is crucial for improving organizational performance. Hence, the influential factors mentioned in the questionnaire about leadership style could be examined for a more productive and efficient job performance.

Table 10. Status of the influential factors in terms of Organizational Culture

Statement	Mean	SD	Verbal Interpretation
16. The organization set forth a standard that employees followed the same.	2.33	0.97	Good
17. Sharing thoughts and ideas with peers and team leaders is comfortable.	2.55	1.10	Good
18. A healthy work-life balance is being maintained in the current role.	2.63	1.09	Average
19. The organization values the contributions of the work output.	2.45	1.00	Good
20. When problems arise, the organization and the employees work hand in hand to solve issues.	2.27	1.12	Good
COMPOSITE MEAN	**2.45**		**Good**

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Nneji et. Al (2021), for an organization's culture to contribute to or enhance performance, it must be strong and possess distinctive traits. As shown in the results of Table 10, NIA – Region IV-A (CALABARZON) exhibits a positive organizational culture, with a Composite Mean of 2.45. It suggests that employees perceive an organization where employees work together to solve issues, *WM* = 2.27, *SD* = 1.12, and where standards are set forth and followed by employees, *WM* = 2.33, *SD* = 0.97. However, the assessment of maintaining a healthy work-life balance in the current role is not as high as in the previous statements, *WM* = 2.63, *SD* = 1.09. These factors can be used to strengthen and enhance job performance.

Table 11. Status of the influential factors in terms of Physical Work Environment

Statement	Mean	SD	Verbal Interpretation
21. The design and layout of the workspace is satisfying.	2.38	1.11	Good
22. The workplace is free from any noise disturbances. That affects concentration/productivity.	2.30	1.05	Good
23. There is sufficient storage space for personal belongings and work materials.	2.47	1.08	Good
24. The supply of materials needed for work is enough.	2.48	1.11	Good
25. The space to move and work around is sufficient.	2.38	1.14	Good
COMPOSITE MEAN	**2.40**		**Good**

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A. Alemu (2022) aimed to assess the impact of workplace environmental factors on employee performance. The findings indicated a significant relationship between the employees' performance at Wollo University and their workplace environment factors, with a 5% significance level.

The results presented in Table 11 indicate that employees in NIA – Region IV-A (CALABARZON) perceive their physical work environment positively, with a Composite Mean of 2.40. suggests that overall, the physical work environment is considered good. Specifically, employees observed a workplace free from noise disturbances affecting concentration and productivity, *WM* = 2.30, *SD* = 1.05.

Table 12. Status of the Influential Factors in terms of Work Quality

Statement	Mean	SD	Verbal Interpretation
1. The necessary resources and tools are used to complete the work tasks effectively.	2.37	1.06	Good
2. The expected quantity of work that can be produced in a given timeframe is carried out.	2.48	0.95	Good
3. The expectations and requirements of the role are met or exceeded.	2.53	1.10	Good
4. areas in the work output could be improved.	2.39	1.20	Good
5. Achieving the needed result of the work output is observed.	2.38	1.06	Good
COMPOSITE MEAN	**2.44**		**Good**

The status of job performance of NIA – Region IV-A (CALABARZON) employees in terms of work quality is presented in Table 12. Overall, the employees demonstrate good work quality, as indicated by a Composite Mean of 2.44. Employees perceive that the necessary resources and tools are used to complete their work tasks effectively, *WM* = 2.37, *SD* = 1.06. They are achieving the needed result of the work output, *WM* = 2.38, *SD* = 1.06 and recognize areas where improvements in work output are possible, *WM* = 2.39, *SD* = 1.20.

Table 13. Status of the Influential Factors in terms of Work Productivity

Statement	Mean	SD	Verbal Interpretation
6. The deadlines for the work tasks are consistently being met.	2.35	0.94	Good
7. There are no distractions or interruptions that affect focus and productivity.	2.73	1.01	Average
8. Prioritization is being set to finish assigned tasks.	2.38	1.17	Good
9. Collaboration with others was very productive.	2.37	1.26	Good
10. Effective time management practices or techniques are practised to enhance productivity.			Good
COMPOSITE MEAN	**2.32**	**1.10**	**Good**

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Referring to Table 13, NIA – Region IV-A (CALABARZON) employees demonstrate good work productivity, with a Composite Mean of 2.43. They exhibit effective time management practices or techniques to enhance productivity, *WM* = 2.32, *SD* = 1.10. However, their productivity is moderately affected by distractions or interruptions that hinder focus and productivity, WM = 2.73, SD = 1.01.

Effective time management practices indicate a positive approach to enhancing productivity. However, distractions or interruptions suggest that measures should be taken to minimize these factors.

Table 14. Status of the Influential Factors in terms of Organizational Efficiency

Statement	Mean	SD	Verbal Interpretation
11. The organizational goals and objectives are communicated to me.	2.32	1.17	Good
12. Efficient communication channels in place to facilitate smooth information flow within the organization.	2.40	1.12	Good
13. The roles and responsibilities assigned are clear to avoid duplication of efforts and ensure efficiency.	2.37	1.06	Good
14. A system is in place to prioritize tasks based on importance and urgency.	2.43	1.17	Good
15. There are regular performance evaluations or assessments to identify and address the inefficiencies or areas for improvement.	2.27	1.13	Good
COMPOSITE MEAN	**2.36**		**Good**

The results presented in Table 14 depict the status of job performance among employees of NIA – Region IV-A (CALABARZON), specifically in terms of organizational efficiency. A composite mean of 2.36 suggests a generally good level of managerial efficiency within the organization. It is notably reflected in regular performance evaluations or assessments to identify and address inefficiencies or areas for improvement, *WM* = 2.27, *SD* = 1.13. However, assessing a system prioritizing tasks based on importance and urgency, WM = 2.43, SD = 1.17, does not reflect as positively as the performance evaluations.

Table 15. The difference in the NIA – Region IV-A (CALABARZON) employees' job performance when grouped according to Age

	Age	Mean	χ^2	p-value	Decision on Ho	Interpretation
Work Quality	22-25	2.73	4.611	0.203	Fail to reject Ho	Not Significant
	26-29	2.19				
	30-33	2.28				
	34-37	2.73				
	38-41	2.73				
	42-45	2.10				
	46-49	2.60				
Work Productivity	22-25	2.50	3.224	0.358	Fail to reject Ho	Not Significant
	26-29	2.17				
	30-33	2.25				
	34-37	2.64				
	38-41	2.77				
	42-45	2.40				
	46-49	2.80				
Organizational Efficiency	22-25	2.43	6.415	0.093	Fail to reject Ho	Not Significant
	26-29	2.10				
	30-33	2.10				
	34-37	2.70				
	38-41	2.70				
	42-45	2.00				
	46-49	2.60				

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Based on the results presented in Table 15, there is no significant difference in the job performance of NIA – Region IV-A (CALABARZON) employees when grouped according to their Age, as indicated by p-values greater than 0.05. It suggests that employees' job performance remains consistent regardless of their Age. It appears that employees demonstrate a consistent level of job performance in terms of work quality, work productivity, and organizational efficiency, irrespective of Age. Therefore, Age may not significantly influence their consistent job performance across these dimensions.

Table 16. Assumptions of Normality for the Analysis of the Difference in the NIA – Region – IV-A (CALABARZON) employees' job performance when grouped according to Gender

	Gender	Mean	Mann-Whitney U Statistic	p-value	Decision on Ho	Interpretation
Work Quality	Male	2.40	406	0.774	Fail to reject Ho	Not Significant
	Female	2.49				
Work Productivity	Male	2.42	432.5	0.893	Fail to reject Ho	Not Significant
	Female	2.45				
Organizational Efficiency	Male	2.32	422	0.769	Fail to reject Ho	Not Significant
	Female	2.40				

According to the results presented in Table 16, there is no significant difference in the job performance of NIA – Region IV-A (CALABARZON) employees when grouped according to their sex, as evidenced by p-values greater than 0.05. It suggests that employees' job performance remains consistent regardless of their Gender. Employees demonstrate consistent job performance regarding work quality, productivity, and organizational efficiency, irrespective of sex. It suggests that the employees' sex may not be a factor in their consistent job performance regarding work quality, productivity, and organizational efficiency.

Table 17. Difference in the NIA – Region 4A, Pila, Laguna employees' job performance when grouped according to Highest Educational Attainment

	Highest Educational Attainment	Mean	χ^2	p-value	Decision on Ho	Interpretation
Work Quality	High School Graduate	2.60	1.266	0.747	Fail to reject Ho	Not Significant
	College Graduate	2.47				
	Master's Degree	1.80				
	Doctorate Degree	2.00				
Work Productivity	High School Graduate	2.40	2.630	0.452	Fail to reject Ho	Not Significant
	College Graduate	2.47				
	Master's Degree	1.73				
	Doctorate Degree	2.40				
Organizational Efficiency	High School Graduate	2.80	2.558	0.465	Fail to reject Ho	Not Significant
	College Graduate	2.36				
	Master's Degree	1.80				
	Doctorate Degree	3.20				

Based on the results presented in Table 17, there is no significant difference in the job performance of NIA – Region IV-A (CALABARZON) employees when grouped according to their highest educational attainment, as evidenced by p-values greater than 0.05. It says that employees' job performance remains consistent regardless of their level of education. It appears that employees demonstrate a consistent level of job performance in terms of work quality, productivity, and organizational efficiency, irrespective of their educational background.

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Table 18. Difference in the NIA – Region 4A, Pila, Laguna employees' job performance when grouped according to Length of Service

	Length of Service	Mean	χ^2	p-value	Decision on Ho	Interpretation
Work Quality	One month - 5 years	2.46				
	6 - 10 years	2.38			Fail to reject Ho	Not Significant
	11 - 15 years	2.47	1.266	0.747		
	21 years or higher	2.60				
Work Productivity	One month - 5 years	2.35				
	6 - 10 years	2.39	2.017	0.569	Fail to reject Ho	Not Significant
	11 - 15 years	2.70				
	21 years or higher	2.80				
Organizational Efficiency	One month - 5 years	2.39				
	6 - 10 years	2.24	1.102	0.778	Fail to reject Ho	Not Significant
	11 - 15 years	2.44				
	21 years or higher	2.60				

According to the results shown in Table 18, there is no significant difference in the job performance of NIA – Region IV-A (CALABARZON) employees when grouped according to their length of service, as indicated by p-values greater than 0.05. Implies that employees' job performance is the same regardless of service length. It appeared that the employees showed a consistent level of job performance in terms of work quality, work productivity and organizational efficiency, irrespective of their tenure in the organization.

Table 19. Difference in the NIA – Region 4A, Pila, Laguna employees' job performance when grouped according to Employment Status

	Employment Status	Mean	χ^2	p-value	Decision on Ho	Interpretation
Work Quality	Casual	2.21				
	Permanent	2.55				
	Job Order	4.00				
	Contract of service	3.80	11.204	0.082	Fail to reject Ho	Not Significant
Work Productivity	Permanent	2.66				
	Job Order	3.50				
	Contract of service	3.60	11.436	0.076	Fail to reject Ho	Not Significant
Organizational Efficiency	Casual	2.15				
	Permanent	2.45				
	Job Order	3.80				
	Contract of service	4.00	10.247	0.115	Fail to reject Ho	Not Significant

According to the results shown in Table 19, there is no significant difference in the job performance of NIA – Region IV-A (CALABARZON) employees when grouped according to their employment status, as indicated by p-values greater than 0.05. It suggests that employees' job performance remains consistent regardless of employment status.

In NIA – Region IV-A (CALABRZON), the job performance of its employees does not vary significantly based on employment status. It suggests that factors influencing job performance may not be strongly connected to whether an employee is permanent, contractual, or casual. As a result, management may need to focus on implementing programs to improve overall job performance for all employees, irrespective of their employment status.

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Table 20. Difference in the NIA – Region 4A, Pila, Laguna employees' job performance when grouped according to Employment Position

	Employment Position	Mean	χ^2	p-value	Decision on Ho	Interpretation
Work Quality	Engineering and Technical	2.40	0.283	0.963	Fail to reject Ho	Not Significant
	Administrative and Support	2.60				
Work Productivity	Engineering and Technical	2.37	0.448	0.930	Fail to reject Ho	Not Significant
	Administrative and Support	2.80				
Organizational Efficiency	Engineering and Technical	2.28	0.396	0.941	Fail to reject Ho	Not Significant
	Administrative and Support	2.50				

In Table 20, which presents the analysis of the difference in job performance among employees of NIA – Region IV-A (CALABARZON) Laguna when grouped according to their employment position, the results indicate that there is no significant difference in job performance based on job position, with p-values greater than 0.05. Suggests that employees' job performance in NIA – Region IV-A (CALABARZON) remains consistent regardless of their position.

Overall, the analysis revealed that job performance among employees of NIA – Region IV-A (CALABARZON) remained consistent across various demographic and employment-related factors. It suggests that factors other than those analyzed may significantly impact job performance within the organization.

Table 21. Relationship between Influential Factors and Job Performance of Employees of NIA – Region IV-A (CALABARZON)

Job Performance	Influential Factors		Statistic	p-value	Decision on Ho	Interpretation
Work Quality	Work Motivation	Pearson's r	0.875	< .00001	Reject Ho	Significant
	Work Satisfaction	Spearman's rho	0.747	< .00001	Reject Ho	Significant
	Leadership Style	Spearman's rho	0.788	< .00001	Reject Ho	Significant
	Organizational Culture	Spearman's rho	0.854	< .00001	Reject Ho	Significant
	Physical Work Environment	Pearson's r	0.760	< .00001	Reject Ho	Significant
Work Productivity	Work Motivation	Spearman's rho	0.835	< .00001	Reject Ho	Significant
	Work Satisfaction	Pearson's r	0.8355	< .00001	Reject Ho	Significant
	Leadership Style	Pearson's r	0.885	< .00001	Reject Ho	Significant
	Organizational Culture	Pearson's r	0.8995	< .00001	Reject Ho	Significant
	Physical Work Environment	Spearman's rho	0.827	< .00001	Reject Ho	Significant
Organizational Efficiency	Work Motivation	Pearson's r	0.850	< .00001	Reject Ho	Significant
	Work Satisfaction	Spearman's rho	0.744	< .00001	Reject Ho	Significant
	Leadership Style	Pearson's r	0.891	< .00001	Reject Ho	Significant
	Organizational Culture	Pearson's r	0.903	< .00001	Reject Ho	Significant
	Physical Work Environment	Spearman's rho	0.785	< .00001	Reject Ho	Significant

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The relationship between influential factors and employees' job performance in NIA – Region IV-A (CALABARZON) is presented in Table 21. According to the results displayed in the table, a positive and significant relationship exists between the influential factors and the job performance of employees in NIA – Region IV-A (CALABARZON). The strength of these critical relationships ranges from strong to very strong. These findings suggest that enhancements of influential factors such as work motivation, work satisfaction, leadership style, organizational culture, and physical work environment would lead to improvements in job performance, specifically in terms of work quality, work productivity, and organizational efficiency among employees in NIA – Region IV-A (CALABARZON).

CONCLUSIONS

In conclusion, a combination of motivation, satisfaction, leadership, culture, and environment contributes to the employee's and organization's overall job performance. Organizations prioritizing these factors tend to have more successful and productive teams. Work motivation, satisfaction, leadership style, organizational culture, and physical work environment significantly influence organizational efficiency. Motivated employees tend to be more productive and efficient. When intrinsic or extrinsic factors drive individuals, they channel their energy toward tasks, leading to streamlined processes and improved overall efficiency. Satisfied employees contribute to organizational efficiency. A study that provided evidence in favour of this research found that job satisfaction significantly and positively affects employee performance. Lastly, a good and considerable impact on employee performance is simultaneously had by leadership style, work motivation, and job satisfaction (Rismayadi, B. (2024)).

RECOMMENDATIONS

The results suggest that as part of the influential factor in work motivation, the encouragement and recognition by the organization to the employees can be enhanced to boost better work output and performance. Also, the recognition of the work output done by the employees can be reviewed and enhanced to improve job performance. For work motivation, leaders must seek to understand employees' intrinsic and extrinsic motivation. Recognition, rewards, and career growth must be considered. Also, clearly defining the goals as individuals and as an organization may help enhance job performance. Employees perform better when they know what's expected of them.

By implementing these recommendations, the organization and its employees can contribute to improving and upholding high standards of employee development and job performance. A holistic approach that combines these elements contributes to sustained job performance and employee satisfaction.

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A TRACER STUDY OF THE GRADUATES OF BACHELOR OF SCIENCE IN OFFICE ADMINISTRATION MAJOR IN OFFICE MANAGEMENT COVERING THE ACADEMIC YEARS 2018, 2019, 2022, & 2023 OF THE KAPALONG COLLEGE OF AGRICULTURE, SCIENCES AND TECHNOLOGY

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ABSTRACT

Tracer studies are crucial for gauging the effectiveness and applicability of programs provided by higher education institutions and their alignment with the job market. Hence, the aim of this quantitative research is to track the career paths of graduates from Kapalong College of Agriculture, Sciences, and Technology (KCAST). Particularly, the study successfully contacted 97% of the graduates from the BSOA Department, with 299 out of 308 graduates participating covering the A.Y. 2018, 2019, 2022, and 2023. Among the total respondents, 34 (44.82%) graduated in 2023, while 85 (28.643%) graduated in 2022, 56 (18.73%) graduated in 2019, and 24 (8.03%) graduated in 2018. The majority of respondents were female, comprising 268 (89.63%) who were single. The most common age group among participants was 24 years old. Notably, 30 (10.03%) respondents acquired vocational education and/or TESDA National Competency certification, and 5 (2%) pursued higher education after completing their bachelor's degree. Regarding employment status, 211 individuals (70.57%) are presently employed, with the majority, 189 (89.70%), holding full-time positions. Notably, nearly 93 (43%) of the employed graduates earn monthly salaries ranging between 11,000.00 and 15,000.00, having secured their current positions within 1 to 3 months after graduation. Interestingly, the majority of respondents, totaling 259 (86%), expressed a neutral opinion when asked about the relevance of their degree to their current job. Furthermore, among the respondents, 51 work as office clerks and/or encoders, 48 hold administrative positions across various offices, 30 serves as accounting staff, and 24 are engaged in roles related to customer relations. The BSOA graduates consistently demonstrate a high level of attitude towards work, appreciation for the quality education provided by the institution, and the development of skills and abilities. This descriptive rating indicates that these attributes are consistently observed in BSOA graduates. Therefore, it is advised that the BSOA Department of KCAST continues to uphold and enhance the current programs and activities aimed at improving the employability skills of its students.

KEYWORDS: *BSOA Graduates, Philippines, quantitative descriptive method, tracer study*

INTRODUCTION

The main aim of tracing graduates is to develop a clear picture of the situation of graduates after completion of studies. Consequently, undertaking this study will be able to assist stakeholders in the decision-making process regarding the responsiveness of education, on the supply side, to the situation of labor market, on the demand side. Thus, education providers play an equally important role in training graduates for a wide range of skills that are needed for success in life in general, and in employment in particular. Furthermore, flexible pathways and modes of study in Further and Higher Education are important to allow students to enter, leave and re-enter education and to reconcile studies with other commitments they may have (Cassar, 2016).

Every academic institution's goal is to produce competent and highly qualified graduates that can eventually be competitive in a local and global arena. A graduate tracer study is a very powerful tool that can provide valuable information for evaluating the whereabouts and performance of the graduates in the workplace. To enrich the existing degree programs, the institution has to focus on student mobility, credit transfers, quality assurance and research clusters as the four main priorities to harmonize with the ASEAN higher education system (Cuadra et al., 2019).

Internationally, tracing graduates is essential for evaluating the quality and relevance of educational programs, fostering alumni engagement, and meeting accreditation requirements. For individuals, education promotes employment, earnings, health, and poverty reduction. Globally, there is a 9% increase in hourly earnings for every extra year of schooling. For societies, it drives long-term economic growth, spurs innovation, strengthens institutions, and fosters social cohesion. Making smart and effective investments in people's education is critical for developing the human capital that will end extreme poverty. At the core of this strategy is the need to tackle the learning crisis,

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put an end to Learning Poverty, and help youth acquire the advanced cognitive, socioemotional, technical and digital skills they need to succeed in today's world (The World Bank, 2024).

In Camarines Sur, a tracer study of the Bachelor of Science in Office Administration (BSOA) Graduates of Camarines Sur Polytechnic Colleges from 2009 to 2013 was conducted. Specifically, it sought to determine the personal, professional and employment profile, and the attributes that contribute to employability. It also identified reasons with regards to staying in the job, accepting jobs not related to the course and unemployment. Likewise, the study looks at the expectations met by the program that contributed in meeting the demands of the job and the assessment of the employer on the job performance of the graduates. The majority of the graduates are gainfully employed locally, in private organizations, with regular/permanent status, and holding clerical positions. Attributes such as socio-economic, academic and school factors contributed to their employability. Salaries and benefits play a big role in staying in the job and accepting jobs not related to course, while family concern is the main reason why people are not employed. The BSOA program has met the expectation of the graduates but needs to take necessary measures to address the issue of skills that was found out to be fairly met (Jintalan, 2020).

The BSOA Department of Kapalong College of Agriculture, Sciences and Technology (KCAST) carried out research among 87 graduates covering the Academic Years 2018-2019. The researchers found out that majority of the course contents of their program are relevant to their career requirements. In terms of employability rate of the graduates, more than half of them got employed one (1) to three months after the graduation. 43.6% of the respondents are currently working as full-time in their job. With the data gathered, the researchers concluded that through their competent communication and interpersonal skills, graduates were more likely to land on the jobs connected to the degree they have studied. Therefore, the researchers recommend that the institution, particularly the department, should hold various job fairs and extensive seminars, as well as training and lectures for the graduating office administration students which are designed based on the specific needs of the industry (Lopez et.al.,2024).

Hence, this research determined the contribution of BSOA graduates to the development of various skills, the satisfaction with the delivery of the institution program and services, and the practice of graduate attributes of KCAST BSOA graduates covering the Academic Year 2018, 2019,2022, & 2023. Consequently, continuity in conducting graduate tracer studies in an Office Administration program fosters a culture of lifelong learning, excellence in teaching, and continuous improvement, all of which contribute to the program's success and the success of its students.

Likewise, it explored deeper insights on the quantitative data to generate a broader perspective on the graduates' experiences to the development of their skills. The findings may serve as baseline data in formulating a proposed strategic plan for the continuous improvement of the BSOA Department's delivery of the programs and services. As such, conducting graduate tracer studies enhances institutional accountability, supports program improvement efforts, informs career services, strengthens alumni relationships, and contributes to the institution's reputation and impact.

Objectives of the Study

This study aimed to conduct a comprehensive graduate tracer research to track the professional paths and current employment status of BSOA major in Office Management graduates covering the Academic Years 2018, 2019 – 2022, and 2023 from KCAST. By examining the post-graduation experiences of KCAST BSOA alumni, this research seeks to provide valuable insights into the relevance and impact of the college's educational programs.

To achieve this aim, the study has the following specific objectives:

1. What is the profile of the BSOA graduates in terms of the following:
   - 1.1. sex;
   - 1.2. civil status;
   - 1.3. age;
   - 1.4. year graduated;
   - 1.5. educational attainment and personal development; and
   - 1.6. relevance of the degree to their present job.
2. What is the employment profile of the BSOA graduates in terms of the following aspects:
   - 2.1. employment rate;
   - 2.2. present employment status;
   - 2.3. initial gross earning;
   - 2.4. time of employment after graduation;
   - 2.4. reasons for staying on the job; and
   - 2.5. relatedness of job to the course/program taken.
3. What is the work attitude of BSOA graduates?
4. What is the perception of the BSOA graduates with the quality of education provision of the institution?
5. What are the competencies learned in college that are useful in the current job of the graduates?

Review of Related Literature

This section presents a foundation upon which the current research is built and contextualizes the study within the broader academic and research landscape. It helps to establish the context and background, identify gaps, provide a theoretical foundation, offer methodological insights, clarify concepts, enhance credibility, and support the analysis of findings relevant to graduate tracer study.

Graduates Tracer Study

A tracer study or graduate survey is a standardized survey of graduates from education institutions, which takes place sometime after graduation or the end of the training. The subjects of a tracer study can be diverse, but common topics include questions on study progress, the transition to work, work entrance, job career, use of learned competencies, current occupation and bonds to the education institution (International Training Center 2024).

Through tracer study, an institution is able to evaluate the quality of education given to their graduates by knowing the graduates' placements and positions in the society which later can be used as a benchmark in producing more qualified and competitive graduates. Hence, tracer surveys are studies that gather feedback from graduates of an educational institution to monitor their achievements and progress in their careers and give policy bodies vital information on key issues (Reyes, 2021).

Moreover, Graduate Tracer Studies (GTS) are tools that allow understanding better the connection between education and the world of work. The use of these studies has been expanding across countries mainly due to the increasing complexity of the relationship between education and work in times when the educational offer is diversifying, participation in education is growing, and economies and labor markets are rapidly changing (World Bank, 2019).

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Consequently, every academic institution's goal is to produce competent and highly qualified graduates that can eventually be competitive in a local and global arena (Gonzaga, 2019). Thus, the development of tracer studies can be implemented in several stages, such as system design development, data design, and interface design. With the development of the tracer study system design, it is hoped that it can become the basis for developing an integrated tracer study information system with the institution (Hapsari, 2024).

Graduate Outcomes

In practice, Graduate Outcomes is a validation to understand whether a graduate is in employment, have continued with further study or are doing something else and to what extent his or her qualification played a part after graduation. The process of validation will focus on student experience from learning to potential employment perspective (Higher Education Statistics Agency, 2022).

Furthermore, a Graduate Outcomes Survey conducted by Higher Education Authority (HEA) is a national survey distributed to all graduates of Higher Education Institutions (HEIs) which highlight the current opportunities and challenges for new graduates. Moreover, factors explored in the report include employment outcomes, source of employment, location of employment, graduate salaries, relevance of studies to employment, enrolment in further studies, among others (Higher Education Authority, 2024).

However, to make a claim about a graduate outcome is to offer a causal explanation of how some aspect of higher education tends to promote a particular graduate capability (e.g. social capital), which then in turn leads to a particular graduate functioning (e.g. high skilled employment). More than this, there is a need to understand how these causal processes vary for different students in different institutions. This complex assessment of graduate outcomes, will not only consider comparisons between Higher Education Institutions (HEIs), but eventually understands the accurate picture of the actual transformations promoted by higher education (Fryer, 2021).

Notably, there is a lack of focus on staff experiences regarding the process of preparing students for employment. The review also demonstrates the need for more research on career processes and outcomes in transnational higher education (Schueller, 2023).

Nonetheless, during the second State of the Nation Address (SONA), President Ferdinand R. Marcos Jr. noted how the administration, through the Commission on Higher Education (CHED), responded to improve the country's education to ensure global competency…CHED chairperson J. Prospero de Vera III, said the Philippine HEIs would produce more globally-ready graduates through partnerships spurring sharing and exchanges of curriculum, programs, and training between local and international universities in various fields of studies (Sevillano, 2023).

Employer Perspectives

Fresh graduates need to understand that their prospective employers are perceiving gaps in their expectations versus reality. Being cognizant of this gap and working for self-improvement is imperative not only for improving the probability of employment with the favorite employer but also to fuel their career growth. The employers would be aware of the gap and thus, design suitable bridge programs to adapt the new graduates to their and the industry needs (Sangeetha, 2022).

Furthermore, employers typically expect recent graduates to have a strong foundation in the theoretical and practical aspects of their field of study. This includes a good understanding of relevant concepts, skills, and industry trends. They also look for graduates who demonstrate strong communication, problem-solving, teamwork, and critical thinking skills. Additionally, employers often value candidates who show a willingness to learn, adapt, and take initiative in their professional development. Graduates who have gained practical experience through internships, co-op programs, or relevant part-time work may also have an advantage in the job market (Poe, 2023).

Nevertheless, research into employability issues is currently receiving considerable attention. In Morocco, a significant number of employers are satisfied with the skills of their newly hired employees. However, other employers express their dissatisfaction with the newly hired workers and believe that they lack some of the most basic skills needed for successful employment… It aims to research the gap between employers' requirements of graduates and their actual skills with particular focus on employers' perception (Tejan, 2019).

Moreover, U.S. employers have reported that many college graduates are underprepared in written communication when hired and that lack of preparedness hinders these graduates' employment success. Higher education institution (HEI) administrators need information regarding which writing skills should be taught across the curriculum to improve student outcomes…Improvements in these areas may contribute to positive social change by improving employment outcomes for college graduates, which is particularly important given the time and money that learners invest in education (Minnaugh, 2023).
Consequently, mismatch between the graduate's skills and attributes with the industry needs has been a challenge for colleges and universities. Thus, HEIs constantly review the curricula to respond to the relevant human resource needs. Conversely, the least preferred by the employers were found to be formal accounting qualification, technology skills and capacity for innovation. Whereas, leadership, communication and interpersonal skills are preferred by the employers (Briones, 2021).

Challenges on Tracer Study

Graduate tracer studies may be an appropriate research method for responding to various problems in the South African higher education context, including difficulties associated with higher education transformation and graduate employability. However, there is little context relevant literature on the implementation of the various methodologies that may be used, and no assessment of the relevance of these methods for the South African context (Senekal, 2019).

Notably, conducting a tracer study faces several challenges. One challenge is the limited response from alumni and stakeholders, which hinders the distribution and collection of questionnaires. Another challenge is the accessibility of software, photocopier and internet for administrative works, which affects the use of ICTs in school administration. Additionally, the COVID-19 pandemic has imposed social limitations, making it necessary to shift to digital modes of tracer study implementation using IT-based applications like Google Forms, Facebook Groups, and WhatsApp Groups. Furthermore, monitoring alumni who are located outside the city poses a challenge, as the current data collection method is not effective in keeping track of them. These challenges highlight the need for improved strategies and tools to enhance the effectiveness and efficiency of tracer studies (SciSpace, 2023).

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As such, tracer study is a mandatory aspect of accreditation assessment in Indonesia as it is also needed by the university in evaluating the success of learning that has been applied to the curriculum (Abdulloh et.al., 2022).

Indeed, graduate tracer studies may be an appropriate research method for responding to various problems in the South African higher education context, including difficulties associated with higher education transformation and graduate employability. However, there is little context relevant literature on the implementation of the various methodologies that may be used, and no assessment of the relevance of these methods for the South African context (Munro et.al., 2019).

With this in mind, Graduate Tracer Study should be done regularly in order to know their whereabouts, evaluate existing programs, assess study provisions and conditions, and design improvements to strengthen them or to come up with new relevant programs in the future. Finally, to improve the content and construct of the graduate tracer study questionnaire, the study recommends the conduct of reliability index (Cuadra et.al., 2019).

Policy Implications

Improving the quality of graduate education is the HEI's main objective. One way of knowing the quality is determining the graduates' appropriateness and the graduates' work competencies in the workplace. It will help the higher education institutions to get feedback and to know their position in terms of efficiency in providing knowledge to students. It will be used for curriculum development and reform to determine the education curriculum appropriateness to enhance graduates' work performance (Guiamalon, 2021).

As such, conducting tracer studies regularly will identify areas of strength and progress, collect feedback on graduates' readiness for professional jobs, and provide improvements in the curriculum (Aranda et.al., 2024). Therefore, the government would acquire valuable cues to formulate suitable policies to achieve the nation's strategic goals. (Sangeetha, 2022).

Consequently, GTS allows us to illuminate the relationship between college experience and labor market outcomes, and to formulate course of actions for the higher education sector (Tutor et.al., 2020). With this in mind, It is anticipated that the findings will allow the University to make better and informed-decisions when developing policies dealing with academic issues (learning and teaching) and student welfare in order to better prepare graduates for the job market (Semos et.al., 2020).

Finally, there is an urgent need for all stakeholders to develop… a service-oriented architecture to assure the quality of higher education with mandatory elements, for example, student survey results, student ratings, university teachers' rating, educational programs, results of uniqueness verification for scientific research and qualifying papers, review of educational programs for higher education applicants etc. (Kobets et.al., 2021).

Theoretical Framework

Understanding the dynamics of sustainable academic practices requires a comprehensive theoretical approach. This study is grounded in several interrelated theories that provide a substantial framework for analyzing the various dimensions of a graduate tracer studies.

Firstly, the Stufflebeam's CIPP Model (Context, Input, Process, Product) developed by Daniel Stufflebeam, is a comprehensive framework for educational evaluation. It emphasizes systematic collection and analysis of information to make informed decisions and improve educational practices (Tunk, 2010).

Secondly, comprehensive frameworks for conducting tracer studies developed by Ulrich Teichler emphasize the importance of considering various factors such as socio-economic background, field of study, and labor market conditions. Teichler argues that the insights gained from these studies can help improve curriculum design, enhance employability skills training, and strengthen university-industry linkages. These comparative studies provide valuable insights into how different contexts influence graduate outcomes and help identify best practices that can be adapted across various settings. Thus, acquiring work experience is more important … also students from disadvantaged backgrounds are primarily motivated to seek employment by the prospect of short-term income. It is a significant finding that even if the students' jobs are not related to their studies, they still have the goal of gaining professional experience and increasing their capital, which implies that they consider many of these jobs to be an investment in human capital (Fenyes, 2021).

Thirdly, Yorke and Knight's employability theory, developed by Mantz Yorke and Peter Knight, is a well-regarded framework in the field of higher education that focuses on understanding and enhancing graduate employability. By focusing on a broad range of attributes—skills, self-efficacy, meta-cognition, and personal qualities—the theory emphasizes the importance of a holistic approach to education that prepares students not just for their first job, but for a sustainable and adaptable career. Institutions that integrate these concepts into their programs can better equip their graduates to thrive in the dynamic and often unpredictable job market. Accordingly, increase in students' psychological capital had a positive and direct effect on the increase in the level of competence shown in employability skills (Calvo et al., 2020).

Furthermore, the study incorporates the JD-R Model, developed by Arnold Bakker and Evangelia Demerouti, posits that job performance is influenced by the interaction between job demands and job resources. The model can be applied to a variety of work environments and is flexible enough to account for different types of jobs and industries and can integrate individual perspectives within occupational wellbeing (Boyd et.al., 2010).

By integrating these theoretical perspectives, the study aims to provide a multi-dimensional analysis of sustainable employability skills practices in KCAST. This theoretical framework not only guides the research design and methodology but also facilitates a deeper interpretation of the findings, ultimately contributing to the development of effective strategies for promoting sustainable academic programs.

METHODS

Research Design

This study employed the descriptive research method because it involved gathering quantitative data, which were organized numerically, aligning with the essence of descriptive studies. Additionally, this approach was utilized to detail the characteristics of the population or phenomenon under investigation. The primary objective of this research method is to depict the nature of a demographic segment without delving into the reasons behind the occurrence of specific phenomena. Thus, this type of research provides a detailed and accurate picture of the characteristics and behaviors of a particular population or subject. By observing and collecting data on a given topic, descriptive research helps researchers gain a deeper understanding of a specific issue and provides valuable insights that can inform future studies (Sirisilla, 2023). Also, this method ascertains prevailing conditions of facts in a group under study

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that gives either qualitative or quantitative, or both, descriptions of the general characteristics of the group as results (Rillo, et.al., 2018).

In the context of the present study, a descriptive research method was employed to detail the demographic characteristics, employment profile, work attitude, quality education provisions, and skills and abilities development of BSOA graduates from KCAST.

Research Locale

This tracer study was conducted in Kapalong College of Agriculture, Sciences and Technology (Figure 1), an educational institution situated in the Municipality of Kapalong province of Davao del Norte, which is part of the Davao Region in Mindanao. This area is known for its agricultural activities, making it an ideal setting for a college specializing in agricultural education. It is the first local



Figure 1. Geographical Location of the Research Locale

college in Region XI accredited Level 1 by the Association of Local Colleges and Universities –Commission on Accreditation (ALCUCOA). The institution started its operation in the year 2005. KCAST is a pivotal institution dedicated to advancing agricultural education and technology. It provides a comprehensive learning environment that integrates theoretical and practical knowledge, supports research and community service, and fosters industry partnerships.

Research Respondents

Table 1. Population and Sample of the Study

Bachelor of Science in Office Administration major in Office Management			
A.Y.	**Male**	**Female**	**Sub-total**
2018	7	17	24
2019	14	42	53
2022	22	63	85
2023	27	107	134
Total	**70**	**229**	**299**

**Data collected is sourced out from KCAST Registrar's Office*

Essentially, the focus of this tracer study was on graduates from the BSOA Department at KCAST, spanning the Academic Years 2018, 2019, 2022, and 2023. Consequently, the study employed complete enumeration random sampling, given its objective to meticulously track and trace graduates regarding their employment profiles. In particular, in 2018, there were a total of 24 graduates, comprising 7 males and 17 females. In 2019, there were 56 graduates, with 14 males and 42 females. In 2022, the number rose to 85 graduates, including 22 males and 63 females. Lastly, in 2023, there were 134 graduates, consisting of 27 males and 107 females, resulting in a total of 299 BSOA graduates over the specified years.

Research Instrument

This study employed a custom-made tracer survey questionnaire adapted from the work of Escandallo (2024), validated by a panel of experts and examiners. The validation process ensured that the survey's constructs and contents accurately measured the study's intended outcomes, assessing both content validity and reliability. Experts evaluated the clarity of instructions and items, the organization and presentation of the items, their suitability and adequacy in each category, the achievement of the survey's purpose, the objectivity, and the rating system's scale evaluation.

Additionally, the primary objective of the tracer survey questionnaire was to track the employment history and current status of the graduates, monitor their educational achievements and progress, gauge their attitude towards their work, assess their perception of the quality of education provided by the institution, and determine the extent to which the institution contributed to the development and enhancement of their diverse skills and abilities during their time at KCAST.

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At the same time, graduate surveys have the advantage of securing a systematic information input by standardization and representative determination of the output without having to rely on the construction of a permanent information system (Schomburg, 2003). To ensure clear comprehension and interpretation of the results and data collected in this tracer study, specific parameter limits were employed. The limits below were utilized to interpret the degree of attitude towards work, assess the quality of education provided, and evaluate the skills and abilities of the BSOA major in Office Management graduates from KCAST:

Range of Percentage	Descriptive Equivalent	Description
4.20-5.00	Very High	If the measure described in the item or construct is always manifested.
3.40-4.19	High	If the measure described in the item or construct is always manifested.
3.00-3.39	Average	If the measure described in the item or construct is always manifested.
1.80-2.99	Low	If the measure described in the item or construct is always manifested.
1.00-1.79	Very Low	If the measure described in the item or construct is always manifested.

Furthermore, the specified parameter limit below was employed to interpret the quality of education provision for BSOA graduates from KCAST:

Range of Percentage	Descriptive Equivalent	Description
4.20-5.00	Very High	If the measure described in the item or construct is always manifested.
3.40-4.19	High	If the measure described in the item or construct is always manifested.
3.00-3.39	Average	If the measure described in the item or construct is always manifested.
1.80-2.99	Low	If the measure described in the item or construct is always manifested.
1.00-1.79	Very Low	If the measure described in the item or construct is always manifested.

Finally, the predetermined parameter limit below served as a guiding framework for evaluating the standard of education offered to BSOA graduates from KCAST:

Range of Percentage	Descriptive Equivalent	Description
4.20-5.00	Very High	If the measure described in the item or construct is always manifested.
3.40-4.19	High	If the measure described in the item or construct is always manifested.
3.00-3.39	Average	If the measure described in the item or construct is always manifested.
1.80-2.99	Low	If the measure described in the item or construct is always manifested.
1.00-1.79	Very Low	If the measure described in the item or construct is always manifested.

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Data Gathering Procedure

One of the main stages in a research study is data collection that enables the researcher to find answers to research questions. Data collection is the process of collecting data aiming to gain insights regarding the research topic (Taherdoost,2022). Therefore, the subsequent key measures were conscientiously implemented to collect the requisite data for the study:

Initially, as the study's population and sample encompassed BSOA graduates from KCAST, the researchers obtained precise data on the total number of graduates from the Academic Years 2018, 2019, 2022, and 2023 from the college registrar to ensure the inclusion of exact and reliable data.

Next, subsequent to acquiring the total count of graduates, the researchers devised and formulated the survey tracer questionnaire. This questionnaire was designed to assess various aspects including the demographic characteristics, employment profile, work attitude, quality education provisions, and skills and abilities development of the respondents.

Subsequently, after the creation of the survey questionnaire, the researchers commenced the process of tracing the graduates regarding their employment profile, educational achievements and progress, work attitude, quality of education provision, and the development of skills and abilities. This tracing process was facilitated using Google Forms.

As such, once the respondent had fully answered to the questionnaire, the researchers collected the completed surveys and began tallying the responses in readiness for data analysis.

Finally, the data underwent analysis and interpretation by the institution's designated statistician. They prepared the retrieved data for presentation in tables and graphs, enhancing the clarity and comprehension of the results.

Statistical Tool

Mean was utilized to calculate the average score, assessing the level of attitude towards work, evaluating the quality of education provision, and measuring the development of various skills and abilities among BSOA Office Management graduates.

Percentage was employed to determine the total proportion of BSOA Office Management graduates' demographic characteristics and employment profiles.

RESULTS AND DISCUSSION

Demographic Characteristics of the BSOA Graduates

One primary goal of this tracer study is to outline the demographic attributes of the BSOA graduates, encompassing gender, marital status, age, year of graduation, and educational attainment and development.

Figure 2 shows the gender profile of the respondents. Among the 299 respondents of the study, 229 (76.59%) were female and 70 (23.41%) were male. On the other hand, the respondents who answered to the tracer study is primarily composed of females at 76.59% while males only constituted 23.41% of the total BSOA graduates. This distribution may be attributed to the higher willingness of females to participate in research due to factors such as social norms, cultural expectations, or personal motivations. This may also be indicative that women have been underrepresented in research, leading to a concerted effort in recent years to include more women in studies to address biases and ensure that research findings are applicable to both genders.

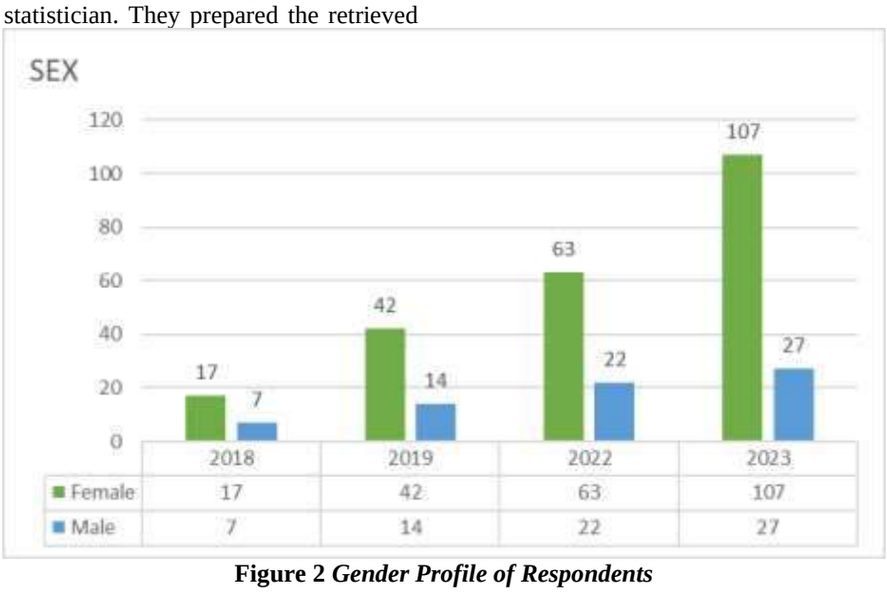


Figure 2 ***Gender Profile of Respondents***

The respondents' profile in terms of civil status as shown in Figure 3 indicates that among the 299 respondents of the study, 268 (89.63%) were single and 31 (10.37%) were married. Specifically, the single respondents from the BSOA is 89.63%. This trend is primarily attributed in prioritizing and establishing the graduates' careers before committing to a serious relationship. They may want to concentrate on building their professional lives and achieving financial stability first. Likewise, individuals have different priorities and timelines for starting relationships and settling down. Some may prioritize personal growth, travel, or other experiences before committing to a serious relationship.

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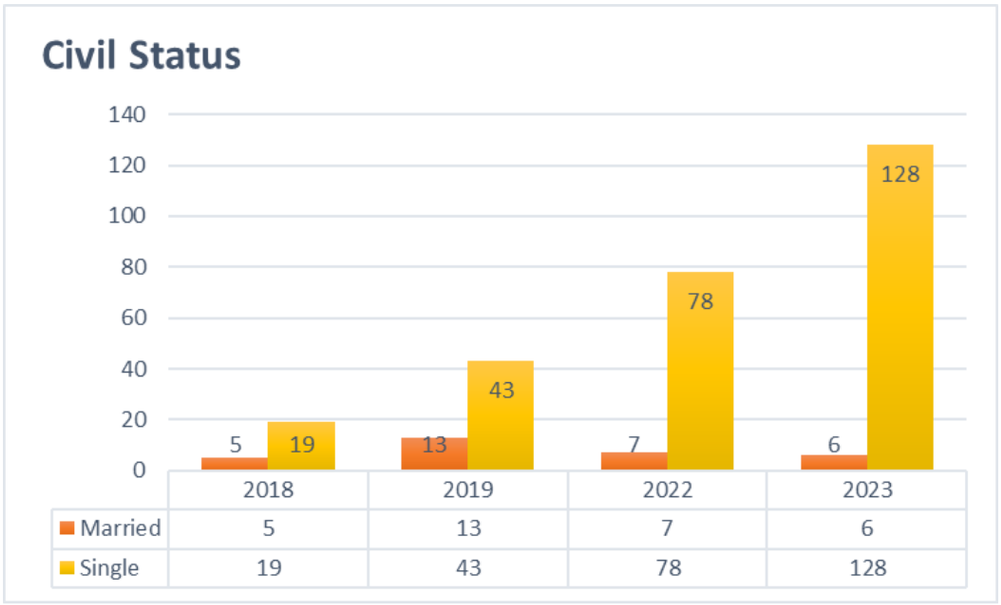


Figure 3 ***Civil Status Profile of Respondents***

Figure 4 presents the age of the respondents where 78 (26.09%) of the respondents are 24 years old, 67 (22.41%) are 23 years old, 48 (16.05%) are 25 years old, 33 (11.04%) are 26 years old, 28 (9.37%) are 27 years old, 12 (4.01%) are 28 years old, 9 (3.01%) are 29 years old, 4 (1.04%) are 30 years old, 3 (1%) are 33 years old, 2 (0.67%) are 31 and 34 years old, and lastly, 1 (0.33%) is a 32 years old. The majority of respondents fall within this age range since most of them completed their education in their twenties.

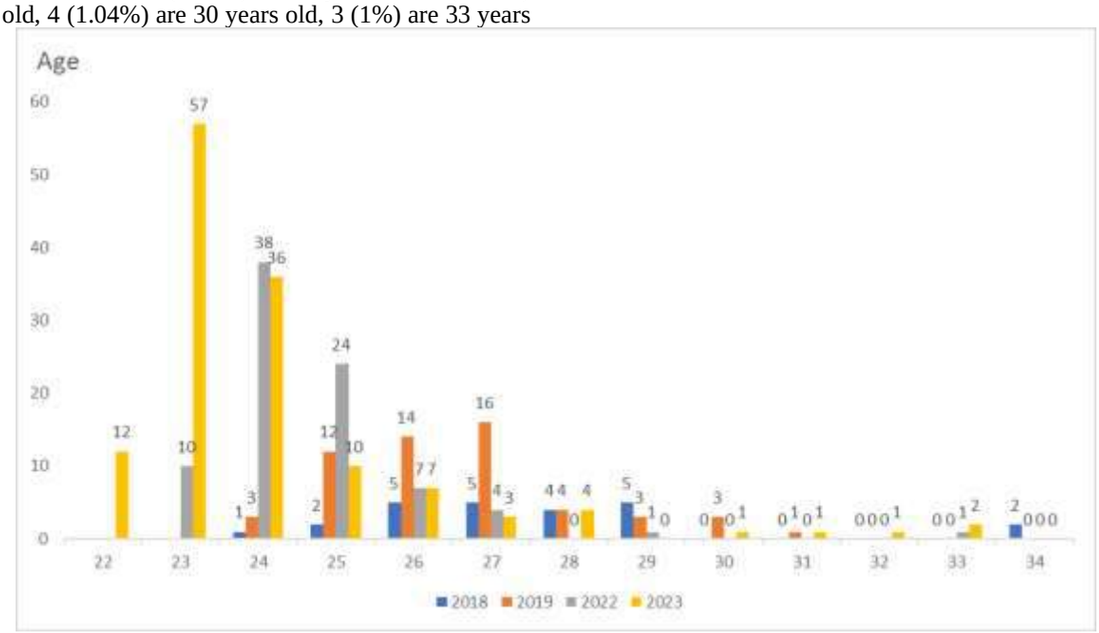


Figure 4 ***Age of Profile of Respondents***

Figure 5 depicts the respondents year graduated, there was a total of 299 respondents where 134 (44.82%) graduated on 2023 while 85 (28.643%) graduated on 2022, 56 (18.73%) graduated on 2019, and finally, 24 (8.03%) graduated on 2018.

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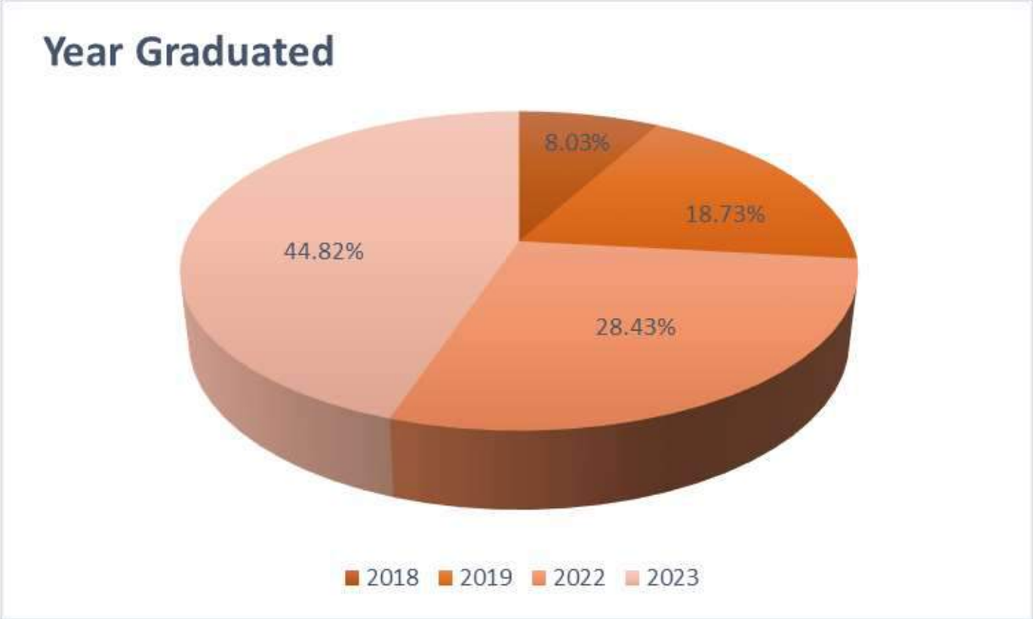


Figure 5 ***Profile of Respondents According to Year of Graduation***

Educational Attainment and Development

Revealed in Figure 6 the 30 (10.03%) of the respondents obtained a vocational education and or TESDA National Competency certification of which majority of them is in the field of Computer Systems and Servicing during their Senior High School years.

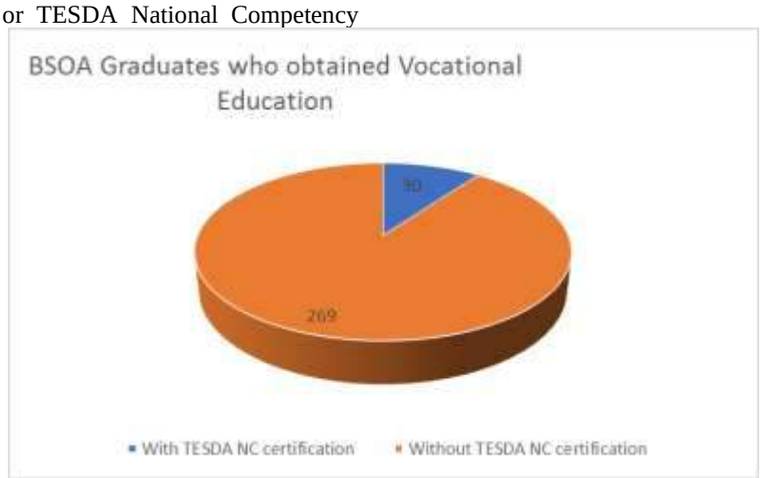


Figure 6 ***Profile of Respondents who Obtained Vocational Education***

Figure 7 revealed that only 5 (2%) of the respondents only pursued higher education after finishing their baccalaureate degree. This may be due to the fact that majority of the respondents have not pursued a Master's degree because some graduates may prioritize entering the workforce immediately to gain practical experience and start earning income rather than pursuing further education or simply not have a strong interest in further academic study and prefer to focus on other aspects of their lives, such as personal hobbies, travel, or social activities.

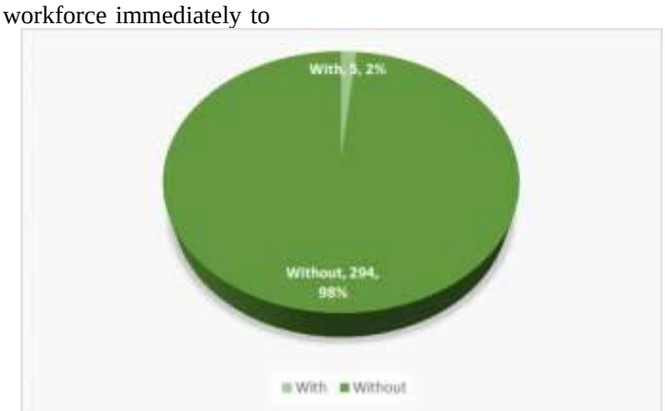


Figure 7 ***Educational Attainments and Development***

Employment Profile and Features of BSOA Graduates

The second aim of this tracer study is to ascertain the employment profile of the BSOA graduates, covering aspects such as employment rate, employment status, income level, duration of job searches post-graduation, alignment of college degree with current employment, and job mismatch.

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In Figure 8, the employment rate of the participants is depicted, with a significant portion, 211 (70.57%), reported as employed, while 88 (29.43%) indicated being unemployed. This suggests that the graduates are making meaningful contributions to both the national and local economies.

Employment Rate

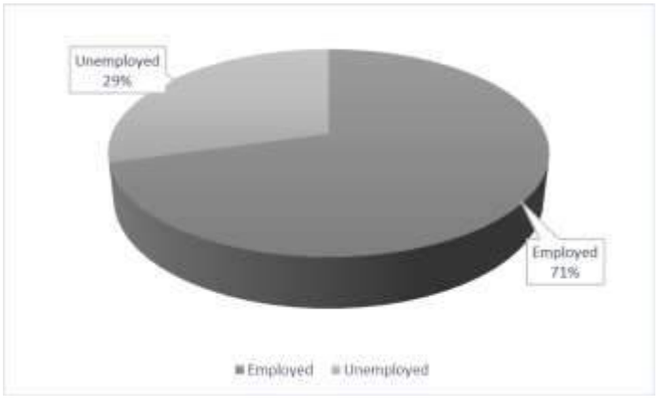


Figure 8 ***Employment Rate***

Figure 9 illustrates the distribution of employment statuses among the respondents. The data reveals that a majority, 189 (89.70%), are employed full-time. Additionally, 19 (8.72%) are working part-time but actively seeking full-time employment, while a smaller portion, 10 (4.59%), are working part-time and not actively seeking full-time work.

Employment Status



Figure 9 ***Respondents Current Employment Status***

Figure 10 displays the monthly salary distribution of respondents in their initial job. Nearly 93 (43%) of employed graduates earn between 11,000.00 and 15,000.00 a month, with 53 (24%) receiving 6,000.00 to 10,000.00. Conversely, the smallest cohort of graduates, totaling 20 (9%), earn 21,000.00 and above.

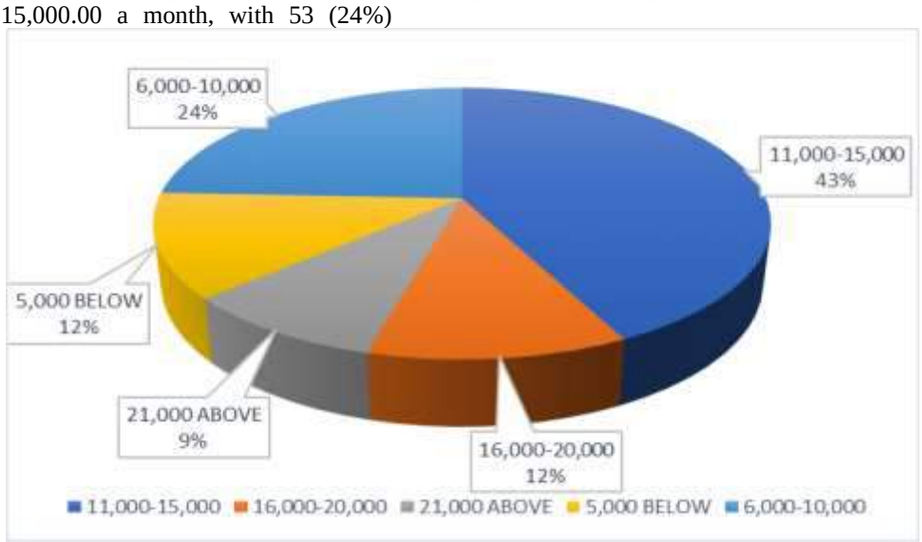


Figure 10 ***Respondents Present Monthly Salary***

Figure 11 illustrates the timeline for securing their first job, with the majority of respondents, totaling 161 (54%), obtaining their current position within 1 to 3 months after graduation. This is followed by 85 (29%) who found employment within 4 to 8 months. A smaller proportion, 22 (7%), took 9 months to 1 year, while 31 (10%) required 1 year or more to secure their initial job.

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Figure 11 ***Length of Search for the Present Job***

Figure 12 displays the correlation between the respondents' degree and their current job. The majority, comprising 259 (86%), expressed a neutral stance, while 29 (10%) considered their degree to be highly relevant. Conversely, the smallest subset of graduates, totaling 3 (1%), indicated that their degree had no relevance to their current job.

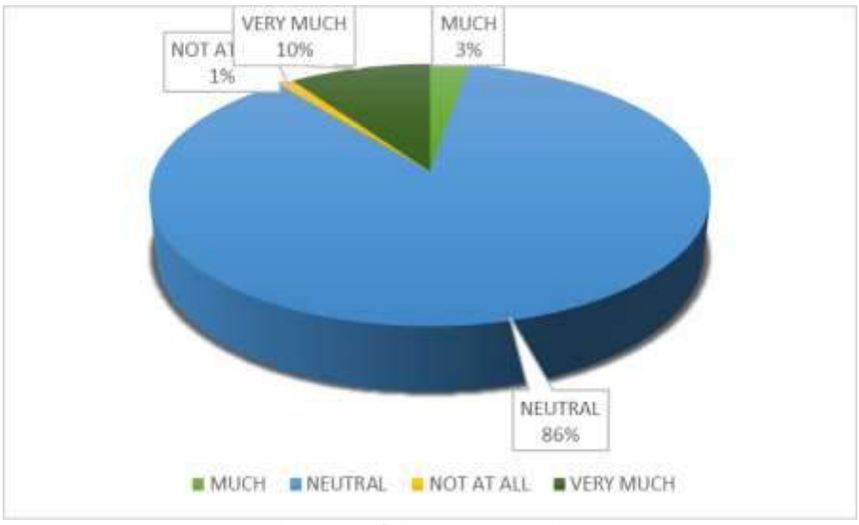


Figure 12 Relevance of the Degree to their present job

Reflected in Figure 13 is the nature of present job of the respondents. Results of the survey showed that 51 of the respondents work as office clerk and or encoder, 48 are administrative staff from different offices, another 30 are accounting staff and 24 of them are aligned with customer relations-related works, 20 are cashiers, , 15 business proprietors, 10 are Content Moderators, 9 Office Supervisors and or Managers, 6 College Instructors, 4 Virtual Assistants, the remaining 1 is a caregiver.

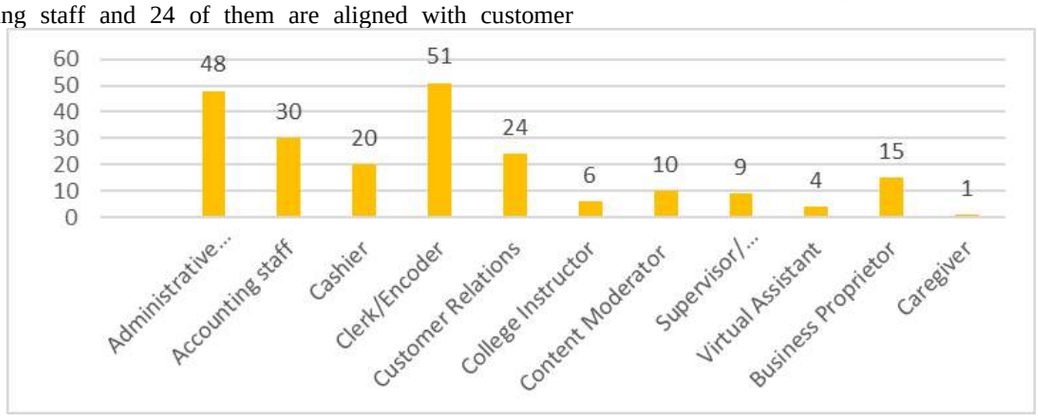


Figure 13 ***Respondents Nature of Present Job***

Figure 14 illustrates the issue of job mismatching or job fit. The results indicate that among the employed respondents, 158 (73%) are working in a field related to their profession, 51 (23%) are in unrelated professions, and 9 (4%) are employed in academic positions.

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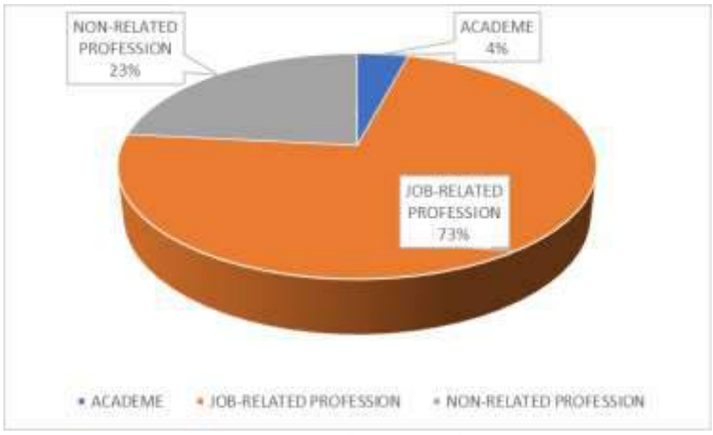


Figure 14 ***Job Mismatching***

Level of the BSOA Graduates' self-rated evaluation in terms of Attitude to Work

The results presented in Table 2 were the mean scores of the respondents' response on the level of the respondents self-rated evaluation in terms of Attitude to Work. The data revealed that the highest mean score was obtained by Item No. 4, *I arrived on time to prepare my work and extend working hours if necessary*. with a mean of 4.44 and had the descriptive equivalent of Very High. This means that the item was always manifested. On the other hand, Item No. 6, *I participated in all activities and events inside my workplace*, got the lowest mean of 4.32 and had the descriptive equivalent of Very High. This means that the item was always manifested.

Table 2. Level of BSOA Graduates' Attitude to Work

Attitude to Work	Mean	Description
1. I am very interested, happy and satisfied with my work and it is very important for me.	4.38	Very High
2. I like the kind of job and work I am doing.	4.33	Very High
3. I accepted assignments and tasks given to me at work without complaints.	4.43	Very High
4. I arrived on time to prepare my work and extend working hours if necessary.	4.44	Very High
5. I can work better and functional under different working environment and situations.	4.36	Very High
6. I participated in all activities and events inside my workplace.	4.32	Very High
7. I have a good relationship with my colleagues and co-employees.	4.43	Very High
8. I submitted necessary documents and papers on time and beat deadlines.	4.38	Very High
9. I performed my task and job with excellence and outstanding quality.	4.35	Very High
10. I seek assistance and help from others whenever I have clarifications and queries.	4.43	Very High
Overall	4.38	**Very High**

Level of BSOA Graduates' self-rated evaluation in terms of Quality Education Provisions

The results presented in Table 3 were the mean scores of the respondents' response on the level of the respondents self-rated evaluation in terms of Quality Education Provisions. The data revealed that the highest mean score was obtained both by Item No. 9, *Different trainings, seminars and workshops that prepare students for employment,* and *Item No. 10, Varied learning assessments and instructions which assess students' progress and learning fairly and equally*, with a mean of 4.56 respectively and had the descriptive equivalent of Very High. This means that the item was always manifested. However, item No. 1, *Availability of course materials and different learning resources needed for our studies*, got the lowest mean of 4.36 and had the descriptive equivalent of Very High. This means that the item was always manifested.

Table 3. Level of the respondents self-rated evaluation in terms of Quality of Education Provision

Quality Education Provision	Mean	Description
1. Availability of course materials and different learning resources needed for our studies.	4.36	Very High
2. Quality of course contents from courses offered as well as the teaching and learning process.	4.46	Very High
3. Conduciveness of the learning environment and atmosphere.	4.43	Very High
4. Provision of quality practicum guidelines and activities that develops more my skills and abilities from different industry partners and linkages.	4.51	Very High
5. Quality of learning facilities for first-hand and direct experiences like of different laboratories.	4.39	Very High

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6. Quality of different courses offered in the program that develops the total sum of the student skills.	4.41	Very High
7. Level of optimum interaction and contact with my fellow students through different in-campus activities.	4.43	Very High
8. Well-trained and self-renewing Faculty members and staffs.	4.48	Very High
9. Different trainings, seminars and workshops that prepare students for employment.	4.56	Very High
10. Varied learning assessments and instructions which assess students' progress and learning fairly and equally.	4.56	Very High
Overall	4.46	**Very High**

Level of BSOA Graduates' self-rated evaluation in terms of Skills and Abilities Development

The results presented in Table 4 were the mean scores of the respondents' response on their skills and abilities. The data revealed that the highest mean score was from Item No. 3, *Ability to work independently as well as team work and team play*, garnering 4.54 and had the descriptive equivalent of Very High. It means that the item was always manifested. Nevertheless, Item No. 14, *Expertise about multidisciplinary research that is essential for understanding students' needs and interests*, got the lowest mean score of 4.03 and had the equivalent of High. This implied that the item was often manifested**.**

Table 4. Level of the graduates-respondent self-rated evaluation in terms of Skills and Abilities Development

Skills and Abilities Development	Mean	Description
1. Organizational and leadership skill.	4.46	Very High
2. Problem solving and critical thinking skills.	4.38	Very High
3. Ability to work independently as well as team work and team play.	4.54	Very High
4. Creative thinking and creativity, initiative and taking a risk, if necessary.	4.49	Very High
5. Time Management and decision-making skills.	4.53	Very High
6. Writing competence and skills including technical writing.	4.35	Very High
7. Communication and interpersonal skills.	4.46	Very High
8. Computer and ICT Skills.	4.33	Very High
9. Technical and Entrepreneurial Skills	4.32	Very High
10. Ability to work under pressure.	4.49	Very High
11. Ability to write the essentials and basics of effective lesson planning.	4.39	Very High
12. Code of ethics applied to my teaching profession.	4.52	Very High
13. Knowledge with the different teaching methodologies, techniques and approaches through seminars and workshops.	4.43	Very High
14. Expertise about multidisciplinary research that is essential for understanding students' needs and interests.	4.34	Very High
15. Trainings, seminars and workshops about the preparation and evaluation of different instructional materials.	4.49	Very High
Overall	4.44	**Very High**

CONCLUSIONS

In conclusion, the graduate tracer study result indicates that the graduates from the BSOA Department of KCAST have exhibited exceptional outcomes in terms of their employment status, educational attainment, and the relevance of their degrees to their current positions. The high mean score reflects the effectiveness of the program in preparing graduates for successful careers and highlights the strong alignment between the education provided and the demands of the job market.

Graduates considered most of the course content in their program to be pertinent to their career needs. This suggests that BSOA graduates are successfully integrating into the labor market, a crucial element of the economy. Additionally, the study concludes that BSOA graduates are eager to continue learning and are open to development opportunities that can enhance their professional careers and make them more valuable members of their organizations.

Recommendation

Based on the findings and discussions presented, the following recommendations are proposed:

a) Regarding job awareness and employment, the Career and Counseling Office, in collaboration with the institution's Job Placement Office, should continue organizing job fairs as well as comprehensive seminars, training sessions, and lectures for graduating BSOA students. It is also recommended to invite more companies to participate in these job fairs, as suggested by the graduates.

b) Follow-up studies should be undertaken to examine the workplace performance of BSOA graduates. Specifically, research involving the graduates' current employers can be conducted to evaluate the skills required by their employees. This can assist the institution in aligning the course design with the specific needs of the industry and further reinforce the findings of this research.

c) It is widely acknowledged that work placements and internships significantly enhance employability skills. Many higher education institutions have created graduate employability programs; however, these programs often rely too heavily on overburdened career service staff and receive insufficient support from academic staff. Therefore, it is recommended that the

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government and the CHED seriously consider using future funding mechanisms as a tool to encourage increased investment in students' employability skills.

d) Given the employability rates of BSOA graduates, the academic institution should contemplate integrating instructional activities aimed at bolstering students' leadership and interpersonal skills. Diverse initiatives should be implemented to enhance students' communication abilities, encompassing both written and oral forms. Additionally, extracurricular activities like community service and team-building exercises should be prioritized. Ultimately, a systematic review of the program curriculum should incorporate study findings to develop and refine graduate attributes.

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WALKING IN THEIR SHOES: A PHENOMENOLOGICAL STUDY OF THE LIVED EXPERIENCES OF TEACHERS MANAGING STUDENTS WITH DISRUPTIVE BEHAVIOR

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ABSTRACT

This study focuses primarily on the lived experiences of secondary education teachers who work with students exhibiting disruptive behavior. The research employs a qualitative phenomenological approach, utilizing semi-structured in-depth interviews with a sample of five teachers from a secondary school in Barangay Sigaboy who are responsible for managing students with disruptive conduct. The selection of participants was done through purposive sampling. Thematic analysis was employed to evaluate the data, which facilitated the identification of key statements pertaining to the challenges, coping methods, and insights of secondary teachers in managing disruptive conduct exhibited by their students. Upon deliberation, 2 general themes surfaced breaking into 2 subthemes of each result. The results have shown that the first theme: learner's background have described the types of learners and the reason for disruptions. It is evident that secondary teachers experience varied learners that disrupts the learning process and carries different reason of disruptions. The second theme: academic background exposed the teachers' emotional attachments and strategies in the disruptive behavior. This study describes the lived experiences of 5 secondary teachers in the journey of educating young adults.

KEYWORDS: *Secondary Teachers, Disruptive Behavior, Lived Experience*

INTRODUCTION

Most teachers today are now challenged with problems in behavioral issues among students. One of the most significant behavioral issues most teachers are facing is disruptive classroom behaviors. According to Peras, Castro and Mantog (2023), the educational system in the Philippines faces several problems in dealing with students with disruptive behavior. Amado & Guerra (2018) also cited that the behavioral problems of the students became the most challenging and difficult hurdle the teachers encountered inside the classroom. Additionally, in the study of Dulay (2020), it is observed that students' misbehavior in class disrupts the smooth flow of the lesson and interferes with learning.

Disruptive behavior can be characterized by minor disruptions such as inattentiveness, speaking out of turns, leaving assigned seats, and making unnecessary noises during class, to major disruptions such as persistent and intentional disruption during class activity, physical aggression, bullying, and repeated disobedience to teachers. This disruptive behavior causes interruptions and distractions in the learning process, making it more difficult for the students to engage in class and absorb the lesson leading to poor academic performance.

Classroom behavior of students is one of the concerns teachers face on a global scale today (Dulay, 2020). These increasing frequencies of disruptive behavior in classrooms are linked with behaviors that impede and interfere with the teaching-learning process (Martino, Hernandez, et al., 2016). Additionally, disruptive behavior typically leads to low academic performance, which influences the student's risk of failure at school in some way or another (Granero-Gallegos, Antonio et al., 2019). Furthermore, according to Parsonson (2012), behavioral issues increase the stress levels of both the teacher and the students in the classroom, disrupt the continuity of lessons, and interfere with both learning objectives and learning processes.

Furthermore, the study will be conducted in the secondary public schools in Governor Generoso North District, Davao Oriental. It is observed by most teachers that disruptive behavior is a growing problem in the schools of Governor Generoso North District and is one of the most serious concerns of teachers.

Lastly, many studies in the field of classroom management tend to rely heavily on quantitative research methods, such as surveys and experimental designs. There may be a gap in the literature regarding in-depth qualitative investigations that explore the experiences, perspectives and coping mechanism of teachers handling learners with disruptive behavior. This research gap emphasizes the importance of conducting in-depth qualitative studies that capture the different lived experiences of teachers handling learners with disruptive behavior while

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also exploring their perspectives and insights. Addressing this gap is critical for informing the development of evidence-based policies and interventions that help educators create inclusive and welcoming learning environments for all children.

Research Objectives

Due to the growing concerns regarding the observable disruptive behavior of students in the classroom, there is a pressing need to explore the lived experiences of teachers handling learners with disruptive behavior inside the classroom. The purpose of this research is to understand teachers' experiences in managing students with disruptive behavior. Moreover, three objectives were sought to use as a guide for this study:

1. Identify experiences of secondary teachers in handling learners with disruptive behavior;
2. Enumerate the coping mechanisms of the secondary teachers in handling learners with disruptive behavior;
3. Uncover the insights of secondary teachers in handling learners with disruptive behavior.

Review of Related Literature

This section contains a compilation of several studies in the education area that investigate the experiences and challenges faced by secondary teachers who work with students with disruptive behavior in a general education classroom. These studies also examine the factors that contribute to this issue.

Pedagogical Resilience

Resilience as a domain of discipline has acquired multiple definitions through the process of time. However, there seems to be agreement that resilience refers to the process of coping with disruptive, stressful, or challenging life events in a way that provides the individual with protection mechanisms and coping skills before the disruption that results from the event (Segalo, 2021). Research has proposed that resilience, as an individual attribute, reduces the impact of the particular challenges faced in the teaching profession (Pretsch, Flunger & Schmitt, 2012). In the study of Brouskeli, Kaltsi, and Loumakou (2018) have mentioned that the professional well-being of teachers may exert influence, to some extent. Research has proposed that resilience, as an individual attribute, reduces the impact of the challenges faced in the teaching profession. Nevertheless, the professional well-being of teachers may exert influence, to some extent

The advancement of dynamic resilience. It is important to acknowledge that there are certain individuals and communities who experience a high level of well-being but have a low level of resilience. A study conducted in Higher Education by Clum et al (2022) in the mode of online teaching, alongside assisting HEIs in better adjusting to online teaching in the face of a crisis, institutional and instructional resilience will enhance the quality of instruction and delivery of online courses under all conditions, resulting in meaningful and long-lasting online learning now.

The material within explores research-based approaches and practices that prioritize the well-being of learners as well as teachers, leading to excellent learning results. By integrating strategy, flexibility, and empathy into our teaching, we can unlock new possibilities (Thurston, et al., 2021) Teachers who exhibit high levels of resilience are often adept at utilizing coping strategies, problem-solving skills, and social support networks to overcome obstacles and maintain effectiveness in their teaching practices hence a study in Eastern Samar of Lacaba, Lacaba, and Caliwan Jr. (2020) for the teachers who are assigned to an island have shown that Their significant successes clearly demonstrate their enhanced abilities dedication and efficacy in the realm of education. While exchanging their personal anecdotes of while teaching on the island, they firmly believe in their significant progress in their career.

Classroom Management

Maureal & Villalojos (2000) underscored the significance of classroom management in fostering student improvement. Effective learning environments enhance academic achievements and facilitate smooth student learning. As cited in the study of Bektiningsih et al (2023), schools play a significant role in molding the personalities and actions of pupils. Schools should impart comprehension to students to prevent disruptive conduct. Disruptive behavior refers to student conduct that affects the educational process inside the classroom and is consistently exhibited in various manifestations, depending upon the prevailing conditions of the class. Furthermore, disruptive behavior is defined as any activity that obstructs classroom instruction and thus causes psychological and physical instability.

He also supplied that there are numerous internal and external elements that contribute to disruptive conduct. Negligent behavior, jail time, and upsetting friends are examples of internal influences. External factors contribute to the lack of effectiveness of teacher teaching materials, such as teachers who conduct learning non a monotonous manner or a lack of resources. Because teachers must manage these issues, which takes up less time for them to deliver teachings, disruptive behavior poses a risk to students' academic performance in the classroom. Given the presence of this disruptive conduct, an effective teaching technique is required to lessen it. Numerous prior studies have examined how teachers handle disruptive behavior in the classroom. One such study's noted that teachers employ three different approaches to address disruptive behavior: behavioristic, cognitive, and humanistic.

According to Maureal & Villajos (2023) research, there exists a correlation between classroom management style and the way teachers interact with their students, as well as the level of control they exercise over them. Therefore, it is necessary to set physical, emotional, mental, and intellectual limits to properly manage a classroom. In the study of Bojos & Oclinaria (2023) the teacher, who holds the position of power in the classroom, is the only one who can watch over the kids. Yet it can be challenging for teachers to maintain order in the classroom, especially when there are a variety of children who are present. Even while most kids are able to follow instructions, there will occasionally be one who struggles with appropriate behavior. These situations in the classroom could be limiting better teaching and learning. Furthermore, studies show that many teachers lack the necessary preparation for the kinds of

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behaviors that their students may bring to the classroom, which creates challenges for both teaching and learning. Effective classroom management is critical to any academic pursuit. a term used by educators to characterize the process of ensuring that instruction occurs in the classroom uninterrupted. It is the cornerstone of a safe and supportive learning environment. Classroom management is a talent that may be learnt through training and years of real-world experience, even though some teachers are naturally adept at it.

In conclusion, the disruptive behavior can possibly be caused by the factor of classroom management as it influenced the learners learning. Without implementing the management could encourage chaos.

Theoretical Lens

The process of teaching and learning comprises various essential components that a learning environment should possess. Classroom disruption is a significant element that might impact the learning process in the classroom. The teacher prefers to utilize a trial-and-error approach when implementing measures to address superfluous conduct inside the classroom. Bektiningsih et al (2023) asserted that inadequate management of disruptive conduct is a significant challenge in the educational process. Behaviourism, as postulated by B.F. Skinner, promotes the notion that teachers employ rewards and punishments as a means of classroom management. According to Niwaz, Khan & Naz (2021), it has a significant role in the effectiveness of planned interventions aimed at promoting effective classroom management. According to the findings of Ngan'du et al (2013), it has been determined that the use of suitable behavioral management techniques is vital for teachers to establish an optimal learning environment. Successful learning can be achieved through the utilization of appropriate behavioristic techniques. Finally, Al-Shammari, Faulkner, & Forlin (2019) proposed that the application of behavioral approaches is particularly relevant when supporting learners with social and behavioral difficulties and even more so when these applications co-exist with learning difficulties.

This study seeks to investigate the lived experiences of five secondary education instructors in teaching pupils with disruptive behavior, based on their personal experiences and viewpoints. Through the utilization of in-depth interviews, the researcher can determine the experiences, coping mechanisms, and insights associated with educating a student exhibiting disruptive behavior.

METHOD

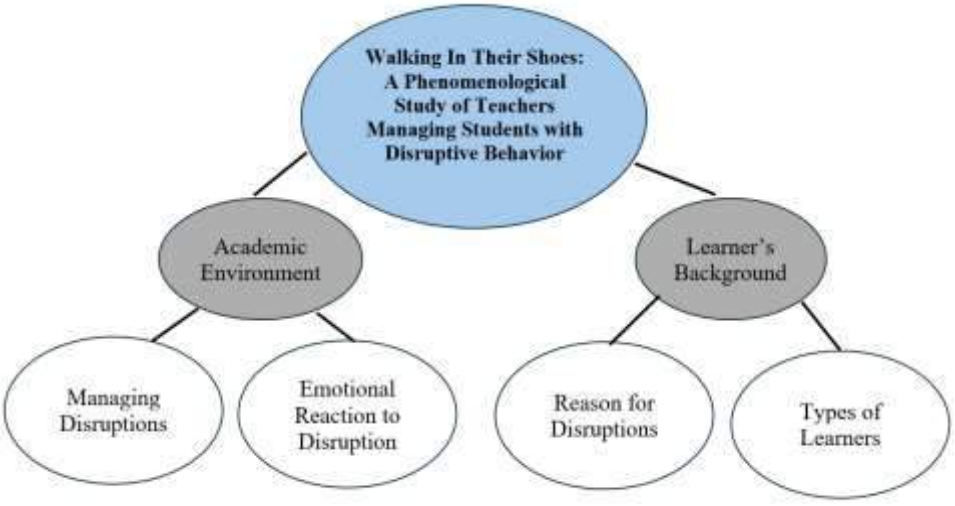
This study aims to be guided based on the three (3) research objectives (1) identify experiences of secondary teachers in handling learners with disruptive behavior; (2) enumerate the coping mechanisms of the secondary teachers in handling learners with disruptive behavior; (3) uncover the insights of secondary teachers in handling learners with disruptive behavior. Semi-structured interviews will be conducted with teachers who have experience dealing with disruptive behaviors in the classroom. The interviews is tailored to examine teachers' perceptions, challenges faced, and the management strategies they find most effective.

Hence, to answer the three objectives above, thematic analysis of the qualitative data will be utilized. In this thematic analysis, the researcher delves into the qualitative data collected and focuses on the lived experiences of secondary teachers handling students with disruptive behavior. The analysis draws upon observations, and interviews conducted with teachers.

RESULTS AND DISCUSSION

This section presents what came out of the experiences, coping mechanisms, and insights of secondary teachers who are managing students with disruptive behavior. Two (2) general themes were analyzed from the results of the study; the academic environment and the learner's background.

Figure 1. Conceptual Map of the Lived Experiences of Secondary Teachers Managing Students with Disruptive Behavior



Today students anticipate being immersed while acquiring knowledge, and it is possible that they may exhibit resistance, disruption, or overt hostility when required to participate more actively in the learning experience as mentioned in the study of

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Ali and Gracey (2013). In the teaching profession, learners' disruptive behavior is one of the biggest challenges that teachers face (Okeke, Thomas & Botha, 2023). According to Ali and Gracey (2013), some people associate disruptive behavior in the classroom to the teacher, suggesting that their approach to resolving conflicts can contribute to the spread and intensification of these disruptions.

Learner's Background

Type of Learners

Krishnansamy, Mohammed, and Argellan (2019) asserted that teachers reported that certain kids exhibit disruptive behaviors to garner greater attention from both the teacher and their peers compared to other students. Dealing with disruptive learners can often hinder the teaching-learning process. All participants have indicated that managing learners with disruptive behavior disrupts classes and disregards the act of teaching.

"Some of the few to mention were not giving their full attention to you" (Teacher 1)

"They interrupt the class and not following instructions," (Teacher 2)

"They are defiant of task or to the teachers" (Teacher 4)

"They were troublemakers, lacked attention (KSP), wanted control and power in the classroom" (Teacher 5)

Simmons et al (2015) conducted a data analysis which revealed that seating arrangements have a significant impact on the behavior of second grade learners. The incidence of disruptive behavior has been reduced, resulting in less chaos and fewer off-task kids, particularly in rows of seating. Although the interview from Teachers' 1,3, and 4 have answered that learners wander around the classroom that would cause disruptions in class.

"They roam around the classroom transferring from one chair to another" (Teacher 1)

"They just roam around, pick a fight" (Teacher 3)

"They move around" (Teacher 4)

The research of Ali (2018) has established a strong connection between the utilization of mobile technology and the behavior of pupils. Undoubtedly, the utilization of mobile applications and technology has a significant impact on students' behavior, academic achievement, and teaching methodologies. In their study, Navaja & Ombaogan,(2023) have examined the impact of excessive and unregulated gadget use on pupils. The findings revealed that one of the main problems associated with this behavior is distraction. This implies that the interference created by electronic devices during educational tasks can have an adverse impact on pupils' academic achievements. Utilizing electronic devices for non-academic purposes in class or while studying can disturb students' concentration, leading to a negative impact on their understanding, attentiveness, and involvement in academic activities. Teacher 2 has indicated that the classes are being disrupted because of the use of electronic devices and excessive noise.

"During my class disruptive behavior is quite common such as using gadgets/cellphone, untimely talking/laughing, making a noise." (Teacher 2)

At the same time, numerous schools face a severe form of peer bullying that often remains undetected by adults. However, this problem may play a significant role in school violence and create a negative school atmosphere (Allen, 2010). One participant also highlighted that this contributes to a disruptive learning environment. Moreover, the involvement of Jalon and Arias (2013) in the most intense instances of disturbance and coercion aligns with the behavior of bullies, particularly those who are both victims and bullies, and exhibit higher levels of disruption. Teacher 1 answered that bullying occurs as a disruption in class that often take place during the teaching-learning process.

"Bullying of classmates when one answers incorrectly or says things instead of the words expected" (Teacher 1)

These subtheme have shown the complications of a learner's behaviour inside the classroom that influences the teachers' performance. Teachers as the main instructional material, teachers experience these excessive activities when inside the classroom. The learner's behavior contributes to the factor of handling learners with disruptive behavior.

Reason for Disruptions

Vongvilay, Fauziati, and Ratih (2021) identified several factors that contribute to pupils engaging in disruptive activities, including their surrounding environment, poor learning experiences, and psychological needs. Teachers 2, 3, and 4 also acknowledged that love and a sense of belonging are influential variables in a learner's disruptive conduct.

"Attention-seeking behavior, they may feel ignored at home." (Teacher 2)

"I interviewed most of them and it usually rooted from broken family, or sometimes from a home where their voices are not heard, or their emotions are invalidated., I learn that they are behaving that way because they have unhealed trauma from home." (Teacher 3)

"Students are not given enough attention at home" (Teacher 4)

The family, as a significant force in shaping a child's development and acting as a main agent of socialization, undoubtedly has the potential to either enhance or hinder the child's academic accomplishment, depending on the social environment inside the family, as highlighted by Felisilda and Torreon (2020). Evidently, the study's findings demonstrate that the feelings of belongingness and affection mostly originate from the family, despite the presence of certain discrepancies in that domain. Over the course of 10 months, teachers have observed that their interactions with the learner have uncovered the underlying causes of family issues, which in turn have led to disturbances in the learning environment.

"Influence from the social media and society in which they belong to." (Teacher 2)

"There are many factors that causes of the student's disruptive behavior such as, lack of engagement and influenced by environment" (Teacher 4)

"I think the causes of disruptive behavior are often a symptom of deeper issues, such as boredom, lack of engagement, social or emotional difficulties." (Teacher 5)

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Varied reasons for disruptive behavior emerge as a subtheme of the learner's background as it influences the experience of a teacher handling learners with disruptive behavior. Psychological and physiological effects have been an issue navigating the reason for the occurring disruptive behavior which occurs as a significant result in this study.

Academic Environment

Emotional Reaction to Disruption

Okeke, Thomas & Botha (2023) found strong confirmation that disruptive behaviors exhibited by learners had negative impacts on the cognitive, psychological, physical, and social well-being of teachers. An inference that may be drawn from this study is that the well-being of teachers is strongly linked to their experiences of disruptive behavior in the classroom. The participants have also agreed with the prior research that suggests a lack of confidence in teachers' self-efficacy and an increase in stress levels when talking about their feelings of handling learners with disruptive behavior.

"*At first, I felt disappointed, it felt like I am not a good teacher as they were students who behave like them. I get angry easily towards this behavior" (Teacher 1)*

"Honestly, I feel stressed and despair with those behaviors that implicate or hurdles the teaching and learning process" (Teacher 2)

"When I was just new in the teaching industry, I easily find myself frustrated in these kind of students" (Teacher 3)

"It is really aggravating and frustrating when you don't have the expertise on how to deal with this kind of behavior" (Teacher 4)

"Initially, I may feel frustrated or exasperated, especially if the disruption interrupts the flow of the lesson or negatively impacts the learning environment for other students." (Teacher 5)

Student disruptive behaviors elevate stress levels, causing dissatisfaction, impairing focus, obstructing communication, and negatively impacting the relationship between the teacher and other classmates (Krishnansamy, Mohammed, & Argellan, 2019). These factors have significantly impacted the experiences of secondary instructors in conveying knowledge to students.

Managing Disruptions

According to Blank and Shavit's (2016) study, certain scholars propose that disruptions have an adverse impact on students' confidence and trust in teachers and can also result in negative attitudes of teachers towards the classroom. The findings also indicate that educators and academics should consider addressing disruptive behaviors as a crucial aspect of both effective classroom management and effective teaching. For this study, a total of three teachers have used varied strategies in addressing disruptive behavior.

"I use different strategies in handling these behaviors" (Teacher 1)

"All children can feel valued, respected, and empowered to flourish in settings where educators embrace diversity, promote inclusivity, and offer individualized support." (Teacher 4)

"Setting a clear rule inside the classroom and be consistent. Reinforce this regularly and let them know what is expected so they will comply". (Teacher 1)

"As teachers we must be consistent in discipline, enforce rules and consequences fairly and consistently to maintain a structured and orderly classroom environment." (Teacher 2)

"Be consistent with the rules you established" (Teacher 4)

"Establish clear expectations, build positive relationships, and maintain control" (Teacher 5)

Furthermore, teachers must establish relationships with each student that are marked by warmth, compassion, and particular demands connected to standards. Additionally, teachers must prove their authority when students fail to meet these criteria. Teachers must possess the ability to foster positive interactions among students (Vaaland, 2017). Meanwhile, Mutua's (2022) research findings demonstrate that utilizing diverse positive reinforcement tactics effectively decreases instances of students being out of their seats in the classroom, that was also the strategy used by 4 teachers.

"Listen and be calm. This will avoid the situation to escalate the situation. Use positive language." (Teacher 1)

"I need to stay calm and do not become defensive. Be positive rather than negative." (Teacher 2)

"I also integrate in my class rewards and recognition as positive reinforcement". (Teacher 3)

"Use positive reinforcement". (Teacher 4)

"Remain calm, Teachers emphasize the importance of focusing on positive reinforcement and acknowledging students' strengths and achievements to promote positive behavior and motivation." (Teacher 5)

The reinforcement was approved to be successful for these teachers that experiences disruptions inside the class. Moreover, teachers need to expand their professionalism as they learn throughout their journey of teaching, in Ali and Gracey's (2013) study, it is advantageous to involve someone who is impartial in order to gain an objective perspective on the conflict, identify the underlying problems accurately, and receive recommendations on how to effectively resolve the issue. By collaborating with the faculty to coordinate resolution efforts, they might potentially engage the student in a more efficient manner. A notable finding from Abele's (2020) study is the recurring pattern of fostering reliable and strong professional connections with employees, students, and external organizations, which emerged as the second persistent theme. Additionally, three teachers have responded in a similar manner. Notwithstanding the difficulties, teachers have demonstrated resilience in providing education to these young adults. 3 teachers have claimed to accept support and guidance from colleagues to ensure quality standards of teaching while handling learners with disruptive behavior.

"Seek support; reach out to colleagues, mentors or professionals for guidance and support". (Teacher 1)

"The teacher must seek support from school admin/guidance counselors". (Teacher 2)

"One must combine proactive preventive measures, efficient intervention methods, and continuous assistance from colleagues and school". (Teacher 4)

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"I realized having collaboration with colleagues, administrators, support staff, and parents is crucial for effectively managing disruptive behavior." (Teacher 5)

The two general themes: Learner's Background and Academic Environment submerged during the process of analyzing the results. The first objective talked about the participants experienced challenges in handling learners with disruptive behavior. Teachers are distracted to the learners' unruly behavior inside the classroom. The teachers described specific disruptive behaviors that influences the teaching-learning process. They react negatively to the issue of disruptive behavior. In the study of Catton (2016), one proctor was assigned to a classroom to participate in a survey to share your thoughts on the efficacy of the teacher and the conduct of the class. The proctor's results were largely favorable, and he believed that the disturbance was an essential component of the educational process. The statements coincide with Teacher 5 as she shared that despite the stress, it is also a learning opportunity on both the teacher and student. Moreover, the study of Ejiagu (2022) found that disruptive behavior by students had an impact on teachers' capacity to create many techniques for primarily detecting appropriate behavior.

In the study of Ali (2018), if disruptive or uncivil behavior is ignored, it will have an effect on the entire classroom. For this reason, prompt intervention is necessary. More "misbehavior may escalate to intolerable levels," they said. The participants used varied strategies to cope with the challenges to overcome the urgent need in addressing the disruptive behavior. Being resilient as teachers and using reinforcements for the unruly behavior have become a common response for the participants. Also, the help of colleagues and superior have become a frequent response. The guidance of other colleagues helped to widen the view of the participants, the support was utilized in addressing the disruptive behaviors. Teachers cope with the challenges of handling disruptive behavior with different level of intensity and manner, although common responds are using behavior reinforcements and seeking help from colleagues.

The third objective discussed about the insights the teachers gained in handling learners with disruptive behaviors. The participants admitted that these behaviors contribute to the stress levels they carry, however, each of the participants accepted the challenge of receiving these learners in a different point of view. Teacher 1 confessed the causes of the occurring behavior can highly contribute to the experience. Teacher 2 just needs to stretch patience in dealing with this behavior while Teacher 3 will just accept the learner believing that every learner is different from the other in which, Teacher 4 have mentioned the insights gained from the previous participants, this have proved that teachers have different strategies but they could come up with the same realizations, not to mention the inclusive mindset of most teachers. Teacher 5 answered that these classroom challenges have shaped her approach in teaching and classroom management. During the last moments of interview, the participants were asked if they are still willing to accept learners with disruptive behavior, all of them have accepted the challenge, as one of the participants supplied that "*Accepting students with disruptive behavior may present challenges, it also offers valuable opportunities for growth, support, and positive change*". The result was also the same with Crudup's (2020) study that even though teachers discussed their experiences with stress and burnout and considered quitting after each year of teaching, they were driven to return to the classroom and keep working toward improving the lives of the students who displayed difficult behaviors.

Trial and error could possibly work in every behavior, there is no single fitted theory that could solve the classroom disruptions, however, the theory of Skinner, Behaviorism have greatly impacted to the context of classroom management especially in addressing the problems of behavior. The use of positive reinforcements is a key to gaining success in the teaching-learning process.

CONCLUSIONS AND RECOMMENDATIONS

There is no perfect class a teacher could get, nor a perfect learner we can compile. Disruptions occur anywhere on various occasions during the teaching-learning process. Disruptions causes distraction in the learning environment that hinders the ability to contribute to the teaching-learning process. The teachers' experiences struggle in handling disruptive behavior but teachers also find resources to improve the learning environment as well as the learners of the class. This experience has proved that teaching is indeed a noble profession. The profession that requires enormous patience in every aspect of the job. Yet, they managed to cope with the stress and struggles in a calm manner.

Further studies are required on the perception of learners who manifest disruptive behavior. The researchers have also noted an inquiry about the impact of parental involvement in managing learners with disruptive behavior. It is a good analysis to revolve research around disruptive behavior and the issues around it and how it produces a learner that becomes disruptive.

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THE RICH HERITAGE OF DEVANGA WEAVERS COMMUNITY IN RAMDRUG TALUK, BELAGAVI DISTRICT, KARNATAKA

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ABSTRACT
This article delves into the vibrant world of saree weaving in Karnataka, exploring the heritage, craftmanship, and challenges faced by Ilkal saree weavers in the Ramdurg taluk of Belagavi district. Through a combination of historical perspective, insightful research, and on the ground research of weaver's community, this article aims to provide a comprehensive understanding of the traditional skill, socio economic condition and traditional significance of the Ilkal saree in Karnataka. By putting light in the experience and ambitions of these weavers this article highlights the need of weavers for support, preservation, and empowerment of Ilkal saree weavers.

KEYWORDS: *Devanga community, history, culture, challenges, problems.*

INTRODUCATION

The weaver's community, known for its rich tradition of weaving saree, has played a significant role in the cultural of Karnataka, with a history dating back, the Devanga weaver's community is recognised an oldest weaver's community in South India, they have preserved and enriched the art of weaving from old days. And their contribution to the state's vibrant textile heritage. This article explores the historical background, traditional weaving techniques, and the status of the Devanga community in Belgaum district, Ramdrug taluk, Karnataka.

The Devanga caste traces its historical roots back to Hindu mythology, where Devala Maharshi, believed to be the ancestor of the Devanga people, is credited with introducing cotton weaving to humanity. According to legend, Devala Maharshi received threads from Lord Vishnu and was attacked by demons on his return. Seeking protection, he prayed to Devi Sakthi, who vanquished the demons, allowing Devala to weave clothes from their blood-soaked threads. Devi Sakthi, also known as Chowdeswari or Sowdeswari, instructed Devala to worship her regularly. Today, the Devanga community, predominantly found in South Indian states like Karnataka, Kerala, Odisha, Tamil Nadu, and Andhra Pradesh, continues the tradition of weaving. Despite being considered the oldest weaving community, they share similar weaving cultures and traditions with other communities like Padmasali, Kurvishetty, Namdevshimpi, Jadar, as well as Muslim, Scheduled Tribes (ST), Scheduled Castes (SC), and other Other Backward Classes (OBC) weavers in Ramdurg taluk. This article delves into the traditional weaving techniques, challenges, and societal status of the Devanga weaver's community in Ramdurg taluk, highlighting the rich tapestry of weaving traditions in the region.

Mahesh Tippashetti, (2000): He tried to analyse the historical context and enduring appeal of the Ilkal saree in his book, "Ilkal Saree." He has seen that sarees are woven in a traditional and revered method using local water and natural dyes. He has determined that the primary occupation of castes like Devanga, Swakulisali, Padmasali, etc is weaving.

Shaik Faruk Najir (2012): Malegaon's power loom industry struggles with frequent closures due to various issues. These closures, while necessary, lead to lost production and financial strain as wages for permanent workers continue. Additionally, workers often lack training on modern machinery, hindering overall productivity. Despite these challenges, opportunities exist, such as reducing downtime and improving worker skills through training incentives. By addressing these issues, the industry can move towards a more sustainable future.

Somnath Kolgiri (2018): examines occupational health risks for power loom workers in Solapur, India. The research investigates the specific hazards faced by these workers in terms of their health and safety. The study focuses on workers in Solapur City, Maharashtra, highlighting potential risks associated with their profession.

OBJECTIVES

- To explore the historic and cultural significance of the Devanga weaving community.
- To study the challenges faced by the Devanga community in the modern world.

METHODOLOGY

This study is based on the primary data. The data of 300 weaver's was collected through interviews, schedules, in-depth interviews, and case studies of power loom weavers among the five villages of Ramdurg taluk. To study Devanga caste historic

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background and challenges faced by weavers in the Ramdurg taluk of Belgaum district.

SCOPE AND PROFILE OF THE STUDY AREA

Ramdurg is a taluk in Belgaum district of Karnataka state. The royal state of Ramdurg, founded in 1799, was one of the non-salute princely states of British India under the Bombay Presidency and later the Deccan States Agency. Ramdurg is known for its hills, sugar factories, river, and trekking. There are many important places near Ramdurg, such as Shabari Kolla, Godachi, Navilu Teerth, Big Shiva Statue, Hoovina Kolla, Sunnal Hanumappa, Megundappan Kolla, Ramdurg Forts, and Toragal Forts. Almost all villages that come under Ramdurg taluk are historic places.

HISTORICAL BACKGROUND OF DEVANGA COMMUNITY

The Devanga community, primarily engaged in weaving, holds a unique position in the socio-cultural fabric of Karnataka. Historical records suggest that the Devanga community has been involved in the weaving profession for several centuries, passing down their skills from generation to generation. Their expertise in the intricate art of power-loom weaving has been crucial in shaping the traditional attire and fabrics of Karnataka.

The Devanga weavers are known for their proficiency in various weaving techniques, creating exquisite fabrics that reflect the rich cultural heritage of Karnataka. Sarees, dhotis, and other traditional garments produced by the Devanga weavers often feature intricate designs and vibrant colors. They use a variety of materials such as cotton, silk, and blends to craft their textiles. One of the distinctive features of Devanga weaving is the use of traditional power-loom. This requires skilful manipulation, and the weavers demonstrate a deep understanding of the craft to produce high-quality textiles. The community is renowned for its mastery of tie-and-dye techniques, intricate patterns, and motifs that are passed down through generations.

As Weaving is an art of looping several threads together to weave a beautiful saree, these weavers are the artists of this art. To weave a saree there are many pre preparation's like, buying raw materials, making a raw material capable yarn for weaving a saree, then rolling the beem, then drafting work is done (joining each thread of beem to heddles in the beater), then inserting pirn in shuttle (weft thread), when these both warp and weft yarns start interlacing, this process starts weaving a pattern by which the weaved lines starts forming and as a process goes on the than the saree is weaved.

In power loom weaver can weave one saree in 2-3 hours, as in a day he can weave 2-3 saree, without any power cuts, if there is a power cut it makes him difficult to even weave a single saree in a whole day. Despite this the weavers face several challenges in the modern era. Such as Industrialization, globalization, and the influx of machine-made textiles have impacted the traditional weaving industry. The younger generation, influenced by changing economic trends, often finds it challenging to sustain the traditional weaving practices, leading to a decline in the number of skilled artisans. As this article focus on the challenges on weaver's community few challenges are stated below.

CHALLENGES FACED

Modernization and competition: developing of the textile mills and influences of western cultural in the modern society, is a competition for these power loom and handloom saree weavers with the old tradition, culture, and design.

Lack of market access: less exposure of modern market and limited access of world market, has made the old tradition and products to lack back by being exposed in the current market due to unaware of modern market system and online marketing.

Skilled labour problem: younger generation of weaver's community are drawn to other profession has the reason is, no proper recognition of the product in the market, no benefits for the products, as it is leading to a shortage of skilled weavers in the profession.

GOVERNMENT INITIATIVES AND REVIVAL EFFORTS

Recognizing the importance of preserving the unique heritage of the weavers, the governments of Karnataka and India has initiated various schemes and programs. These initiatives aim to provide financial assistance, skill development training, and market exposure to the weavers. By promoting the use of handloom and power loom products and creating awareness about the cultural significance of weavers weaving, these efforts aim to revitalize the community and ensure the continuity of their craft.

CONCLUSION

In conclusion, the article sheds light on the vibrant world of saree weaving in Karnataka, particularly focusing on the heritage, craftsmanship, and challenges faced by Ilkal saree weavers in the Ramdurg taluk of Belagavi district. Through a blend of historical insights and on-the-ground research, it delves into the traditional significance of the Devanga weaving community, highlighting their pivotal role in Karnataka's textile heritage. The study underscores the rich cultural legacy of the Devanga community, whose intricate weaving techniques and traditional practices have been passed down through generations. However, it also illuminates the modern challenges faced by these artisans, such as industrialization, globalization, and a shortage of skilled labour. Despite these obstacles, the article points towards government initiatives aimed at preserving and revitalizing the weaving tradition. By providing financial support, skill development training, and market exposure, these efforts strive to empower weavers and ensure the continuity of their craft. In essence, the article advocates for the support, preservation, and empowerment of Ilkal saree weavers, emphasizing the need for collective action to safeguard Karnataka's rich textile heritage for future generations.

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AN ANALYSIS OF THE DETERMINANTS OF PUBLIC AND PRIVATE INVESTMENTS IN INDONESIA

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ABSTRACT

This study aims to determine and examine the influence of the BI rate, government debt, private debt, population, inflation, and MSMEs on economic growth and domestic investment, and foreign direct investment (FDI) using panel data in 34 provinces in Indonesia in the 2017-2022 period. This research uses a Path Analysis model with dummy variables, grouping the system into 2 groups, namely domestic investment called Group 1 and foreign direct investment called Group 2. The results of the study show that private foreign debt (PFD) has a positive influence on economic growth, while government foreign debt (GFD) has a negative influence on economic growth. Furthermore, it was found that the BI rate and inflation showed an increase if economic growth increased, while MSMEs and the population had no influence on economic growth. PFD has no influence on domestic investment but has a positive influence on foreign investment. While economic growth has a positive effect on domestic investment, it has no effect on foreign investment. MSMEs have a significant positive influence on domestic investment and foreign investment. Meanwhile, population growth and inflation have no influence on investment, whether domestic investment or foreign direct investment.

KEYWORDS: BI-*rate, PFD, GFD, MSMEs, inflation, population, economic growth, and investment*

INTRODUCTION

Economic growth is a very important indicator in analyzing economic development that occurs in a country. Economic growth shows the extent to which economic activity will generate additional community income in a certain period. Basically, economic activity is a process of using production factors to produce output, which is measured using product indicators. Economic growth can increase a country's national income and production from year to year, thereby causing a country's population to experience an increase in its standard of living. To measure economic growth in a country, it can be seen from the level of that country's gross domestic product (GDP). Economic growth is an indicator of the success of a country's development. Recently, many countries have tried to increase their country's economic growth rate by increasing output continuously through the availability of capital goods, technology, and human resources. In economic terms and an economic perspective, inflation is a monetary phenomenon of ups and downs in economic volatility and interest rates. Economic growth is still used as an indicator of aggregate economic progress. Economic growth is expected to provide encouragement in all sectors so that people's lives improve through investment resulting from economic growth. Economic growth can attract foreign investment, both direct and indirect so that capital is available for domestic investment. Apart from that, economic growth can attract workers, so that the demand for labor increases, which results in the creation of job opportunities, so that development goals can be achieved, namely high growth along with adequate labor absorption.

Indonesia as a developing country requires large funds for development, but these funds are not enough if they only come from within the country, so funds are needed from abroad due to globalization where a country cannot stand alone, including in financing development. In conditions like this, Indonesia finally has to follow the current, namely trying to open itself up by collaborating with other countries for the sake of implementing national development. Like other developing countries, Indonesia also relies on domestic financing. also relies on Foreign Debt (FD) to finance development. Limited domestic savings to finance development is the reason for using FD. Thus, Indonesia has experienced, since the beginning of independence, that it has inherited a debt from the Dutch colonial government amounting to USD 4 billion, in accordance with the results of the Round Table Conference (KMB) and this condition continues until now. This debt is needed to overcome domestic capital shortages like other developing countries. It is understood that government debt is at a safe level if it can be managed well. The solution and/or policy taken by the government and its supporting economists is to regulate the flow of debt burden so that it is optimal (optimal borrowing).

Whether we realize it or not, debt is closely related to economic growth because debt can be used as a real sector investment which is expected to trigger and encourage economic growth. In the implementation of development, high economic growth is the main target for developing countries. This is because economic growth is closely related to the increase in goods and services produced in society, so that as more goods and services are produced, the welfare of society will increase (Mankiw, 2012). Furthermore, foreign debt can be a substitute for low savings rates, thereby being able to encourage economic growth both directly and through domestic savings channels and population growth. The fact is that almost all countries in the world, both developing and developed countries, are not free

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from debt. The emergence of pros and cons regarding the implementation of foreign debt policy makes the issue of foreign debt an interesting issue to discuss. Foreign debt in a reasonable amount and used to carry out productive investment or development either now or in the future will have a positive impact and contribute to development and economic growth. However, on the other hand, excessive foreign debt will hamper economic growth through reducing total factor productivity (Pattillo, Poirson, & Ricci, 2004)

Foreign debt plays an important role in financing Indonesia's economic growth. This can be seen in 1999. The Indonesian government's foreign debt reached 148,097 million US$ with economic growth of 0.79 percent after experiencing a very sharp decline in 1998, namely -13.13 percent. However, demand for foreign debt decreased in 2000, namely 141,693 million US$ due to the budget deficit which decreased to 105.5 trillion rupiah with economic growth increasing to 4.92 percent. Jumping in 2022, foreign debt will reach 515,533 million US$ with economic growth reaching 5.15% percent (BPS, 2023). This data shows that the increase in Indonesia's foreign debt was also followed by an increase in domestic economic growth. Meanwhile, the high level of domestic savings is an obstacle to economic growth, as well as population growth which turns out to be an obstacle to economic growth (Satria Prasetyo and Kurnia, 2021). However, on the other hand, a low savings rate actually makes it difficult to invest, because investment is the same as savings, which results in low economic growth that can be achieved (Branson, 1992).

Population plays a very large role in economic growth because labor is part of the workforce that is ready to enter the labor market. Adam Smith stated that population growth is seen as a factor that can encourage economic growth because labor originating from the population is an important production factor to produce economic growth. So it depends on efforts to utilize the population so that it can become a productive production factor to achieve the expected growth. The United States, which is known to have a high population, achieved economic growth that was not low at 5.2% in the third quarter of 2023, although it experienced a decline in the following quarter, as did China, which achieved growth of 5.2% in 2023, as well as Indonesia. which can achieve economic growth above an average of 5% per year (BPS, 2023) even though it experienced minus growth in 2020 due to COVID-19, Figure 1.

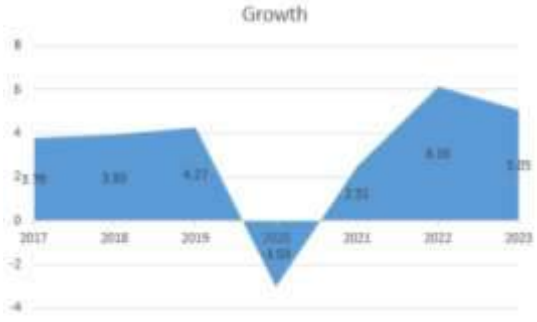


Figure 1. Development of Economic Growth
Source: Processed Data

From a macro perspective, the source of economic growth is national income which is equal to consumption expenditure plus investment and government expenditure and net exports. So investment and consumption are the main sources of economic growth. However, investment is in the opposite direction to consumption, because if investment is high automatically household consumption is low, and the opposite will happen. In this way, the government arranges the APBN budget in such a way so that both are running, but because investment is seen as capital investment, more is needed to achieve the growth that will be achieved. The development of investment from 2017-2012 consisting of domestic investment or investment from abroad which is called direct foreign investment, Figure 2.

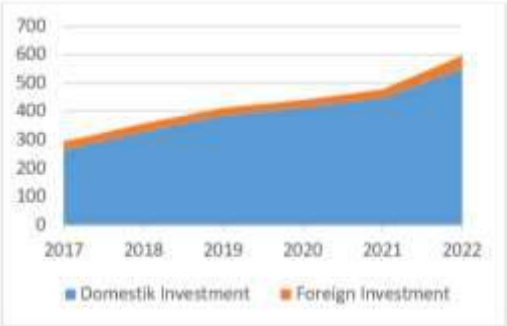


Figure 2. Development of Domestic Investment and FDI
Source: Processed Data, 2024.

The interest rate is one of the government's instruments to achieve the expected economic growth. Low interest rates can provide opportunities for entrepreneurs both domestically and abroad to make and increase investment, thereby encouraging higher economic growth. High interest rates should not occur in a developing country because it makes it difficult for entrepreneurs to invest which results in reduced production levels both locally and nationally. Thus, low interest rates should be maintained so as to attract all elements of entrepreneurs, including MSME entrepreneurs, to develop their businesses.

One of the economic sectors that can encourage investment is MSMEs because they have a large quantity. This sector has a strategic role in improving the country's economy. This can be seen from the large number of workers working in this sector, the high contribution to the formation of the national economy's gross domestic product (GDP), and helping to reduce public unemployment. This sector has proven its resilience in facing the economic crisis that hit the Indonesian economy when many large companies went bankrupt. Furthermore, MSME problems slowed the SME growth in Asia including i) lack of finance, ii) lack of comprehensive databases, iii) low-level of R&D expenditures, and iv) insufficient use of information technology and providing remedies for mitigating them (Naoyuki Yoshino and Farhad Taghizadeh-Hesary, 2016).

The role of MSMEs in economic development is very strategic because they provide the largest contribution, as stated by the research team said that the majority or 99% of businesses in Indonesia are at the MSME level. MSMEs themselves contribute 61.9% to the total gross domestic product (GDP) and absorb approximately 97% of the local workforce so that they

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can be used as a means of alleviating poverty. High economic growth can be achieved by paying attention to the factors that cause it. In this study there are six factors that can cause the expected economic growth, these factors are BI-rate, private debt, government debt, MSMEs, population and inflation. Furthermore, these six factors plus economic growth are expected to have a positive impact in increasing the level of domestic investment and FDI. Figure 3. Thus this research aims to analyze and examine the relationship between influencing factors that influence economic growth and investment. In detail the objectives of this study:

1. Know and assess the influence of PFD, GFD, BI-rate, MSMEs, population and inflation on economic growth
2. Know and assess the influence of PFD, GFD, BI-rate, MSMEs, population, inflation and economic growth on investment
3. Compare the influence of determinate factors on domestic investment and foreign investment

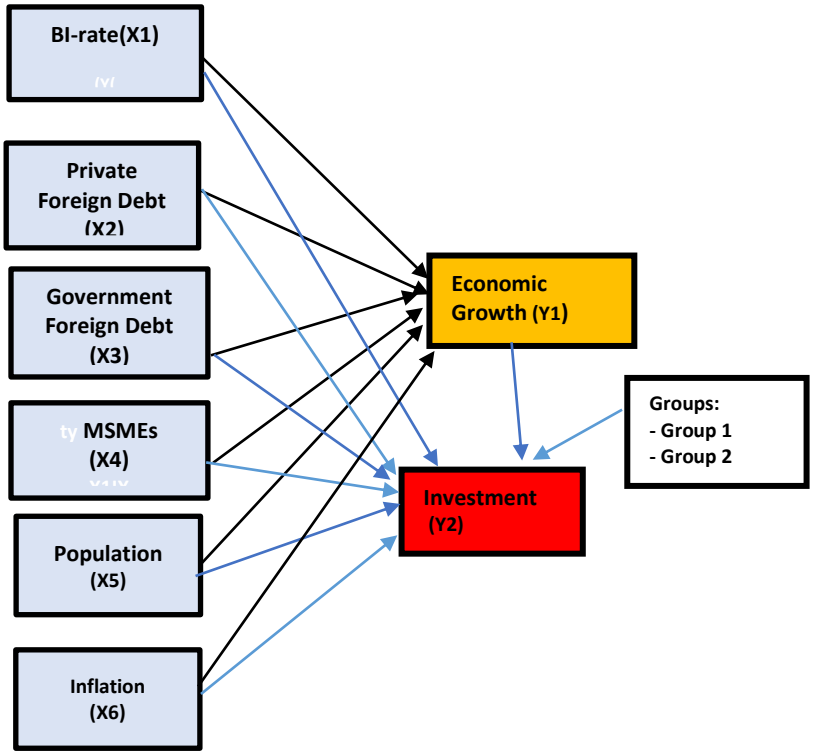


Figure 3. Framework
Group 1 = Domestic Investment
Group 2 = Foreign Direct Investment

REVERENCE REVIEW

Economic Growth

Economic growth is a very important indicator in analyzing economic development that occurs in a country. Economic growth shows the extent to which economic activity will generate additional community income in a certain period. Because basically economic activity is a process of using production factors to produce output, which is measured using the Gross Domestic Product (GDP) indicator. According to Todaro (2000) there are three factors in the economic growth of every country, namely: 1) Capital accumulation, which includes all types of new investments invested in land, physical equipment, and capital or human resources; 2) Population growth, which will affect the number of workers in the future; and 3) Technological progress, this is considered the most important source of economic growth so it can be classified into three types, namely: (a) neutral technological progress; (b) labor-saving technological advances; (c) capital-saving technological advances.

Adam Smith explained that economic growth is a process of combining population growth with technological progress. In line with David Ricardo, he stated that economic growth is a process of attraction between two forces, namely "the law of diminishing returns" and technological progress. Apart from that, proponents of classical economic growth theory really prioritize liberal or laissez faire principles, where all economic activities are expected to be free without any government interference, in this case supporting economic openness, both trade openness and financial openness. The linear growth theory stages of growth theory developed by Rostow, also formulates development patterns through 5 stages including 1) Modern economic stage; 2) Take-off precondition stage; 3) Takeoff stage; 4) stage towards maturity and 5) stage towards high consumption. Furthermore, the economic growth theory according to Harrod – Domar also explains the same thing, to achieve a steady level of economic growth in a country's economy lies in the active role of investment. Harrod-Domar stated that the level of investment in a country can make a major contribution in encouraging economic growth, especially. On the basis that investment has two major objectives in the economy, namely as a source of income and capital to increase production capacity. Furthermore, investment in macroeconomics is determined by Keynes to determine interest

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rates negatively (Case at all., 2020), so that low interest rates will encourage economic growth. Not only that, investment besides encouraging economic growth directly can also create job opportunities both directly and indirectly through growth.

Debt is closely related to economic growth because debt can be used or function as an investment in various development needs. Debt is usually withdrawn from abroad or from within the country which is used to cover the government's budget deficit. Apart from the government, the private sector can also take debt both domestically, especially from banks, and from abroad to make investments which ultimately also encourage economic growth. Furthermore, inflation results in entrepreneurs getting bigger profits, because the value of assets and getting fresh funds from increased profits, so they can make new investments which clearly encourage growth. However, high inflation can become the main enemy for the government and the private sector. Inflation caused by cost push inflation can worsen a country's economy, the economy can even become chaotic, because it reduces people's purchasing power and entrepreneurs cannot sell their goods according to plan, so that the rate of economic growth is hampered.

Investment

Harror-Domar views that capital formation is considered as expenditure that will increase the ability of an economy to produce goods and services, as well as expenditure that will increase the effective demand of the whole society. In connection with economic growth, Harrod-Domar put forward the incremental capital output ratio (ICOR) which is expressed as where growth is expressed: Gr= s/k where Gr is growth, s is the saving tendency or MPS and k= . Thus the relationship between investment and economic growth is determined by the saving tendency and ICOR, while s=S/Y and I=S which are the basic assumptions of the theory, where I represents investment, S is saving, K is capital and Y is output .

Investment is the expenditure of society as a whole to obtain new capital equipment. Expenditures on new capital equipment are aimed at replacing capital equipment that is no longer economical and some are in the form of purchasing new capital equipment to expand the capital stock. Investment includes spending money which causes changes in the supply of capital goods. Investments made in the business sector are based on the profit motive. Investment itself can be divided into two groups, namely foreign investment which can be divided into direct investment (Foreign Direct Investment) and indirect investment (Foreign Indirect Investment) and Domestic Investment which can be carried out by the government or private sector. Marginal efficiency of capital (MEC) is a concept that underlies Keynes' theory, representing investment demand. The relationship between investment demand and the interest rate (r) with a certain MEC is negative, expressed by I=f(r), where I is investment and r is the interest rate (Branson, William H. 1992). Interest rates can have a negative or positive effect (Alvarez and Koskef, 2004) conducting an analysis of irreversible investment under the changing rates showed that the change in rate had a positive or negative effect on the demand for investment. There are also some scholars believe that the rates may have no impact on the investment. The VAR model was used to test the causal relationship between interest rates and investment, and found that investment depended on the level of demand in the macroeconomic, rather than interest rates (Mohammed Dore, 2013). Apart from that, analysis of three rate hikes from 1960 to 1978 in West Germany, it turned out that the effect of interest rate on investment was different in two periods due to the different policy (R. T. Baillie and P. C. McMahon, 1981).

THE METHOD

This type of research is quantitative, taking the type of study of comparative causality that processes numerical data that can be calculated using statistical formulas. The data analysis technique used in this study is path analysis which estimates the direct and indirect influence of exogenous variables on endogenous variables although in this study we only look at and discuss the direct effect, both effects are available in the statistical program used for estimation in this study. This study uses secondary data, namely data that is already available and collected by other parties and it was panel data. The data was taken from the Indonesia Central Statistics Agency (BPS) and Coordinating Ministry for Maritime Affairs and Investment of the Republic of Indonesia. which covers 34 provinces in Indonesia, where since the end of 2022 there have been 38 provinces, but the necessary data is not yet available. The data used which is divided into two groups, Group 1 and Group 2. The statistical analysis technique used is path analysis using the Amos 18 statistical application program.

Based on the conceptual relationship in the framework of thinking, mathematically functional relationships can be written as

$Y_1 = f(X_1, X_2, X_3, X_4, X_5, X_6)$ ……..(3.1)

$Y_2 = f(X_1, X_2, X_3, Y_1, X_4, X_5, X_6, D, DX_1\ DX_2, DX_3, DX_4, DX_5, DX_6)$ ……(3.2)

Whereas:

X1= BI-Rate (interest rate determined by Bank Indonesia)
X2 = PFD (private foreign debt, amount of private debt, rupiah)
X3 = GFD (government foreign debt, amount of government debt, rupiah)
X4 = MSMEs (number of small and medium businesses)
X5 = Population (population of provinces in Indonesia)
X6 = Inflation (inflation of provincial capitals in Indonesia)
Y1= Economic growth (provincial economic growth)
Y_2 = Investment (domestic investment, rupiah, and foreign investment, US dollars)

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D = Dummy variable, D = 0, domestic investment (Group 1); D=1, foreign direct investment (Group 2)

Equations (3.1) and (3.2) can be written in mathematical equation form as

$$Y_1 = \alpha_0 + \alpha_1 X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \alpha_4 \ln X_4 + \alpha_5 \ln X_5 + \alpha_6 X_6 + \mu_1 \quad \ldots(3.3)$$

and

$$\ln Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \beta_5 \ln X_5 + \beta_6 X_6 + \beta_7 D + \beta_6 D \ln X_1 + \beta_7 D \ln X_2 + \beta_8 \ln X_3 + \ldots + \beta_{11} D \ln X_6 + \beta_{12} Y_1 + \mu_2 \quad \ldots..(3.4)$$

Substituting the value of the dummy variable**,** D=0 in the equation (3.4), a new equation is obtained

$$Y_{11} = \alpha_0 + \alpha_1 X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \alpha_4 \ln X_4 + \alpha_5 \ln X_5 + \alpha_6 X_6 + \mu_3 \ldots(3.5)$$

Regression Equation for Group 2, D=1, a new equation is also obtained

$$\ln Y_{12} = (\beta_0 + \beta_7) + (\beta_1 + \beta_8) X + (\beta_2 + \beta_9) \ln X_2 + \ldots + (\beta_4 + \beta_{11}) X_6 + \beta_{11} Y_2 + \mu_4 \ldots(3.6)$$

RESULTS AND DISCUSSIONS

Model fit test

Chi-square statistic, as stated earlier, is the most fundamental test to measure overall fit, it is very sensitive to the size of the sample used and the relation of exogenous variables, almost the same as the model Regresi Linear Berganda. The model is considered good if the Chi-square value is small. The smaller the value, the more feasible the research, meaning that the more it describes the match between the variance of the sample taken and the research population. The results of data processing that have been carried out using the AMOS 18 program are shown in Table 1.

Tabel 1. Goodness of Fit Index

No.	Goodness of fit Measure	Cut-off Criteria	Estimation (cut off Value)	Fit Situation
1	Chi-Square (χ^2) Significance Probability (p)	smaller the better $\geq$ 0.05	2.555 1.000	Fit
2	RMSEA (the Root Mean Square Error of Approximation)	$\leq$ 0.05	0.000	Fit
3	NFI (Normed of Fit Index)	$\geq$ 0.95	0.998	Fit
4	IFI (Incremental Fit Indices)	$\geq$ 0.95	1.010	Fit
`5	CMIN/DF (the minimum Sample Discrepancy Function)	$\leq$ 2	0.142	Fit
6	TLI (Tuckler Lewis Index)	$\geq$ 0,95	1.032	Fit
7	CFI (Comparative Fit Index)	$\geq$ 0,95	1.000	Fit
8	Hoelter's Index	$\geq$ 200	4588	Fit

Sumber: Malkanthie, 2015; Wan, 2022 and Amos Result

Research findings

As is known, this research divides Indonesia's provinces into 2 Groups, the first group is Domestic investment and the second group is foreign direct investment (FDI) so the estimation results consist of two components. The estimation results for Group 1, which is called Domestic Investment, D=0, can be seen in Figure 4.

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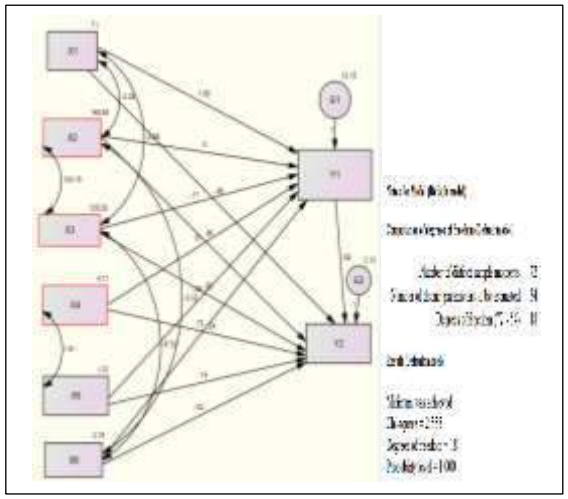


Figure 4: Variable Coefficients for Group 1and Result of Default Model

Recourse: Amos 18 data processing results.

As can be seen in Figure 2, where there is no level of confidence or probability for each coefficient or path, the estimation results are also displayed as a scalar estimate for Group 1 (Group 1), which describes the level of significance of each path, Figure 5.

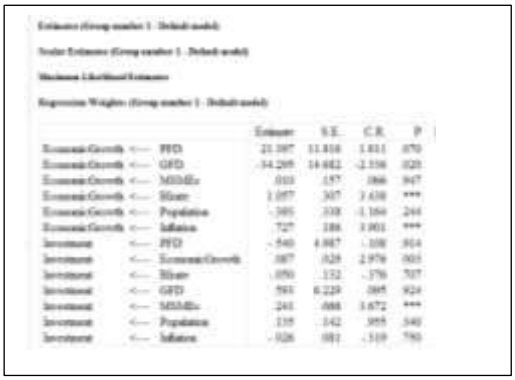


Figure 5. Scalar Estimates Group1

Resource: Amos 18 data processing results.

Further illustrating the estimation results for Group 2, foreign direct investment, D=1 or Group 2, as carried out in Group 1, can be seen in Figure 6.

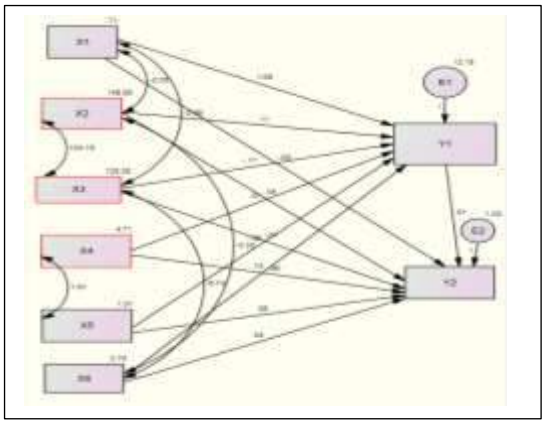
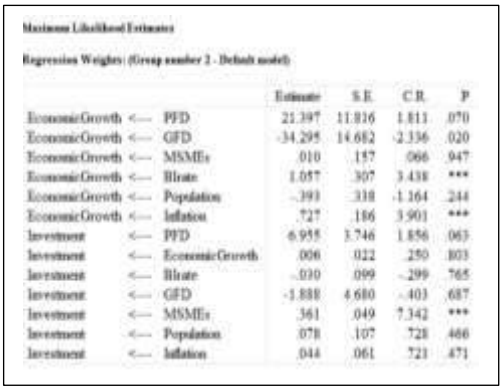


Figure 6. Variabel Coefficients in Group 2

Resource: Amos 18 data processing results

Next, in Group 2, the estimation results are presented, variable coefficients with confidence level or probability (P), Regression Weights for Group 2, can be seen in Figure 7.

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Maximum Likelihood Estimates

Regression Weights: (Group number 2 - Default model)

			Estimate	S.E.	C.R.	P
Economic Growth	<---	PFD	21.397	11.816	1.811	.070
Economic Growth	<---	GFD	-34.295	14.682	-2.336	.020
Economic Growth	<---	MSMEs	.010	.157	.066	.947
Economic Growth	<---	BIrate	1.057	.307	3.438	***
Economic Growth	<---	Population	-.393	.338	-1.164	.244
Economic Growth	<---	Inflation	.727	.186	3.901	***
Investment	<---	PFD	6.955	3.746	1.856	.063
Investment	<---	Economic Growth	.006	.022	.250	.803
Investment	<---	BIrate	-.030	.099	-.299	.765
Investment	<---	GFD	-1.888	4.680	-.403	.687
Investment	<---	MSMEs	.361	.049	7.342	***
Investment	<---	Population	.078	.107	.728	.466
Investment	<---	Inflation	.044	.061	.723	.471

Figure 7. Scalar Estimates Group 2

Resource: Amos 18 data processing results

The results of the analysis show the influence of one variable on another variable according to the research objectives so based on Figure 3 and Figure 4, a summary of the influence of independent variables on dependent variables can be represented in Table 2. The table also shows that Group 1 and Group 2 each have a coefficient and probability according to the relationship between variables.

RESULTS AND DICUSSIONS

Factors influencing economic growth

Based on Table 2, it shows that private foreign debt has a positive influence at α=0.10 on economic growth, both foreign investment and government investment in Indonesia. If private foreign debt increases by 1% it will cause an increase in economic growth of 0.10%. This fact is in accordance with research conducted by (Toktas at al., 2019) which states that the empirical results of this study indicate that there is a causality relationship, including both positive and negative aspects, between net foreign debt stock and economic growth. Likewise (Amaoateng & Amoako 1996)) states that foreign debt encourages economic growth through additional capital production factors. The two researchers used Granger causality to determine the two-way relationship between external debt and economic growth. The research results show that there is a positive causal relationship between GDP growth and external debt payments. On the other hand, the results of empirical research show results in the opposite direction, namely that external debt has a negative influence on economic growth (Geiger 1990, Cunningham 1993). Large external debt payments become a burden on the government budget which will ultimately reduce investment levels. In fact, excessive external debt will cause a debt overhang (Sawada 1993), namely an excessive amount of external debt so it will become a heavy burden when paying back the external debt. The heavy burden of paying external debt will reduce investment levels, reduce capital inflows, and in turn will affect a country's economic growth. Basically, debt overhang will result in a reduction in output growth through reduced productivity.

Table 2. Coefficients of the variables in Group 1 and Group 2,

No	The Relation of the variables		Group 1		Group 2	
	Dependent variables	Independent variables	Coefficient	Probability	Coefficient	Probability.
1	Economic Growth	1. PFD	21.397	0.070	21.397	0.070
		2. GFD	-34.295	0.020	-34.295	0.020
		3. MSMEs	0.010	0.947	0.010	0.947
		4. BIrate	1.057	0.000	1.057	0.000
		5. Population	-0.393	0.244	-0.393	0.244
		6. Inflation	0.727	0.000	0.727	0.000
2	Investment	1. PFD	-0.540	0.914	6.955	0.063
		2. Economic Growth	0.083	0.003	0.006	0.803
		3. BIrate	-0.051	0.707	-0.030	0.765
		4. GFD	0.001	0.924	-1.888	0.687
		5. MSMEs	0.241	0.000	0.361	0.000
		6. Population	0.135	0.340	0.078	0.466
		7. Inflation	-0.028	0.750	0.044	0.471

Source: Data processed from Figures 5 and 7.

Furthermore, government foreign debt has a negative influence on economic growth which is significant at α=0.05 with a regression coefficient of -0.169. This means that if government foreign debt increases by 1%, economic growth will decrease by 0.17%. this finding

According to research (Senadza at al., 2018) in 39 African countries, it shows the negative impact of government foreign debt on economic growth because it causes a crowding out effect. Meanwhile, research (Akram, 2017) in Sri Lanka shows

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a positive impact. Research conducted (Guei, 2019) in emerging market countries shows that government foreign debt has no effect on economic growth because the budget deficit policy is nothing more than delayed taxes and has no effect on aggregate consumption. Likewise, research results (Rafikhalif & Nirmalawati, 2021) show that economic growth is positively and significantly influenced by government foreign debt variables in Indonesia.

As it is known that MSMEs play a very large role in the economy, because their contribution to GDP will reach 61% in 2023, unfortunately this research shows that MSMEs do not have an influence on economic growth. This is because small industry is included in work, so it does not have a big influence in increasing economic growth, which is usually based on being capital intensive. This fact contradicts research conducted (Dewi & Suprapto, 2022) which states that MSMEs have a positive influence on economic growth in East Java.

The interest rate as measured by the BI-rate shows a significant positive influence on economic growth at a confidence level of α=0.01 with a regression coefficient of 1,055, meaning that if the BI rate rises by 1% then economic growth will increase by 1.1%. This fact is in accordance with research (Sri Wigati, 2022) which states that interest rates have a positive effect on economic growth in Indonesia, although not significantly. Likewise, research (Ambarwati at al., 2018) states that BI-rete has a positive influence on economic growth. This means that the higher the BI-rate, the higher economic growth. This fact actually contradicts logic which is known from Keynes' theory which states that there is a negative relationship between interest rates and investment which has a negative influence on growth. This is confirmed by research (Luthfiana at al., 2022) which states that low interest rates will encourage investment levels which will have an impact on increasing economic growth.

The estimation results show that population shows a positive relationship with economic growth, but this effect is not significant at the confidence level α=0.10. In fact, this fact has been discussed since Classical times, Adam Smith stated the importance of population as a workforce to produce output or economic growth. The results of empirical research are further clarified, (Rahmattullah, 2015) states that the productive age population has a positive and significant influence on Indonesia's economic growth. Population includes labor as one of the production factors that causes output or economic growth. Then the Neoclassical economic growth theory pioneered by Solow-Swam in 1956, which is referred to as exogenous growth and also endogenous growth pioneered by Romer (1986), Lucas (1988), and Grossman-Helpman. (1991), states that economic growth is caused by internal factors in the form of research and development of human resources. The consequences caused by inflation can be positive or negative. The positive consequence (controlled inflation) is that economic growth can be created with controlled inflation. This study shows that inflation has a positive and significant influence on the confidence level α=0.01 with a coefficient of 0.73, meaning that if inflation rises by 1%, there will be an increase in economic growth of 0.73% or the higher the inflation, the higher the economic growth. This finding was clarified by (Baharumshah at al., 2011) who found in his research 2 points, First, we confirmed that the inflation uncertainty has a significant and negative effect on economic growth. Second, inflation is also an important variable and it is detrimental to economic prospects in the fast-growing Association of Southeast Asian Nations (ASEAN) economies.

As has been mentioned, inflation does not always have a positive influence on economic growth. This is in line with research conducted (Sequeira at al., 2021) which states that as a result of this new mechanism in an endogenous growth model, inflation is no longer superneutral. In the model, inflation can decrease economic growth in a non-linear way, a sudden upward shock on inflation can severely hurt economic growth and an inflation cut can be responsible for a take-off. These effects are illustrated quantitatively. Inflation is a continuous increase in goods over a certain period of time. In this research, it was found that inflation had a significant positive influence on economic growth at the confidence level α=0.01 with a path coefficient of o.730. So if inflation rises by one percent, economic growth will increase by 0.73%. Next (Bahrumshah at al., 2011) discusses in depth the results of combining the panel data and least absolute deviation autoregressive conditional heteroscedastic (ARCH) (L 1-ARCH) model to infer on the relationship between inflation uncertainty and economic growth in five emerging markets economies. Two interesting findings emerged from the analysis; first, we confirmed that the inflation uncertainty has a significant and negative effect on economic growth. Second, inflation is also an important variable and it is detrimental to economic prospects in the fast-growing Association of Southeast Asian Nations (ASEAN) economies. All in all, the empirical findings suggest that greater stability in the economy may be desirable in order to stimulate economic growth in the region. Meanwhile (Tiwari at al., 2019) who conducted research in India found three important things: (a) high and increasing dependence between inflation and economic growth, particularly after mid-2002; (b) high-frequency components of economic growth Granger-cause low-frequency components of CPI-based inflation and vice-versa, and at all scales economic growth Granger-cause inflation at scales of 4–6 and no evidence of causality was detected from WPI-based inflation to economic growth; (c) results indicate that there is no long-run causal link between inflation and economic growth. This study presents new insights for policymakers to sustain economic development by using inflation as an economic tool in India

Factors affecting investment

Based on Table 2, it is known that the PFD does not have a significant influence on domestic investment at the confidence level, but it does have a significant influence at the confidence level α=0.10 on foreign investment with a path coefficient of 6.96. So if inflation rises by 1% then foreign investment will increase by 6.96%. However, it can still be said that the higher the PFD, the higher the investment that can arise. Furthermore, the influence of investment on economic growth has been widely studied, so this research tries to examine the opposite condition. The research results show that economic growth influences foreign investment positively at the confidence level

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α=0.10 with a path coefficient of 0.083, which means that if economic growth increases by 1% then foreign direct investment will increase by 0.08%. This fact is in accordance with research conducted (Putu Kartika Dewi & Nyoman Triaryati, 2015) which states that economic growth has a significant positive effect on foreign direct investment. Likewise, research (Juliansyah at al., 2021) states in more detail that economic growth in the short term has no effect on investment but in the long term it does not have a positive influence. Furthermore, domestic investment is not significantly influenced by economic growth. This fact is supported by research (Yevi Dwitayanti at al., 2024) which states that economic growth and the percentage of formal labor do not have a significant impact on investment value. Likewise, the BI-rate and government debt do not have an influence on foreign investment or government investment. The BI-rate may be prevented from having an impact on investment because the applicable interest rates still vary which are applied in determining interest rates by government banks and private banks, even though they are based on the interest rates set by BI. However, research (Wuhan & Khurshid, 2015) using vector error correction model (VECM) analysis found that the relationship between interest rates and investment is negative in the long term, but negative in the short term. It has a negative relationship in the long run but positive in the short run. So the research also produces suggestions that will help in terms of interest rate policy as well as improving investment that promotes economic growth in Jiangsu Province.

Furthermore, MSMEs have a significant positive influence at the confidence level α=0.01 on foreign investment and government investment with path coefficients of 0.25 for foreign investment and 0.36 for domestic investment, respectively. This means that if the number of UNKM increases by 1%, it will have an impact on increasing investment by 0.25% for foreign investment and 0.36% for domestic investment. By increasing the number of MSMEs, investment will attract due to the use of raw materials and the results or output of the MSMEs themselves, because in the industrial sector linkages, an MSME can provide forward linkages and backward linkages. Backward linkages mean that the industrial sector or MSMEs use the output of other sectors as input, while backward linkages mean that the output of an MSME is used by other sectors (Muryani & Swastika, 2018).

Meanwhile, government debt cannot affect investment, whether foreign investment or domestic investment. Government debt is largely determined by policies to coordinate and regulate the real sector and the monetary sector on the one hand and on the other hand the debt itself must be paid on time with interest, so it does not follow a certain pattern. The government can make and sell bonds to both foreigners and domestic people who are not directly related to investment. One of the benefits of debt is to cover the development budget deficit, which can be saved and taken from BI to pay development costs and repay debt, so it may not have a positive impact on investment.

Population size has no effect on investment, whether foreign investment or domestic investment. A large population requires a large amount of output or goods, thus attracting investors to invest their capital, especially foreign investment. Population growth means an increase in the workforce ready to enter the labor market. Furthermore, additional labor can cause wages to decrease. This situation attracts investors to invest because they will get higher profits. So population can have a positive influence on investment. However, due to wage rigidity caused by wage policies such as the UMP, demand and supply do not reach balance, ultimately causing unemployment and inhibiting investors' interest in investing. Furthermore, high inflation will prevent investors from consuming their capital because of the high input costs of the company, so that investment can be hampered by inflation or inflation can cause a negative influence on investment.

CONCLUSION AND RECOMMENDATION

Conclusions

Based on the analysis and the results of the previous discussion, the following conclusions are drawn:

1. PFD has a positive influence on economic growth, while GFD has a negative influence on economic growth.
2. Apart from that, the research results also show that the BI rate and inflation show a positive influence on economic growth, while MSMEs and the population have no influence on economic growth.
3. PFD has no influence on domestic investment, but has a positive influence on foreign investment.
4. Economic growth has a positive effect on domestic investment but has no effect on foreign investment
5. MSMEs have a significant positive influence on domestic investment and foreign investment
6. Population growth and inflation have no influence on investment, whether domestic investment or foreign investment.

Recommendations

The suggestions to be put forward based on the discussion and conclusions that have been stated, among others:

1. Regarding the negative and insignificant relationship between interest rates and investment, it is recommended that future researchers use other analyzes or manipulate data such as adding observations, so that the relationship between interest rates and investment is clear as stated by Keynes. In this way, the government is still expected to increase investment in all economic sectors, especially the industrial sector, both large, medium and small scale.
2. Government debt should be handled with great care because it is very open to unsuccessful use and can worsen the economy. Foreign debt, which always increases from year to year, needs to be studied in depth regarding its need and utilization, although in this study it was found that foreign debt has a very significant influence on economic growth.
3. The research results show that MSMEs have a significant influence on investment. MSMEs must still receive priority development through training and research, by providing capital at low interest rates and

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mentoring staff, because it is known that the majority of GDP contributions come from MSMEs

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EFFECTS OF EMOTIONAL EXHAUSTION ON DELIVERY OF PROFESSIONALS FUNCTIONS IN UASIN GISHU COUNTY

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ABSTRACT

The purpose of this study was to find out the effects of emotional exhaustion have on delivery of professional functions among university lecturers in Uasin Gishu County, kenya. The study adopted the Multidimensional Theory of burnout by Christina Maslach (1946). The study used embedded research design in the mixed method and phenomenological approach. The target population included all universities, all lecturers, and all counselors. Simple random sampling was used to select 2 public universities and Purposive sampling was used to sample 1 private university. Simple random sampling technique was used to sample 178 lecturers. Three counselors were sampled using purposive sampling from the sampled universities. Qualitative research was analyzed in theme derived from the research questions while quantitative data was coded and analyzed using the Statistical Package for Social Science Version 26.0.using descriptive statistics and presented using frequencies and percentages. The hypotheses were tested using linear and multiple regressions. Findings on the hypotheses established that emotional exhaustion, F (1, 95) = 4.435, p =0.038, had statistically significant relationship with the delivery of professional functions. The study will be beneficial to the Ministry of Education, university lecturers and the counsellors. The study recommends that university administrations regularize the workload and working schedules to ensure that lecturers are not overwhelmed by workload to reduce work burnout.

KEYWORDS: *Emotional Exhaustion, Delivery, Professional Functions, Phenomenological Approach*

INTRODUCTION

Psychological burnout is a condition that mostly affects people working in human-service fields (Togia, 2005). Burnout is a long-lasting reaction to ongoing emotional and interpersonal pressures that arises from an individual's sense of a mismatch between demands and available resources. It is usually characterized by apathy, detachment and indifference in inter personal relationships (Ozdemir, 2006). It has been established that high levels of occupational stress often lead to job dissatisfaction, absenteeism, turnover and burnout (Schaufeli et al., 2009). Burnout is a pathological syndrome in which emotional depletion and maladaptive detachment develop in response to prolonged occupational stress (Niku, 2004). Feelings of energy depletion are also a common phenomenon characterizing psychological burnout. An individual is motivated by the desire to realize self-actualization to work towards achieving goals in life (Lichtenstein, 2019). However, the desire to realize self-actualization is usually as a result of depleted energy leaving an individual in a state of helplessness and no longer active at work. Psyching a person to continue with work can help an individual avert situations where they feel exhausted as a result of depleted energy. Feelings of negativism related to one's job have also remained a significant challenge yet to be conquered in a bid to preventing burnouts (Choi et al., 2019).

Emotional exhaustion is one of the dimensions of psychological burnout which this study examined in relation to delivery of professional functions among university lecturers. Due to feelings that emotional resources were used up, lecturers with psychological burnout were emotionally drained, overwhelmed by work, exhausted, stressed and even hit rock bottom. People with emotional exhaustion experience feelings of extreme fatigue, apathy, pessimism, cynism and helplessness (American Psychological Association, 2021). They may also have difficulty concentrating and experience increased illness such as headaches, stomach problems and insomnia. Additionally, they struggle with relationships and have difficulty connecting with others.

A recent study by Chen et al. (2022) investigated the relationship between emotional exhaustion and the delivery of professional functions among university lecturers. The study aimed to examine how emotional exhaustion, as a dimension of psychological burnout, impacts lecturers' ability to fulfill their professional roles effectively. Quantitative analysis revealed a significant correlation between emotional exhaustion and various indicators of professional dysfunction, including decreased job satisfaction, reduced engagement in teaching activities, and diminished interpersonal relationships with students and colleagues. Lecturers experiencing higher levels of emotional exhaustion reported feeling emotionally drained, overwhelmed by work

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demands, and lacking the emotional resources needed to effectively carry out their duties. The study's findings underscore the detrimental impact of emotional exhaustion on lecturers' well-being and professional functioning. It highlights the importance of addressing burnout symptoms proactively and implementing strategies to support lecturers in managing their emotional resources effectively.

The University Academic Staff Union (UASU) showed that Kenyan universities are facing a crisis in staffing due to inadequate funding and the lack of a clear career progression structure for academic staff. The University Academic Staff Union has called for improved payment of staff, improved working conditions, and greater recognition of their role in university administration (UASU, 2019).In most cases the university lecturers become disillusioned, frustrated and unproductive at the workplace due to high levels of stress. The pressures include the teaching and research workload, paper writing for conferences, seminar and workshops, marking of scripts, meeting deadlines, supervising students' projects and other practical work, attending and making meaningful contributions at post graduate thesis and dissertation defense, emergency meetings at departmental and faculty levels as well as membership of various personnel committees (Anazodo et al, 2012). This means that the lecturer is always on the move. A Lecturer in a university serve as a registrar, a teacher, administrator and counselor roles which call for dedication, transparency and lots of commitment (Bada & Falana, 2012).

The ratio of student to lecturers is high and especially in Kenyan public universities, where a lecturer can teach up to 500 students. In some of the universities there is no public address system which makes the lecturer to strain and therefore compromise the quality of teaching. The lecturer is supposed to mark the work within a specified period of time. Due to the numbers and time constrains, she /he was not able to be 100% accurate and this compromises the outcome of exam results and the health of the lecturer owing to working long hours. The nature of lecturer's job seems to complicate the problem and this study intends to investigate this. Kwambai et al. (2020) carried a study on the impact of high student enrolment to existing resources in selected public universities in Kenya. The findings revealed that student enrolment and instructional resources correlated negatively. The increasing population had affected the quality of teaching, instructional methods and the administration of examinations. This implied that lecturers experienced stress due to the problems the study found.

STATEMENT OF THE PROBLEM

The demand for university Education in Kenya is overwhelming. The demand put on lecturers to meet crazy deadlines while dealing with a large number of students could have them stressed and even burned out which in turn affects their delivery of professional functions (Njoroge et al., 2020). Apart from workload, lecturers are involved in other functions which include mentorship, supervision of postgraduate students, research, publishing, setting, moderating and administering exams, administrative work and coordinating university programs (Anazodo et al., 2012). All these functions have timelines and therefore the lecturer is always under pressure in the process of carrying out these duties. This may have led to ineffective delivery of these functions by the lecturers. The World Health Organization posits that when this happens, the individual is affected psychologically and may lead to poor health which includes high blood pressure, constant headaches and general body weakness (WHO, 2021).

A research was carried out at the University of Malaga in Spain by Fernández-Suárez et.al. (2021) which looked at the impact of psychological burnout on the delivery of professional functions among university lecturers. The findings indicated that burnout was significantly associated with a decrease in professional functions and found that burnout was significantly associated with a decrease in professional functions. The research also found that psychological burnout was significantly associated with lower job satisfaction, higher levels of fatigue, and reduced commitment to professional activities. Furthermore, the study found that exhaustion was associated with an increase in the perception of difficulty in completing professional tasks. The findings of the aforementioned research suggest that psychological burnout can have a detrimental effect on the delivery of professional functions among university lecturers, and can lead to decreased job satisfaction, fatigue, and reduced commitment to professional activities. These findings emphasize the importance of addressing psychological burnout among university lecturers to ensure the delivery of quality professional functions (Fernández-Suárez et. al., 2021).
A study conducted in Kenya by Ochieng et al. (2020) found that psychological burnout was associated with a decrease in the delivery of professional functions of lecturers. The study further found that workload, lack of administrative support, and lack of job satisfaction were the main predictors of psychological burnout for the lecturers in the sample. Therefore, it is for this reason that this current study sought to find out the effects of psychological burnout on delivery of professional functions among lecturers in Uasin-Gishu County.

PURPOSE OF THE STUDY

The aim of this research was to investigate on the effects of emotional exhaustion and delivery of professional functions among university lecturers in Uasin Gishu County. By examining this relationship, the study sought to identify how psychological burnout influenced lecturers' capacity to effectively perform their professional duties. It is not clear whether psychological burnout has an effect on delivery of professional functions which include teaching, research and community and how they influence delivery of professional functions among university lecturers.

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RESEARCH HYPOTHESIS

$H_0$1. There is no significant relationship between emotional exhaustion and delivery of professional functions among University lecturers in Uasin-Gishu County.

METHODS

The study employed embedded design in the mixed methods approach. The mixed methods approach involved philosophical assumptions that guides the direction of the collection, analysis, and the mixture of qualitative and quantitative approaches in many phases of the research process. Its central premise is that the use of quantitative and qualitative approaches, in combination, provided a better understanding of research problem than either approach alone (Creswell & Clark, 2007). The current study used mixed method research approach. Quantitative research approach is driven by the researcher with the need to quantify data (Creswell, 2003). In a quantitative approach, the study employed Ex Post Facto research design. Ex-post facto was employed because the researcher did not manipulate the independent variable which in this current study is psychological burnout. This study was undertaken in Uasin Gishu County which is one of the 47 counties in Kenya. Uasin Gishu County was chosen for this study because it attracts a large number of students and lecturers given the Universities and many tertiary institutions in the county. The target population included all counselors and all lecturers in both public and private universities in Uasin Gishu County. The total population of lecturers in both public and private universities in Uasin Gishu County is 1,700 (Commission for University Education, 2019). The researcher adopted simple random sampling procedure to select the lecturers and purposive sampling to obtain the counselors from the sampled public and private universities. To determine the actual sample size for the lecturers, Nassiuma formula by Nassiuma (2000) was used as follows:

$n= Nc2/(c2+ (N-1) e2)$

Where: n = sample size,

N= Target population (1700)

c= Coefficient of Variance (0.3)

e= standard error (0.02)

Therefore: $1700 \times (0.3)^2$

$0.3^2 + (1700-1)0.02^2$

$= 178$

The sample size used was 178 lecturers.

The study employed questionnaires for lecturers and in-depth interview guide for counselors. The data was analyzed using both qualitative and quantitative data analysis processes. Qualitative data was transcribed and analyzed through themes, for quantitative data analysis, the researcher first defined variables and assign numeric values and labels to the variables. SPSS version 26 was used to key in the variables. Data was presented by use of tables.

REVIEW OF RELATED LITERATURE

García-Arroyo and Segovia (2019) analyzed the relationship between work overload, coping styles and emotional exhaustion in a sample of 202 university lecturers in Ecuador. The study employed a hierarchical regression model analysis and the results showed that work overload and evasive coping are positively related to emotional exhaustion, while active coping was negatively linked to emotional exhaustion in the study of university lecturers in Ecuador. The findings also showed that evasive coping mediated the connection between work overload and emotional exhaustion so that lecturers who use more evasive coping in situations of high work overload experience less burnout than lecturers who use this coping style less.

Sarah et al. (2020) carried out a study aimed to explore the effects of emotional exhaustion on university lecturers in the United States. The study involved 10 lecturers and used a qualitative research design and data were collected through semi-structured interviews with ten university lecturers. The results revealed that university lecturers experienced emotional exhaustion due to a variety of factors, such as heavy workloads, perceived lack of control over their work, and feeling disconnected from their students. The study also found that emotional exhaustion had negative effects on lecturers, such as decreased motivation and productivity, as well as physical and mental health problems.

This research used a quantitative survey method to investigate the effects of emotional exhaustion on university lecturers in Brazil. 150 university lecturers in Brazil were invited to take part in the survey and the data was collected through an online questionnaire. The questionnaire contained closed questions to measure the respondents' levels of emotional exhaustion and open-ended questions to assess the sources of their exhaustion. The data was analyzed using descriptive and inferential statistics to explore the effects of emotional exhaustion on the participants. The findings of the research showed that emotional exhaustion had a negative impact on the participants' quality of teaching, job satisfaction and performance. The findings also revealed that the main sources of emotional exhaustion for the participants were workload and stress (Moura et al., 2020).

A study conducted in China on the impacts of work-life balance on the emotional exhaustion and well-being of college teachers (Wei & Ye, 2022). An online survey was conducted. The valid subjects included 586 college teachers (367 females, 62.6%). The findings revealed that among the Chinese college teachers, work-life balance was negatively correlated with EE, but positively correlated with work balance; EE was negatively correlated with work balance, EE partially mediated the relationship between work-life balance and work balance; and College teachers who are male, class tutors, and in public colleges scored higher on EE and lower on work-life balance and work balance than those who are female, non-class tutors, and in private colleges, respectively. The authors concluded that the negative impacts of emotional exhaustion on psychological health cannot be neglected and suggest that lecturers should be encouraged to manage their emotions in order to improve job satisfaction and psychological health.

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Ngalagou, et al., (2019) evaluated the epidemiology of burnout syndrome among university teaching staff in Cameroon. The study also aimed to establish whether the practice of physical activities and leisure could have preventive impact. The study employed a cross-sectional study using a self-administered questionnaire on socio-demographic characteristics, socio-professional conditions, Maslach Burnout Inventory-Educator Survey (MBI-ES) to evaluate burnout syndrome, and Ricci-Gagnon metrics to assess rates of physical activities practice among grades of teaching staff, in the various faculties of the University of in Douala, Cameroon. The findings indicated that burnout affected 55.4% of lecturers, 38.3% senior lecturers and 6.3% professors. Burnout was significantly associated with poor working conditions, unsatisfactory salary, part time teaching in private university institutions, sensation of strenuous job, conflict with colleagues, sedentariness. Sport and physical activities showed significant protective effects against burnout the same with leisure.

Mwenda et al. (2019) assessed the relationship between job stressors and faculty performance at private universities in Kenya. The researchers collected data from a sample of 384 full time and part time lecturers. Job stressors were broken down into three sub categories; work load, job security and career progression while lecturer performance was evaluated as a component of research, teaching and service. Findings showed an inverse relationship between job stressors and faculty performance. The null hypothesis was rejected, revealing a statistically significant relationship between job stressors and faculty performance. The research findings implied that universities should have strategies to maintain low levels of stress for better lecturer performance.

Ogolla and Aomo (2018) investigated the relationship between Type B personality trait and stress management among secondary school principals in Kenya. The study adopted a Convergent Parallel research method within the mixed method approach. The study population was 295 principals and the study sample size was 169 principals obtained using stratified random sampling. The quantitative data was analyzed using Statistical Package for Social Sciences (SPSS) windows version 22 as well as Pearson's Product Moment Correlation Coefficient while qualitative data was analyzed using thematic analysis. The study established a positive relationship between Type B personality trait and stress management. Qualitative findings showed that most principals used multi-tasking to manage and accomplish their tasks thus reducing their stress. The above literature has revealed that psychological burnout and other kinds of burnouts affect the performance of teachers both in universities and other levels of teaching across the globe. However, the various studies do not clearly indicate how psychological burnouts influence specific functions of lecturers. In Kenya particularly this aspect has not been well researched and documented and this research intended to cover the study gap.

RESULTS AND DISCUSSIONS

This section presents the descriptive analysis of each item of the sub-scale. The researcher wanted to assess the frequency of emotional exhaustion using the following key: 0 (never), 1 (a few times per year), 2 (once a month), 3 (a few times per month), 4 (once a week), 5 (a few times per week), and 6 (every day). The results of the descriptive statistics are presented in Table 1.

Table 1. Effect of Emotional Exhaustion on Delivery of Professional Functions

Items	A few times per year	Once a month	A few times per month	Once a week	A few times per week
I feel emotionally drained by my work	1 (1.0%)	23 (23.7%)	30 (30.9%)	25 (25.8%)	18 (18.6%)
Working with people all day long requires a deal of effort	1 (1.0%)	7 (7.2%)	21 (21.6%)	43 (44.3%)	19 (19.6%)
I feel like my work is breaking me down	1 (1.0%)	20 (20.6%)	41 (42.3%)	28 (28.9%)	7 (7.2%)
I feel frustrated by my work	1 (1.0%)	8 (8.2%)	28 (28.9%)	22 (22.7%)	30 (30.9%)
I feel I work too hard at my job	1 (1.0%)	13 (13.4%)	19 (19.6%)	27 (27.8%)	31 (32.0%)
It stresses me too much to work in direct contact with people	4 (4.1%)	5 (5.2%)	8 (8.2%)	45 (46.4%)	32 (33.0%)
I feel like I am at the end of my rope	1 (1.0%)	9 (9.3%)	27 (27.8%)	38 (39.2%)	15 (15.5%)

The study sought to investigate is the lecturers felt emotionally drained majority of the lecturers 30 (30.9%) report experiencing emotional exhaustion as a result of work-related variables on a weekly basis. The finding implies that on a weekly basis lecturers were emotionally drained. Table 16, indicates that most of the respondents 25 (25.8%) encounter this phenomenon many times per week, 23 (23.7%) reported experiencing this phenomenon intermittently during the month; while a considerable number 18 (18.6%) reported experiencing it on a daily basis, and multiple times per week. Based on this finding, it can be inferred that a significant proportion (30.9%) of individual's experience emotional exhaustion as a consequence of their work, indicating a susceptibility to burnout. The aforementioned statistics align with the prevalence of emotional exhaustion documented in various regions globally. For instance, in the United States, self-reported rates ranged from 13 percent to 45 percent (Jackson-Jordan, 2013). Similarly, research conducted in Europe revealed that 27 percent of pastors from different denominations in New Zealand, England, and Australia

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From the findings working with people all day long requires a deal of effort with 43 (44.3%) expressing this feeling once a week 21 (21.6%), report exerting effort multiple times each month highlights the recurring nature of interpersonal obligations, 19 (19.6%) of the sample, reported the occurrence of effort requirements multiple times per week while only 6 lecturer's (6.2%) who recognize the necessity of daily effort underscores the presence of a distinct subgroup that experiences an ongoing demand for emotional work, which may ultimately contribute to the development of burnout. This assertion is consistent with the research reports across the globe that suggests that teachers were likely to suffer burnout (Cocklin, 2013; Currier, 2016; Miles & Proeschold-Bell, 2013). Francis and Crea (2015) found a significant correlation between emotional exhaustion and low mental health in a study on the psychological health in Italy.

The frequency distribution of the responses of 41 (42.3%) of lecturers who experienced break down a few times per month**,** 28 (28.9%) of the individuals who experience such sentiments "a few times per week" indicate a persistent challenge in coping with work-related demands, 20 (20.6%) of the lecturer's experience a sense of their employment causing emotional distress "once a month" suggests the presence of ongoing psychological pressure, 7 (7.2%), indicates a significant population contending with enduring emotional strain while only (1.0%) of the lecturer's acknowledge having this sentiment "a few times per year." This finding underscores the presence of a minority group that encounters sporadic yet significant episodes of distress related to their employment. This finding aligns with the research conducted by Sonnentag and Fritz (2015), which highlights the notable influence of occasional but intense stressors on an individual's psychological well-being.

Majority of the lecturers felt frustrated by their work most of the lecturer's as 30 (30.9%) of participants acknowledged experiencing regular frustration in their employment, a few times per week, (28.9%) lecturers occurring on a regular basis of "a few times per month," 22 (22.7%) of lecturer's experience frustration on a weekly basis provides insight into the recurring difficulties encountered by lecturers in their professional capacities. On a monthly basis 8 (8.2%) and the occurrence of frustration on a daily basis 8 (8.2%) and 1 (1.0%) felt frustrated a few times a year. Most of the respondents agreed that they felt frustrated by work. This implies lecturers felt frustrated a few times a week for majority of lecturers within Uasin Gishu County. The statement aligns with existing scholarly literature on faculty stress, which highlights workload and limited autonomy in particular elements of academic work as significant contributors to feelings of frustration (Kinman et al., 2019).

Table 1 shows that the highest proportion 31 (32.0%) of respondents expressed feeling overworked "a few times per week", 27 (27.8%) expressing this sensation on a weekly basis, 19 (19.6%) of respondents reported feeling that they work excessively on a regular basis, specifically "a few times per month", while 13 (13.4%) of respondents reported experiencing this sensation on a monthly basis. The percentage of lecturers who report experiencing this sensation "every day" at 6 (6.2%) is significant, indicating a noteworthy proportion of individuals in this profession who continuously face the high level of obligations associated with their employment. Finally, the indication of 1 (1.0%) representing the sentiment "a few times per year" denotes a minority of occurrences in which occasional perceptions of excessive effort are observed, possibly linked to particular situations characterized by high demands. The findings show that most of the lecturers felt they were overworked on a weekly basis may be due to the nature of lecturers' assessments of their workload, which underscores the persistent difficulties in effectively managing several academic obligations. This observation is consistent with the research conducted by Maslach and Leiter (2008), whereby they explore the relationship between workload and burnout experienced by faculty members.

Findings of if the lecturers felt like they were stressed too much when working in direct contact with peoples, results shows that lecturers 45 (46.4%) experience stress on a weekly basis when engaging in direct interpersonal contacts. This indicates that most of the respondents were not too stressed to work in direct contact with people, suggesting that they were probably at their element when working with people. Thirty three (33.0%) who reported experiencing stress "a few times per week", 8 (8.2%) indicates a recurring but relatively infrequent occurrence of stress, once a month" by 5 (5.2%) of individuals underscores the occurrence of sporadic yet significant stressors in face-to-face encounters, 4 (4.1%) of the lecturer's report experiencing stress "a few times per year", while 3 (3.1%), represents a relatively smaller subset of the population that consistently encounters elevated levels of stress in their day-to-day interactions. This pertains to intermittent presentations, workshops, or other public activities that elicit sensations of tension. This observation is consistent with previous research on the impact of work-related stressors and emotional tiredness, highlighting the significant burden imposed by frequent interpersonal demands (Bianchi et al., 2018).

On whether respondents felt like they were at the end of their rope most 39 (39.2%) of the lecturer's expressing "once a week". This resonates with the concept of burnout, where individuals can feel emotionally exhausted and overwhelmed due to prolonged stressors (Maslach & Jackson, 1981). Following this, the 27 (27.8%) indicating this sentiment "a few times per month" suggests a recurring sense of emotional exhaustion. The 15 (15.5%) noting this feeling "a few times per week" highlights frequent emotional distress among lecturers. Moreover, the 9 (9.3%) experiencing this sentiment "once a month" reflects intermittent but impactful feelings of being overwhelmed. This might align with cyclically demanding periods in academia, such as grading periods or peak research times. A total of 7 (7.2%) lecturers indicated that feeling at the end of their rope "every day" reflects a subset of lecturers consistently grappling with emotional distress. Lastly, the 1 (1.0%) facing this sentiment "a few times per year" signifies a small minority experiencing infrequent but impactful emotional distress. The results imply that

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on average, lecturers felt that they were at the end of their rope. The findings align with the concept of burnout and the cumulative effects of ongoing stressors on emotional well-being. Addressing these challenges through support systems, resources for managing stress, and fostering a positive work environment can contribute to the overall mental health and job satisfaction of lecturers within the academic setting. This pattern aligns with studies on work-related stress and its impact on emotional well-being (Bianchi et al., 2018). These findings align with previous research conducted by Afsar, et al. (2015), which also highlighted the negative impact of administrative pressures on teachers' productivity, leading to burnout.

TEST OF HYPOTHESIS

$H_0$1 There is no significant difference between emotional exhaustion on delivery of professional functions among university lecturers in Uasin-Gishu County

The study sought to find out the effect of emotional exhaustion of delivery of professional functions of lecturers. The null hypothesis which stated that *there is no significant difference between emotional exhaustion on delivery of professional functions among university lecturers in Uasin-Gishu County*. To test the research hypothesis, a simple linear regression was conducted. A simple linear regression uses the presence of a linear relationship to determine how much variation in the dependent variable can be attributed to the independent variable. The summary of findings is presented in Tables 2, 3 and 4.

Table 2 Regression Model Summary[b] on Emotional Exhaustion and Delivery of Professions Functions

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.328[a]	.108	.098	7.036	1.659

a. Predictors: (Constant), Emotional exhaustion
b. Dependent Variable: Professional functions

From Table 2 emotional exhaustion accounted for 9.8% of the variation in delivery of professional functions as shown by the adjusted R square value, with the remaining variation in teaching functions being accounted by other factors beyond emotional exhaustion.

Table 3 Regression ANOVA[a] on Emotional Exhaustion and Delivery of Professional Functions

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.28	1	4.282	4.435	.038[b]
	Residual	91.718	95	.965		
	Total	96.000	96			

a. Dependent Variable: Professional functions
b. Predictors: (Constant), Emotional exhaustion

From Table 3, the regression model was a good predictor for delivery of teaching functions from emotional exhaustion, F (1, 95) = 4.435, $p < 0.05$. This implies that linear regression was best suited to determine the effect of emotional exhaustion on delivery of professional functions.

Table 4. Regression Coefficients a on Emotional Exhaustion and Delivery of Professional Functions

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
1	(Constant)	47.023	3.862		12.177	.000	39.357	54.689
	Emotional exhaustion	.211	.454	.134	3.387	.001	.188	.720

a. Dependent Variable: Professional functions

From Table 4, emotional exhaustion had a statistically significant effect on delivery of professional functions, $p<0.05$. The relationship was considered significant since the p-value was less than the selected level of significance (0.05). Based on the findings, the null hypothesis indicating that emotional exhaustion has no significant effect on delivery of professional functions was rejected in favor of the alternate hypothesis. These means that emotional exhaustion significantly affected the delivery of professional functions among university lecturers in Uasin Gishu County. These findings concur with past researchers; For instance, Sarah et al., (2020) explored the effects of emotional exhaustion on university lecturers in the United States and found that emotional exhaustion had negative effects on lecturers, such as decreased motivation to teach and the overall teaching outcomes. Moreover, Moura et al., (2020) explored the effects of emotional exhaustion on university lecturers in Brazil and discovered that emotional exhaustion had a negative impact on the participants' quality of teaching, job satisfaction and

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performance. Another study by García-Arroyo and Segovia (2019) examined the impact of emotional exhaustion on lecturers and revealed that emotional exhaustion was significantly related to lecturers' burnout and negatively correlated to their teaching satisfaction and general psychological health. These findings agreed with the Maslach theory of burnout that suggest that workplace burnout can affect the well-being and the functioning of workers just as it has been proven in this study.

CONCLUSION

The findings concluded that emotional exhaustion had a statistically significant effect on professional functions. This suggests that lecturers experiencing higher levels of burnout are likely to encounter difficulties in fulfilling their professional responsibilities effectively. Addressing these aspects of burnout is crucial for safeguarding the well-being of lecturers and ensuring the quality of education provided to students. Implementing targeted interventions to mitigate burnout and support lecturers in managing stress and maintaining job satisfaction is essential for promoting a positive and productive academic environment. Based on the conclusion of the study, future research on the effects of emotional exhaustion on the delivery of professional functions among lecturers could consider conducting longitudinal studies to examine how emotional exhaustion evolves over time and its long-term impact on the delivery of professional functions among lecturers. This would provide insights into the trajectory of psychological burnout and its implications for job performance and job satisfaction. Employing qualitative research methods to gain a deeper understanding of the subjective experiences of lecturers regarding emotional exhaustion and its effects on their professional functions. This could uncover nuanced aspects of burnout that quantitative measures may not capture fully.

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CONCEPT OF *AMA*: UNVEILING THE ROLE OF FREE RADICALS

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ABSTRACT

INTRODUCTION: *The primary objective of Ayurveda is to maintain health of a healthy person and to cure the diseases of sick people. As per Ayurveda, a healthy person will be having equilibrium of Dosha, Agni, Dhatu and regular excretion of Mala. The derangement of Agni in any case will hamper the proper conversion of Ahara rasa into Prasada (sara) and Kitta (mala) parts. This improper metabolism leads to the accumulation of undigested waste products called Ama in the body. A Free radical can be defined as any molecular species capable of independent existence that contain unpaired electrons in the atomic orbital. They are highly reactive species that are capable of damaging DNA, proteins, carbohydrates and lipids.*

AIMS AND OBJECTIVES*: To understand the concept of Ama with special reference to free radicals.*

MATERIALS AND METHODS: *Modern texts, review articles, and authenticated sources were scrutinized for understanding the concept of free radicals and Ayurvedic texts were referred for further understanding.*

DISCUSSION AND CONCLUSION*: As per Ayurveda there are 13 types of Agni (Jatharagni, Bhutagni, Dhatwagni). Its improper functioning can lead to production of various dimensions of Ama. At the present era, free radicals which are responsible for various diseases, can be identified as Ama at the level of Bhutagni i.e at the molecular level. Therefore understanding the concept of Ama and free radicals leads to the scope of using Ayurvedic remedies which may be helpful in prevention and care of free radical medicated diseases.*

KEYWORDS: Ama, Free radicals, Agni

INTRODUCTION

Agni is one of the important factors which helps in the maintenance of health of an individual and in prevention of diseases. Ordinarily '*Ama*' means unripe, uncooked, undigested substance. *Ama* is that which arises as a result of derangement in *Agni*, mainly by *Agnimandya*. The hypo functioning of *Agni* causes the accumulation of undigested or waste products called *Ama* in the body. It is the root cause of various diseases. For the management of this, knowledge of *Ama* is essential. Free radicals are highly reactive atoms or molecules with unpaired electrons in the outermost orbit. These free radicals can cause damage to cell and tissue leading to various diseases. In the contemporary science *Ama* can be compared with free radicals that are formed in the body. Understanding the relationship between *Ama* and free radicals is crucial for maintaining the overall health and wellbeing.

AIMS AND OBJECTIVES

- To review the concept of *Ama* as per Ayurvedic literatures.
- To review the concept of Free radical in relation with *Ama*.

MATERIALS AND METHODS

Modern texts, review articles, and authenticated sources were scrutinized for understanding the concept of free radicals and Ayurvedic texts were referred for further understanding.

CONCEPT OF *AMA*

Due to *Alpa bala* of *Agni*, the first *Dhathu* (*rasa*) is not properly digested, instead the *Annarasa* undergoes fermentation being retained in the *Amashaya* leading to the formation of *Ama*[1]. It is also said as the matter which has not undergone *Vipaka*, leading to *Durgandha* (bad smell), which is in large quantity, which is *Pichila*(sticky) and that which leads to *Gatrasadana* is called as *Ama*[2].

The factors which cause *Mandagni* are responsible for the production of *Ama*. *Ama* and *Agnimandhya* are interdependent to each other.

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Disease formation due to *Ama*:

Agni dushti (Kayagni, Bhutagni, Dhatwagni)

↓

Ama (mixed with *Dosha, Dushya and Mala*)

↓

Circulates in all *Srotas* and *Kha Vaigunya* at particular site

(*Samavastha*)

↓

Vyadhi (Shakhaghata, Koshtagata, Marmasthisandhi)

Symptoms produced due to *Ama* includes, Srotorodha (obstruction in channels), *Balabhramsha*(lowering of immunity), *Gaurava*(feeling heaviness), *Alasya*(unwillingness to perform duty in spite of capability), *Apakthi*(indigestion), *Nishtiva*(accumulation of excessive saliva in mouth), *Mala sangha*(constipation), *Aruchi*(tastelessness), *Klama* , *Vitmutra Nakha Chakshupitata/rakthatha/krishnatha*, *Shiroruk*(headache), *Mukhavairasya*, *Jwara*(fever), *Atisara*(loose motion), *Romaharsha*[3].

FREE RADICALS

Free radicals are atoms or molecules which are highly reactive due to the presence of unpaired electron in its outermost orbit. It has a constant tendency to become stable by acquiring electron from nearby stable atom leading to free radical chain reaction which inturn leads to increase in the formation of new free radicals[4].

Free radicals are always present and formed in the body but excess of production than normal limit causes various ill effects in the body. In the body they are produced either by normal cell metabolism (lysosomes, peroxisomes, nuclear endoplasmic reticulum, plasma membrane, phagocytic cells) or from external sources (pollution, cigarette smoking, radiation, medication)[5]. Most of the free radicals present in the body are reactive oxygen species (ROS) and reactive nitrogen species (RNS). They include superoxide anion, hydrogen peroxide, hydroxyl radical, peroxyl radical, pernitrous acid, nitric oxide, nitrous oxide, nitroxyl anion. They are highly reactive as it has the potential to oxidise biological molecules like proteins, lipids, nucleic acids etc[6].

Endogeneous and exogeneous antioxidants act as 'free radical scavengers' by preventing and repairing the damage caused by the accumulated free radicals thereby increasing the immune defense. Endogeneous antioxidants include superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx), glutathione reductase (GRx). Superoxide dismutase is the first line defense against free radicals. Exogeneous antioxidants includes vitamin E, vitamin C, flavonoids, omega 3 fatty acids, omega 6 fatty acids etc.

The imbalance between the production and accumulation of free radicals and the body's ability to neutralise them leads to a phenomenon called oxidative stress. Oxidative stress persisting for a long term causes various diseases (free radical mediated disorders) like cancer, Alzheimer's disease, Parkinson's disease, multiple sclerosis, memory loss, depression, arthritis, asthma, glomerular nephritis, IUGR, cataract, cardiomyopathy, ischemia, inflammation, atherosclerosis etc[7].

DISCUSSION

It is already known that *Ama* is formed due to the impairment of *Agni*. This can be at *Jataragni* level (gastrointestinal level), *Bhutagni* level (molecular level), *Dhatwagn*i level (tissue level), so the formation of Ama can also take place at these levels. The Ama formed at *Jataragni* level i.e. molecular level can be considered as free radicals.

According to Acharya Susruta, there is a six-step process for disease development: *Sanchaya, Prakopa, Prasara, Sthanasamsrya, Vyakti, and Bhedavastha*. In the case of diseases caused by *Ama*, the initial step is the accumulation of *Ama (Sanchaya*) due to impaired *Agni* function. Similarly, free radicals accumulate when the action of free radical scavengers is impaired at a specific site, leading to increased production. Initially, this accumulation may not cause harm, but without treatment, it can surpass a threshold, leading to minimal symptoms (*Prakopa*). Subsequently, *Ama* or free radicals enter circulation, helping the progression of the disease.

Ama requires a specific site with *Khavaigunya (sthanasamsraya*), to initiate disease by affecting weak body tissues where it may accumulate or adhere. Similarly, free radicals seek out weak sites for electron exchange. Consequently, diseases manifest differently depending on the location of *Khavaigunya*, arising from the same root cause of *Ama* or free radicals. This marks the stage of *Sthanasamsrya*, where disease symptoms become evident. Following *Sthanasamsrya*, pathology becomes visibly apparent at a macroscopic level (*Vyakthavastha*). If even in this stage treatment is not given, it will lead to the occurrence of *Upadrava* (*Bhedaavstha)*[8].

From the above discussion, it can be considered that the process of formation of disease is described is similar manner in Ayurveda and modern.

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While considering the treatment part, the treatment of *Ama* includes 3 procedure- *Langana*, *Deepana*, *Pachana*. Similarly antioxidant therapy also works in three ways- first by inhibiting the formation of free radical species which can be achieved by removing causative factors and this can be taken as *Langana* therapy. Secondly by increasing the action of antioxidant like SOD or catalase which is achieved by providing certain drugs. This can be taken as *Deepana* therapy. Thirdly by action of certain substances (vitamin E, vitamin C) which can neutralize free radical by donating or accepting electrons. This can be considered as *Pachana*. Hence in treatment aspect also there is similarity between *Ama* and free radicals.

CONCLUSION

From the above explanation, it can be concluded that the main factor responsible for the formation of *Ama* is *Mandagni*. *Ama* is produced by the accumulation of byproducts of metabolism as well as metabolic waste that are not eliminated from the body. *Ama* can be considered as free radical which are also byproducts of metabolism having tendency to block the microchannel in different locations leading to various diseases. Increase in normal value of blood sugar, urea, uric acid, etc can be understood as Ama. The whole discussion concludes the various similarities between Ama and free radicals. By understanding these similiarity, there starts a new scope for Ayurveda in the management of free radical mediated diseases.

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PREDICTIVE MODELING FOR LOAN APPROVAL: A MACHINE LEARNING APPROACH

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ABSTRACT

Exploring machine learning approaches to enhance the effectiveness and precision of procedures related to bank loan approval. This investigation encompasses various methods such as logistic regression, decision trees, linear regression, as well as GaussianNB, Random Forest, and SVM. Utilizing a substantial dataset containing past loan applications and diverse applicant attributes like demographics, credit scores, income levels, and employment histories. The research endeavors to evaluate the recall, accuracy, precision, and F1-score metrics of various algorithms. Additionally, it investigates the interpretability and transparency of machine learning models to offer further insight into the variables affecting decisions on loan acceptance. The study emphasizes the efficacy of logistic regression, which outperformed SVM (77%), GaussianNB (78%), random forests (78%), and decision trees (69%), achieving the highest accuracy of 80% in loan approval. By implementing this model, we can enhance ML-driven loan approval processes within the banking industry, thereby elevating decision-making standards and enhancing consumer satisfaction.

KEYWORDS— *Machine Learning Algorithms, Loan Approval, LogisticRegression, DecisionTree, Linear Regression, GaussianNB, RandomForest, SupportVectorMachine (SVM), Decision-Making,*

I. INTRODUCTION

The loan approval process holds significance for both lenders and applicants. Traditional evaluation methods, while somewhat effective in specific scenarios, often fall short in meeting the rapid and accurate demands of the contemporary market. This is where predictive modeling powered by machine learning stands out as an innovative solution. The foremost priority for any bank is to guarantee the security of its assets [1]. In the digital era, the banking industry heavily relies on advanced technologies. Debt is widely regarded as the primary service provided by financial institutions and a significant revenue stream for companies. The assessment of credit risk emerges as a critical factor demanding meticulous attention [2]. Daily a considerable number of individuals apply for personal loans with many receiving them from different institutions. Interest-free loans constitute the primary revenue stream for banks [3]. Machine learning (ML), a subset of artificial intelligence (AI) investigates statistical models and techniques enabling computers to learn from data, thereby making predictions or assessments without explicit programming. This process is often termed as teaching computers to perform tasks more autonomously relies on data or expertise. It encompasses analyzing data using statistical models and algorithms to recognize patterns and draw conclusions or predictions. Machine learning methods are essential for constructing models that reliably categorize loan applicants according to their ability to repay loans [4].

Data mining techniques prove invaluable in this domain involving the extraction of valuable insights from vast and unorganized datasets. These insights aid decision-making processes by executing crucial operations. In the realm of loan approval prediction numerous conventional data mining techniques exist alongside machine learning algorithms designed to automate the prediction of loan statuses. These algorithms effectively and quickly determine loan eligibility. Among them are decision trees, logistic regression, random forests, and gradient boosting. This study aims to mitigate the risk linked to loan approval by predicting the loan status through analysis of various loan attributes or characteristics. The Loan Prediction System assigns weight to each attribute involved in loan processing automatically. These weights are then applied to newly acquired test data during processing [5]. Loan prediction offers significant advantages for banks, employees, and applicants alike. The primary goal of this work is to offer a practical and effective approach for selecting the optimal course of action. With the loan prediction system's ability to automatically assess the importance of each parameter, users can make optimal decisions. We can schedule appointments to review customer status and ascertain their eligibility. The system efficiently prioritizes specific applications for assessment. The target audience for this study report is the governing authority of banks or financial institutions. It's important to note that the process remains confidential with no ability for any involved parties to alter it.

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II.LITERATURE REVIEW

To determine the likelihood of approval for a bank loan Vandana Sharma et al [6] investigates the feasibility of employing ML techniques for credit risk assessment amidst persistent worries regarding loan defaults. It scrutinizes existing methodologies and underscores the significance of precise credit evaluation, particularly given the rising prominence of peer-to-peer lending platforms. To enhance predictive efficacy, the proposed model incorporates logistic regression, feature engineering, and data refinement. Nevertheless, it acknowledges various potential limitations such as issues concerning data integrity, logistic regression's limitations in detecting complex relationships, and the model's dependence on specific datasets and credit scoring mechanisms.

Mohammad Ahmad Sheikh et al [7] study report underscores the importance of accurate predictions for maximizing profits in the banking industry through the application of logistic regression. It leverages Kaggle data and focuses on customer attribute beyond mere account validation. The proposed methodology mitigates default risks and enhances operational efficiency and customer contentment by automating loan approval procedures. Apart from feature engineering and preprocessing missing variable imputation is employed. Logistic regression is selected as the model due to its commendable accuracy of 0.811 on the test dataset and its effectiveness in classification endeavours. Nancy Deborah R et al [8] delves into the potential uses of machine learning methods, such as Support Vector Classifiers (SVM), in predicting loan approval status. SVM exhibited an 83% accuracy rate in this context. The research underscores the importance of employing dependable prediction models when addressing the obstacles banks encounter in evaluating loan applications and mitigating credit risk. It underscores the significance of considering various factors to achieve precise forecasts of loan status, including data quality, hyperparameter tuning, and potential biases in both data and models. Furthermore, it illustrates how SVM serves as a valuable tool that can be enhanced over time by incorporating new features and data sources to enhance prediction accuracy and adaptability to evolving market dynamics.

Sk. Sharmila et al [9] study delves into utilizing a Decision Tree Classifier for bank loan approval, presenting a fresh perspective on loan prediction. It underscores the growing inclination towards employing machine learning models in loan assessment and the demand for more effective decision-making algorithms. The research advocates for the Decision Tree method citing its clarity and effectiveness, while scrutinizing conventional techniques such as linear regression and Gaussian Naive Bayes. Following training on past loan data, the suggested model exhibits significant promise in expediting loan approval procedures, boasting an impressive accuracy rate of 95% and minimal loss at 0.09%. Anshika Gupta et al [10] utilizes machine learning methods to tackle the increasing need for streamlined loan approval procedures within the banking sector. It focuses on forecasting the likelihood of loan approval through supervised learning techniques, specifically random forest, and logistic regression algorithms, leveraging application data. The report underscores the indispensability of artificial intelligence (AI) in expediting banking operations and mitigating risks linked to manual assessments. Through feature engineering and data preprocessing, the study constructs a dataset encompassing credit history, income, and educational background. It underscores the significance of predictive analytics in augmenting decision-making processes and curbing fraudulent activities, advocating for the advancement and integration of such systems in forthcoming endeavors.

Praveen Tumuluru et al [11] Analyzes the application of machine learning methods for predicting loan defaults, a critical issue affecting the overall financial stability and success of banks. The research evaluates various techniques including Random Forest, Support Vector Machine, K-Nearest Neighbor, and Logistic Regression to evaluate the risk involved in loan approval decisions. Its central premise is that automating the process reduces bank risk and losses. Random Forest emerges as the top performer, achieving an accuracy of 81% in predicting loan approval, suggesting its potential for future loan forecasting. The research recommends exploring additional machine learning approaches to enhance prediction accuracy further. Krishna Mridha et al [12] delves into the utilization of machine learning algorithms by financial institutions to streamline the loan approval process, thereby mitigating risks associated with customer behavior. It examines various classification techniques, such as logistic regression, and assesses the accuracy of each model using data sourced from Kaggle. Future investigations will focus on crafting a hybrid model that integrates deep learning methodologies to enhance prediction accuracy while emphasizing crucial features related to loan repayment capacity.

Trishita Saha et al [13] delves into the utilization of machine learning algorithms by financial institutions to streamline the loan approval process, thereby mitigating risks associated with customer behavior. It examines various classification techniques, such as logistic regression, and assesses the accuracy of each model using data sourced from Kaggle. Future investigations will focus on crafting a hybrid model that integrates deep learning methodologies to enhance prediction accuracy while emphasizing crucial features related to loan repayment capacity. Ch. Naveen kumar et al [14] the importance of loan management within the banking sector, particularly examining the impact of defaults on bank profitability. It underscores the vital nature of accurately predicting loan defaulters and emphasizes the growing role of machine learning techniques in addressing this challenge. Additionally, it underscores the necessity for innovative approaches to enhance the precision of loan eligibility prediction, alongside outlining several existing industry practices. Gaurav Parmar et al [15] the specific study article, previous research on data rebalancing methods aimed at mitigating bias in sensitive categories such as age, gender,

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and race would certainly be referenced. This review would scrutinize the limitations of existing techniques and underscore the risks associated with both overfitting and underfitting machine learning models.

III. METHODOLOGY

The loan approval prediction strategy utilizes statistical methods and historical data to forecast the outcome of loan approval. Algorithms that we are going to use in the paper is Logistic Regression, Linear Regression, Decision Tree, SVM, Random Forest and GaussionNB. All these algorithms are trained on historical data to learn the relationships between the different factors that affect loan approval. The loan approval prediction methodology can be a valuable tool forbanks. Banks can enhance their evaluation of loan applications and lower the chances of loan defaults by implementing this measure.

A. Model Planning

The first step involves importing the necessary libraries as shown in "fig.1" for machine learning tasks. These packages encompass NumPy for numerical computations, pandas for data processing, and scikit-learn for machine learning techniques. The next step is the data cleaning process which involves addressing concerns and ensuring data quality by performing dataset cleaning. Data often contains errors, omissions, and inconsistencies that need to be resolved. Following this the subsequent stage is label encoding aims to convert categorical variables into numerical values making them compatible with models for processing. Our objective is to encode the categorical variables within the dataset. The next stage divides the dataset into two categories: training and testing. The training set is utilized to train the model while the testing set is used to assess its performance on unseen data. The training set contains 0.65% of the dataset, whereas the testing set contains 0.35%. The training data is then used to develop various machine learning models which include linear regression, logistic regression, decision trees, random forests, support vector machines, or Naive Bayes. After the training phase, these models are assessed on a testing set to determine their effectiveness with new data.

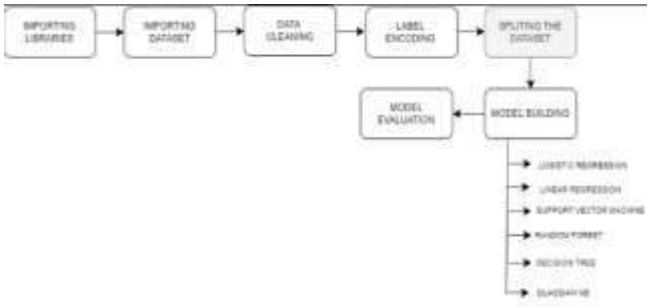


Fig. 1. Model planning of the models

B. Dataset

For all the machine learning models we need to build models by using the dataset divide them into train and test data. We need to train the model by using train data and then applying the model on the test data. In this Dataset we have 12 columns and 614 customer records. All these records are in the csv format. We can use panda's library for reading the file and by using python we can apply all the algorithms. In that dataset Status is the target variable and the other variables- "Gender", "Married", "Dependents", "Education", "Self-Employed", "Applicant Income", "Co-applicant Income", "Loan Amount", "Term", "Credit History", "Area".

TABLE I. DATASET DESCRIPTION VARIABLES AND TYPES.

VARIABLE NAME	DESCRIPTION	TYPE
Gender	Male / Female	Character
Married	Applicant married (Y/N)	Character
Dependents	Number of dependents	Integer
Education	Educated/ Not Education	String
Self Employed	Self Employed(Y/N)	Character
Application Income	Applicant income	Integer
Co-Applicant Income	Coapplicant income	Integer
Loan Amount	Loan amount in thousands	Integer
Term	Term of loan in months	Integer
Credit History	Credit history of the applicant	Integer
Area	Urban/Semi Urban/Rural	String
Status	Loan Approved(Y/N)	Character

From the above Table I, we can know the features of the variables which are present in the data set. The next step is to handle the nullvalues. This is done by different methods, but we have enough data, so we are removing the null values. All the records of the applicants are in the form of categorical and numerical data. The dataset has missing values and null values. Before the analysis we need to normalize the dataset by removing the null values.

C. Data preprocessing

Before removing the null values, the value count of every variable that present in the data set is shown in Table II.

TABLE II. DATASET WITH NULL VALUES

Gender	601
Married	611
Dependents	599
Education	614
Self Employed	582
Application Income	614
Co-Applicant Income	614
Loan Amount	614
Term	600
Credit History	564
Area	614
Status	614
Dtype: int64	

We can't handle imbalance data and we can't apply machine learning algorithms also to the imbalance records, so we need to normalize this data by removing the null values. After removing the null values, the value count of every variable is shown in Table III.

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TABLE III. DATASET WITHOUT NULL VALUES

Gender	499
Married	499
Dependents	499
Education	499
Self Employed	499
Application Income	499
Co-Applicant Income	499
Loan Amount	499
Term	499
Credit History	499
Area	499
Status	499
Dtype: int64	

Normalizing the dataset is done. The dataset contains both training and testing segments. By using the train data, we need to train the model and test the model by using the test data.

As shown in the "fig.2" y-axis depicts the count of dependents, while the x-axis indicates the number of dependents. Individuals without dependents exhibited the highest loan approval rate, hovering around 92%. The approval rate notably declines for applicants with one dependent, dropping to approximately 66%. Candidates with two or three dependents consistently experience a lower acceptance rate (approximately 55%). For applicants with more than three dependents, the loan approval rate is the lowest, standing at around 28%.

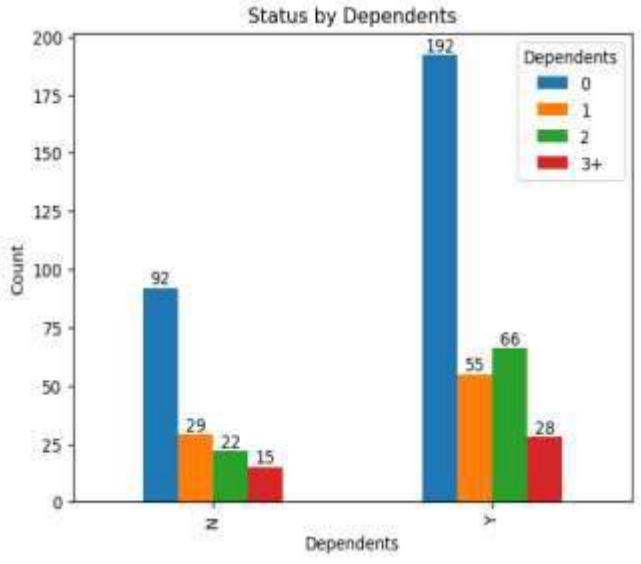


Fig. 2. Status by Dependents

As shown in "fig.3" the graph illustrates self-employment status, with the x-axis depicting two options: "Yes" and "No". It indicates a decline in self-employment, with fewer individuals opting for it. The blue bars represent the non-self-employed, with a maximum count of 24. The orange line denotes the self-employed, peaking at 134 individuals. Model planning of the models.

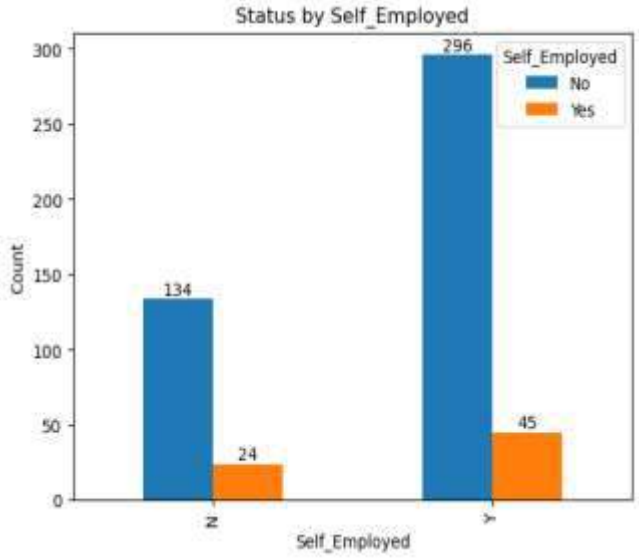


Fig. 3. Status by Self employment

The heatmap correlations between each variable in the dataset are shown in "Fig.4" below. So that we can easily do further analysis.

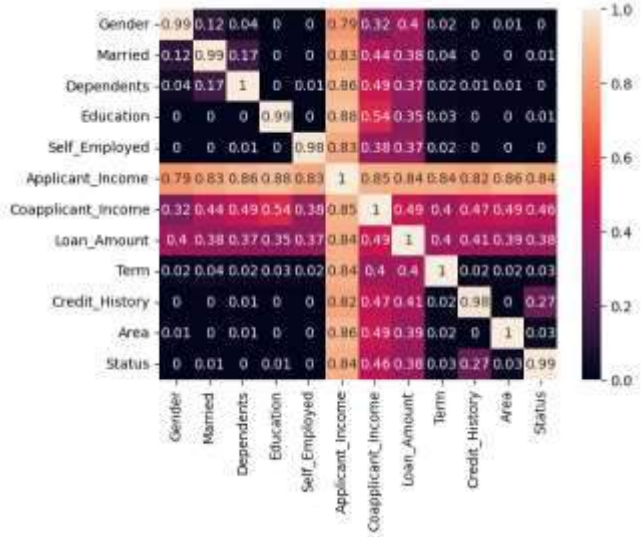


Fig. 4. Representing the correlation between attributes using the heatmap

D. Logistic Regression

Supervised machine learning methods like logistic regression are utilized to address binary classification tasks by evaluating the likelihood of an event, outcome, or observation. Equation 1 is the mathematical representation of logistic regression. This results in a dichotomous output, typically represented as true/false, 0/1, yes/no. Logistic regression examines the association between independent variables to categorize data into various groups. Commonly employed in predictive modelling, this approach employs mathematical techniques to ascertain the probability of an event belonging to a specific category.

$$f(x) = \frac{1}{1+e^{-x}} \qquad (1)$$

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E. Decision Tree

Decision trees serve as a supervised learning technique commonly employed for classification tasks, but they can also address regression problems. Structurally resembling a tree, they feature leaf nodes representing individual outcomes, decision nodes for branching decision rules, and root nodes for dataset attributes. Comprising two types of nodes Decision and Leaf decision trees utilize decision nodes for making choices and leaf nodes to display decision outcomes. Dataset attributes guide the testing and decision-making process. Graphical representation of decision tree is shown in "Fig .5".

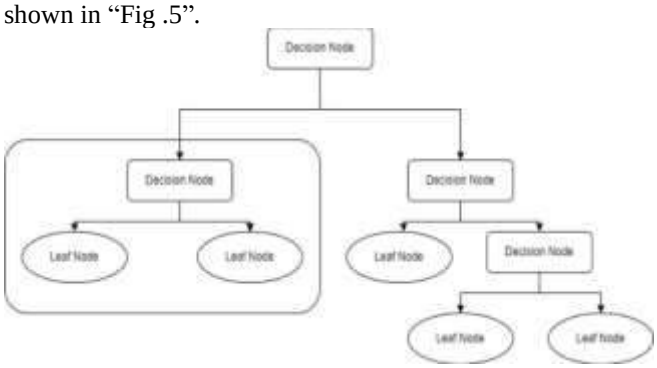


Fig. 5. Decision Tree

F. Linear Regression

Linear regression, a statistical technique commonly employed in machine learning and data science predictive analysis, establishes a direct relationship between an independent variable, which remains constant amidst changing factors, and a dependent variable, whose value is influenced by changes in the independent variable. In essence, this method utilizes mathematical modelling to predict the values of continuous or numerical variables such as age, income, sales, and product price, employing supervised learning techniques to forecast outcomes.

$$y = \beta_0 + \beta_1 X + \beta_2 X + \ldots\ldots\ldots + \beta_n X \quad (2)$$

Where in a linear regression model Equation 2, Y represents the dependent variable, and the independent variables are represented by X1, X2, ..., Xp. The intercept is symbolized by β0, and the slopes by β1, β2, ..., βn.

G. Random Forest

The Random Forest algorithm stands as one of the most effective machine learning techniques for tree-based learning. During the training phase, it generates multiple Decision Trees as shown in "Fig. 6". To mitigate overfitting and foster diversity, every tree is built by randomly selecting features and data samples. This approach fosters greater variation among the trees, leading to improved prediction performance. In regression tasks, the algorithm computes the average output of all trees, while in classification problems, it aggregates the average votes from each tree. By integrating insights from multiple trees, Random Forest facilitates robust and precise decision-making, ensuring reliable outcomes [16].

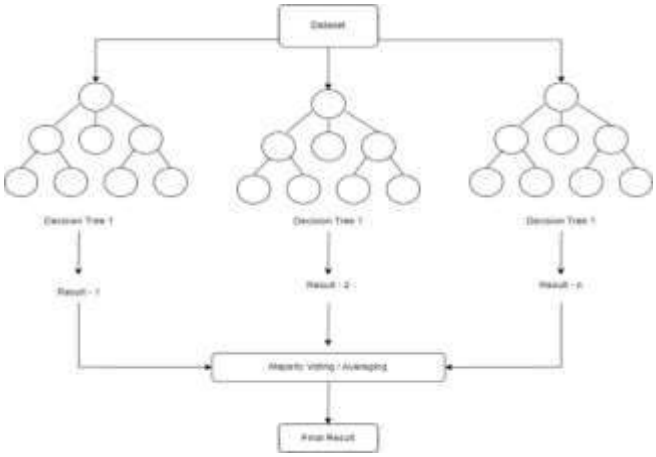


Fig. 6. Random Forest

H. Navie Bayes model GaussionNB

Gaussian Naive Bayes applies the Naive Bayes algorithm specifically to data that follows a normal (Gaussian) distribution. In this approach, it assumes that the probability of each x_i within y_k aligns with the Gaussian Distribution, expressed in Equation 3.

$$e^{-\frac{(x-\mu)^2}{2\sigma^2}} \quad 1/(\sigma\sqrt{2\pi}) = P(x_i/y) \quad (3)$$

This approach calculates the posterior probability for each class and then assigns the data point to the class with the highest likelihood to classify new data points.

H. Support Vector Machine (SVM)

Support vector machines (SVMs) play a vital role in various machine learning tasks like regression, linear or nonlinear classification, and outlier detection. They are indispensable in applications such as text and image classification, facial and handwriting recognition, anomaly detection, gene expression analysis, and spam detection. SVMs excel in handling high-dimensional data and capturing nonlinear relationships, making them versatile and robust. These methods aim to identify the hyperplane in the feature space that optimally separates classes, thus reducing the distance between them effectively.

IV. MODEL EVALUATION

The model assesses an applicant's risk of defaulting on a loan by considering various factors, such as their historical loan information. Some key metrics used to evaluate how effectively the model categorizes loan applicants into accepted or denied groups include recall, accuracy, precision, and F1-score.

A. Confusion Matrix

A confusion matrix is a useful tool in machine learning for assessing the performance of a classification model by providing insights into its accuracy. As shown in the "fig.7" It helps differentiate between true positives, true negatives, false positives, and false negatives, offering a clear evaluation of the model's effectiveness.

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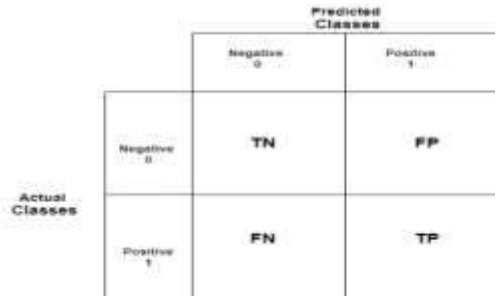


Fig. 7. Confusion Mtrix

B. Accuracy

The accuracy of the model has been evaluated using predetermined measures. While a balanced class model exhibits outstanding accuracy, an imbalanced class model shows significant inaccuracies. The mathematical representation of accuracy is represented as Equation 4.

$$Accuracy = \frac{TP+TN}{TP+TN+FP+FN} \quad (4)$$

C. Precision:

The forecast accuracy level of an optimistic model is determined by Equation 5. By dividing the total number of correctly predicted positive outcomes by the total number of positive outcomes incorrectly forecasted.

$$Precision = \frac{TP}{TP+FP} \quad (5)$$

D. Recall:

Recall value, also known as sensitivity, measures the proportion of correctly identified positive events compared to all actual positive cases. In Formula 6, the denominator, (TP + FN), signifies the total number of positive instances. This metric enhances identification accuracy and influences the probability of the model overlooking positive occurrences.

$$Recall(Sensitivity) = \frac{TP}{TP+FN} \quad (6)$$

E. F1 Score:

The F1 Score serves as a key indicator of a model's optimal performance level, being a harmonic mean of recall and accuracy. Attaining the highest F1 Score necessitates high values for both recall and accuracy. Any declines in either recall or accuracy can lead to a notable decrease in the final F1 score. Equation 7 for the F1 Score employs the sum of recall and accuracy as its numerator. Consequently, a model that effectively predicts positive events and avoids underestimating positives by predicting negatives can achieve a high F1 score (accuracy + recall).

$$F1 - Score = \frac{2TP}{2TP+FP+FN} \quad (7)$$

V. RESULTS

Below Table IV displays the accuracies achieved by the decision tree, random forest, logistic regression, support vector machine, and Gaussian Naive Bayes models.

TABLE IV. COMPARING THE PERFORMANCE OF EACH MODEL

Algorithms	Accuracy
Logistic Regression	80%
Decision Tree	69%
Random Forest	78%
GaussianNB	78%
SVM	77%

TABLE V. LINEAR REGRESSION MODEL METRICS RESULTS

MSE	0.154
RMSE	0.392
Train Set Score	0.27
Test Set Score	0.32

Among various machine learning techniques evaluated, logistic regression exhibited the highest accuracy at 80%, surpassing SVM (77%), GaussianNB (78%), random forests (78%), and decision trees (69%). Notably, linear regression displayed inferior performance based on metrics like MSE, RMSE, and scores. Particularly in predicting loan approvals, logistic regression emerged as the most accurate model.

VI. CONCLUSION

In the loan approval project, several machine learning models wereevaluated, and logistic regression emerged as the most accurate model with an accuracy of 80%. The logistic regression model demonstrated superior performance compared to the SVM, Decision Tree, Random Forest, GaussianNB, and Linear Regression models in accurately predicting loan approval. There are several reasons why the logistic regression model has achieved higher accuracy. Originally, logistic regression was frequently and consistently employed to address binary classification problems. It serves as an effective tool for determining whether to accept or reject something, as it is specifically designed to estimate the probability of an event occurring. Logistic regression tends to exhibit lower overfitting compared to more complex models such as decision trees and random forests. When a model learns the training dataset too well, it is said to be overfitting and has poor generalization to new data. Logistic regression is efficient and somewhat understandable compared to other models like support vector machines (SVM) or random forests. If the relationship between the input variables and the loan approval decision is relatively linear, logistic regression can effectively capture this pattern and make accurate predictions. In conclusion, the loan approval project found that logistic regression outperformed other models, achieving the highest accuracy with 80%.From the proper view of analysis this system can be used perfectly for detection of clients who are eligible for approval of loan. In the future, there may be opportunities to expand upon this research further, leading to improved software upgrades that enhance correctness, security, and reliability.

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EFFECTS OF AEROBIC TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG COLLEGE LEVEL CRICKET PLAYERS

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ABSTRACT

***Objective**: This study was intended to examine the effects of aerobic training on selected physical fitness variables among college level cricket players.*
***Study design**: Experimental research.*
***Setting**: Various affiliated colleges in the Bharathiar University in Coimbatore, Tamil Nadu.*
***Participation**: Thirty (N=30) college level cricket player age range between 18 and 24 were randomly assigned into two group, aerobic training group (n=15) and control group (n=15). The aerobic training group underwent the aerobic training for a period of 8 weeks, while the control group continued with their regular routine.*
***Main Outcomes Measures**: The participants performed 8 weeks training sessions involving the aerobic training integrated with certain physical fitness variables namely muscular endurance, cardiovascular endurance.*
***Results**: The results assume that the certain physical fitness variables namely muscular endurance, cardiovascular endurance among college level cricket players have improved significantly due to the aerobic training with the limitations.*
***Conclusion**: In 8-weeks of aerobic training program can be a practical and beneficial approach for college level cricket players seeking to improve their physical fitness variables namely muscular endurance, cardiovascular endurance.*
KEYWORDS: *Aerobic training, Physical fitness variables and Cricket players.*

INTRODUCTION

Cricket, a sport known for its dynamic nature and demands on physical endurance, requires athletes to maintain optimal physical fitness to excel on the field. Among the various training methods available, aerobic training has emerged as a fundamental component in enhancing the performance of cricket players, particularly at the college level. This introduction serves to explore the effects of aerobic training on selected physical fitness variables among college-level cricket players. Understanding the significance of physical fitness in cricket is paramount. As the sport evolves, so do the fitness standards required to compete at higher levels. Physical fitness plays a crucial role in cricket performance, impacting aspects such as endurance, agility, and muscular strength. Of particular importance is aerobic capacity, which enables players to sustain high-intensity efforts over prolonged periods, a necessity in the endurance-based format of cricket matches.

STATEMENT OF THE PROBLEM

The statement of the problem was stated to find out effects of aerobic training on selected physical fitness variables among college level cricket players.

METHODOLOGY

Thirty participants were selected from the various affiliated colleges at Bharathiar University in Coimbatore, Tamil Nadu. The participants ranged in age from 18 to 24 years old, and were divided into two equal groups of 15 each, the aerobic training group and the control group. The aerobic training group was exposed to aerobic training, while the control group was not given any additional training beyond their daily routine. Muscular endurance was measured by the push up test, cardiovascular endurance fitness was measured by the 20-meter shuttle run test. The aerobic training period lasted 8 weeks, with each workout lasting 40 to 50 minutes. The data collected from the two groups before and after the aerobic training period was statistically examined using a dependent 't' test to determine any significant improvement. In all cases 0.05 level of significance was fixed to the test.

Criterion Measures: It is evaluating physical fitness variables were chosen as the criterion measures to this study for testing.

STATISCAL TECHNIQUE

The collected data on Muscular Endurance and Cardiovascular Endurance due to the effects of aerobic training on selected physical fitness variables among college level cricket players, it will be analyzed by using paired' test.

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TABLE-I
CRITERION MEASURES

S.NO	VARIABLES	TEST ITEMS	UNITS OF MEASURES
1.	Muscular Endurance	Push- Up Test	Seconds
2.	Cardiovascular Endurance	20-Meter Shuttle Run (Beep Test)	Seconds

TABLE -II
THE t- RATIO FOR COLLEGE LEVEL CRICKET PLAYERS ON MUSCULAR ENDURANCE

Variable	Groups	Pre mean	Post mean	SD	SEM	t
Muscular Endurance	Aerobic training group	31.40	32.33	0.79	0.20	**4.52***
	Control group	28.26	28.40	0.35	0.09	1.46

(Significance at 0.05 level of confidence for df of 14 is 2.14)

Table II reveals that the computation of 't' ratio between mean of pre and post-test on muscular endurance of experimental group and control group. The mean values of pre and post-test of experimental group and control group were 31.40, 32.33 seconds and 28.26, 28.40 seconds respectively. Since, the obtained 't' ratio 4.52 was higher than the required table value 2.145, it was found to be statistically significant for the degree of freedom 1 and 14 at 0.05 level of confidence. The results clearly indicated that the Muscular endurance of the experimental group improved due to effect of aerobic training.

FIGURE-I
THE BAR DIAGRAM SHOWS THE MEAN VALUE OF PRE-TEST AND POST-TEST OF CARDIO VASCULAR ENDURANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP (Seconds)

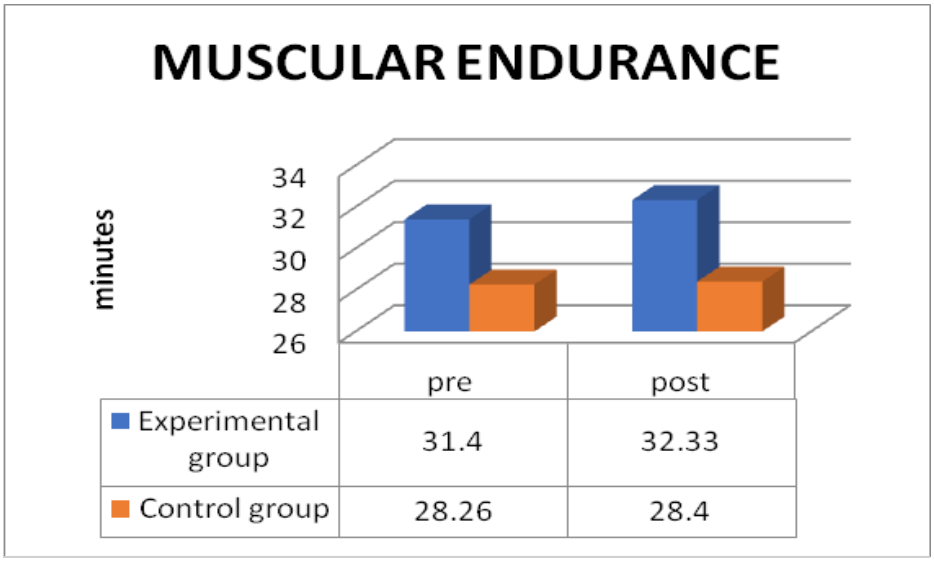


TABLE III
COMPUTATION OF 't' RATIO BETWEEN PRE AND POST TEST MEANS OF EXPERIMENTAL GROUP AND CONTROL GROUP ON CARDIO VASCULAR ENDURANCE (Seconds)

Variable	Groups	Pre mean	Post mean	SD	SEM	t
Cardiovascular endurance	Aerobic training group	14.97	15.96	0.52	0.13	7.23*
	Control group	15.99	16.05	0.80	0.20	0.27

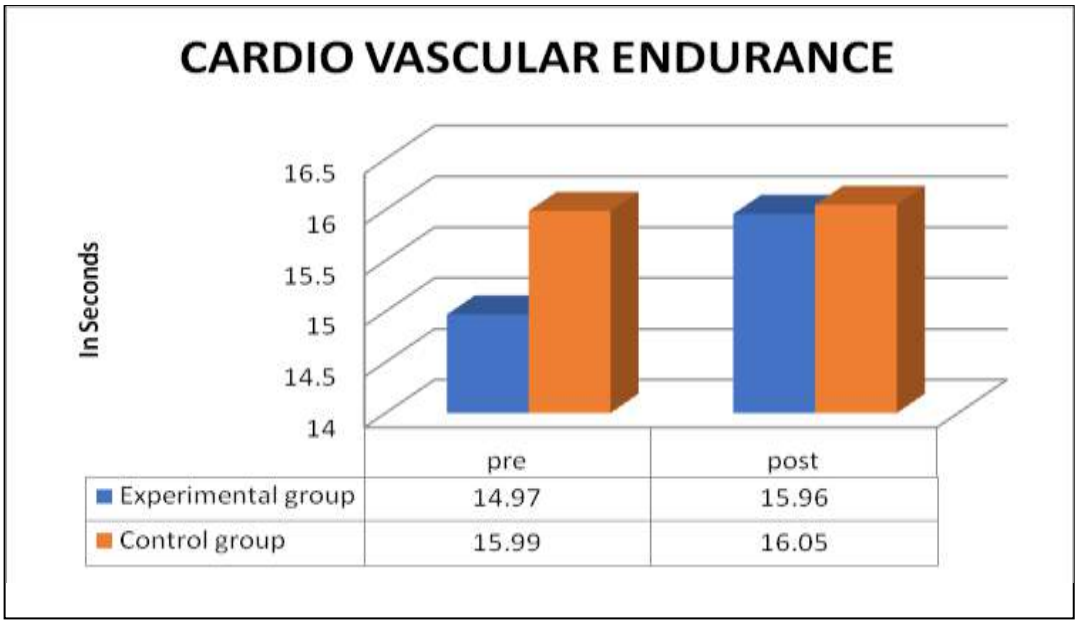
*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table III reveals that the computation of 't' ratio between mean of pre and post-test on muscular endurance of experimental group and control group. The mean values of pre and post-test of experimental group and control group were 14.97, 15.96 seconds and 15.99, 16.05 seconds respectively. Since, the obtained 't' ratio 7.32* was higher than the required table value 2.145, it was found to be statistically significant for the degree of freedom 1 and 14 at 0.05 level of confidence.

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The results clearly indicated that the cardiovascular endurance of the experimental group improved due to effect of aerobic training.

FIGURE-II
THE BAR DIAGRAM SHOWS THE MEAN VALUE OF PRE-TEST AND POST-TEST OF CARDIO VASCULAR ENDURANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP
(Seconds)



DISCUSSION ON FINDINGS

The results of the study indicate that the aerobic training group significantly improved their physical fitness variables, such as muscular endurance, cardiovascular endurance. Furthermore, it was observed that the improvement caused by the aerobic training was greater than that of the control group. This suggests that the aerobic training was an effective method for improving physical fitness variables. The obtained result proved positively the aerobic training and selected physical fitness group significantly improved. The result of the present study showed that the effects of aerobic training on selected physical fitness variables have significant improvement on college level male cricket players. The following studies was revealed that **Dar, U.R (2016)** examined the impact of aerobic training on the physical fitness of 40 University of Kashmir cricket players, revealing a significant improvement in their cardio-vascular efficiency, as measured by the Harvard Step Test. The result of the study supports the result of the present study. **B. D. Paul (2022)** concluded a study on the impact of aerobic training on the physical fitness of cricket players. The result of the study supports the result of the present study. These finding had not been previously replicated for a sample of college students. The result of the study showed that the control group was not significantly improved.

CONCLUSIONS

The results of effects lead to conclude that the effects of aerobic training on selected physical fitness group had better significant improvement on physical fitness variables (muscular endurance and cardiovascular endurance) of college level male cricket players.

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EFFECT OF GAME SPECIFIC FIELD TRAINING WITH MENTAL PRACTICE STRATEGY ON SELECTED PHYSIOLOGICAL PSYCHOLOGICAL AND SKILL PERFORMANCE VARIABLES OF SCHOOL LEVEL FOOTBALL PLAYERS

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ABSTRACT

In order to evaluate the real facts the detective made a challenge to examine the impact of six weeks game specific field training with mental practice strategy of physiological, psychological and skill performance variables of football players. Their aged of the subject ranged from 14 to 17 years selected from Ragavendra Vidyalaya Matriculation School, Coimbatore. Selected subjects was randomly assigned to two equal groups (n=20), group I underwent game specific field training with mental practice (GSMP) and group II acted as control group (CG). The game specific field training with mental practice was given to the experimental group for 3days per week for the period of 8 weeks. The control group did not practice in any training except their routine work. The following variables were measured with standard test items: Vo2 max, self confidence and kicking. Pre and post test was conducted on separate days with warm up. The vo2 max measured by cooper vo2 max test in ml/kg, self-confidence was measured by questionnaire in points and kicking was measured by warner soccer skill test in meters. To find out the individual effect 't' test was applied at 0.05level of significant. Further, the findings confirmed the game specific field training with mental practice is suitable protocol to bring out the desirable changes over the vital capacity and resting heart rate of school boys.

KEY WORD: *Vo2 max, Self-Confidence, Kicking, Game Specific Field Training with Mental Practice, School Football Players.*

INTRODUCTION

Football requires peak physical conditioning of its player to be played at the highest level. The only way to achieve this level of conditioning training, specifically football and the amount of running done in a match. Also, the better conditioned a player is the more likely perform with the same amount of skill necessary when passing, dribbling, kicking and shooting at the end of the game as the beginning. At any level above a school level, football limits the amount of substitutions a team can make. This game dramatically demands the manifestation of the physical factor determined by the content of the effort. Increasing the driving density in every unit of time is explained by a high number of gaming actions. A player of the world's elite football teams performs in 1-2 minutes or even 3, speeds, a jump, an air duel or an individual technical action. In general, all the minutes of the game are active, and even if some effort can stagnate, it is done with the intent of amplifying it in the next stages.

Game Specific Skill Training

Football, in its global evolution, has in its current stage, as a standard feature in all high-performance teams, the increasing effort throughout the game to win. The game has become perfectly balanced, with very offensive, very collective, with a full rhythm, with complete athletic training with total physical commitment. This game dramatically demands the manifestation of the physical factor determined by the content of the effort. Increasing the driving density in every unit of time is explained by a high number of gaming actions. A player of the world's elite football teams performs in 1-2 minutes or even 3, speeds, a jump, an air duel or an individual technical action. In general, all the minutes of the game are active, and even if some effort can stagnate, it is done with the intent of amplifying it in the next stages. As for the motoring qualities, there is a predominance of velocity manifested in its forms of movement, execution, reaction; as well as the placement, movement, and handling of the ball. Speed is correlated with other driving qualities and is carried out in a resistance and force regime with

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the decisive role of skill in achieving technical-tactical combinations. Effort increment is represented primarily by the large number of official or preparatory meetings, their peculiarities, and stake. Physical demands made in the running at a total distance of 6-9 km from the majority of players in 80-140 speed actions maximum on a distance ranging from 700 - 2500 - 3000 m, in 40-80 direct physical contact with opponents, 80-120 jumping and other physical actions - turns, changes in direction, falls, jumping. In this paper, the issue of developing motor skills with the help of the specific means of football was pursued. The paper aims to bring the experts a methodical material, with scientific and systematized content, which is the basis of the training process, especially during the precompetitive and competitive period.

Mental Practice Strategy

The psychological factors involved in athletic performance have long been of interest to athletes, coaches, sport psychologists and sports scientists. Empirical studies have largely focused on individual psychological factors and their influence on performance which includes confidence, motivation, attention, visualization, and psychosomatic skills **(Gucciardi, Gordon, & Dimmock, 2009).** Similarly, some studies indicated that the use of mental skills such as goal setting, imagery, relaxation, and self-talk are important areas in the field of sport psychology (**Vealey, 2007; Williams & Harris, 2001).** They also asserted that goal setting as attaining a specific standard of proficiency on a task, usually within a specified time limit can increase performance during competition. Speed, skill, and specific strength are the most critical driving qualities in the football game. Their specific means of development, as well as technical and tactical training, require dosing and management of training appropriate to age and competitive level. Moreover, imagery as using all the senses to re-create or create an experience in the mind helps athletes to perform better and increase self-confidence **(Rattanakoses** ***et al.*****, 2009)**

TABLE-I

Characteristics of training groups (N=20) at pre training mean

Variable	GSFT
Age (Y)	14-17
Height (cm)	150.30
Weight (kg)	51

METHODOLOGY

The impression of the study was to find out the game specific skill training on physiological, psychological and skill performance variables among school level football players. Five Physical active and interested school level football players were randomly selected as subjects and their age ranged between 14 and 17 years. Single group design was used. Game specific skill training pilot study group (n =20) would be undergone for a period of four weeks.

CRITERION MEASURES

The subjects of forwarders specific skill training pilot study would be assessed on the selected variables by the standardized test items before and after the training period of four weeks.

TABLE - II

S.No	Criterion Variables	Test items	Unit of measurements
1.	Vo_2 max	Coopers Vo_2 Max Test	MI/kg/min
2.	Self- confidence	Questionnaires	In Points
3.	Kicking	McDonald Soccer Skill Test	In Counts

TRAINING PROGRAMME

The forwarders specific skill training group underwent the experimental treatment for 4 weeks, 5 days and a session on each day with 60min duration. The training programme was lasted for 60 minutes for a session in a day, 5 days in a week for a period of 4 weeks duration. These 60 minutes included position wise specific skill training for 40 to 50 minutes and 5 minutes warm-up, and 5 minutes warm down. Four weeks of specific skill training was given to the selected subjects. Their training days and hours every week were from Monday to Friday from 6.00 to 7.30 am.

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TABLE – III
TRAINING SCHEDULE FOR GAME SPECIFIC FIELD TRAINING

I to IV Week	
Game Specific Field Training Corner sprint drills 4x10m Dribble and pass 20x10 Circle dribbling-10m Chase a friend Agility sprinting Change of direction sprints- 20m Passing through gates- 30m Chase a friend	
Repetition	5-6
Sets	4
Rest in Between sets	60 Seconds
Rest in between Exercises	30 Seconds
Total	50 Minutes

V to VIII Week	
Game Specific Field Training Dribble through pirates Sprinting and shooting- 30m Zig zag dribbling – 30m Square pass- 15m Diagonal pass- 15m Triangle pass – 10m Pass, turn, sprint, and pass in straight line-60 m Two men pass- forward & backward- 60m Small Side 4v4 side game- 12miniutes	
Repetition	5-6
Sets	4
Rest in Between sets	60 Seconds
Rest in between Exercises	30 Seconds
Total	50 Minutes

Training Schedule for Mental Strategy

I to VIII Week	
Mental Strategy OM Shanti Pranayama Trataka (EYE Exercises) Yogic Practices	
Total	10 Minutes

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STATISTICAL ANALYSIS

The means and standard deviations of forwarders specific skill training groups were calculated for physical, functional and performance variables for the pre as well as posttests. Statistical significance was set to a priority at $p< 0.05$. All statistical tests were calculated using the statistical package for the social science (SPSS).

TABLE - I
COMPUTATION OF 'T' RATIO ON VO_2 MAX ON EXPERIMENTAL GROUP AND CONTROL GROUP
(Scores in Numbers)

GROUPS	PRE TEST	POST TEST	NUMBERS	SD	"T" RATIO
Experimental Group	42.38	45.64	20	1.45	15.43
Control group	42.44	42.32	20	0.89	0.96

*significant level 0.05 level (degree of freedom 2.09, 1 and 19)

Table I reveals the computation of mean, standard deviation and't' ratio on selected variable are vo2 max of experimental group. The obtained't' ratio on vo2 max were 15.43 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained't' values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and't' ratio on selected variable for vo2 max of control group. The obtained't' ratio on vo2 max were 0.96 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained't' values were lesser than the table value it was found to be statistically not significant.

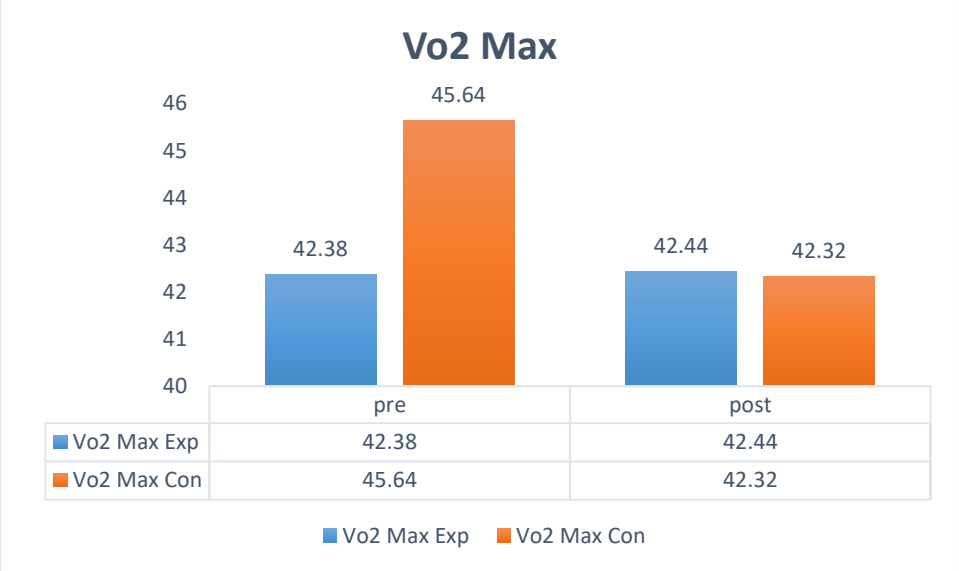


FIGURE – I
BAR DIAGRAM SHOWING THE MEAN VALUE ON VO_2 MAX OF SOCCER PLAYERS ON EXPERIMENTAL AND CONTROL GROUP

TABLE - II
COMPUTATION OF 'T' RATIO ON SELF CONFIDENCE ON EXPERIMENTAL GROUP AND CONTROL GROUP
(Scores in Numbers)

GROUPS	PRE TEST	POST TEST	NUMBERS	SD	"T" RATIO
Experimental Group	27.26	30.18	20	0.89	13.74*
Control group	27.13	27.20	20	0.64	1.36

*significant level 0.05 level (degree of freedom 2.09, 1 and 19)

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Table I reveals the computation of mean, standard deviation and 't' ratio on selected variable for self confidence of experimental group. The obtained't' ratio on self confidence were 13.74 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained't' values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and 't' ratio on selected variable for self confidence of control group. The obtained 't' ratio on self confidence were 1.36 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained 't' values were lesser than the table value it was found to be statistically not significant.

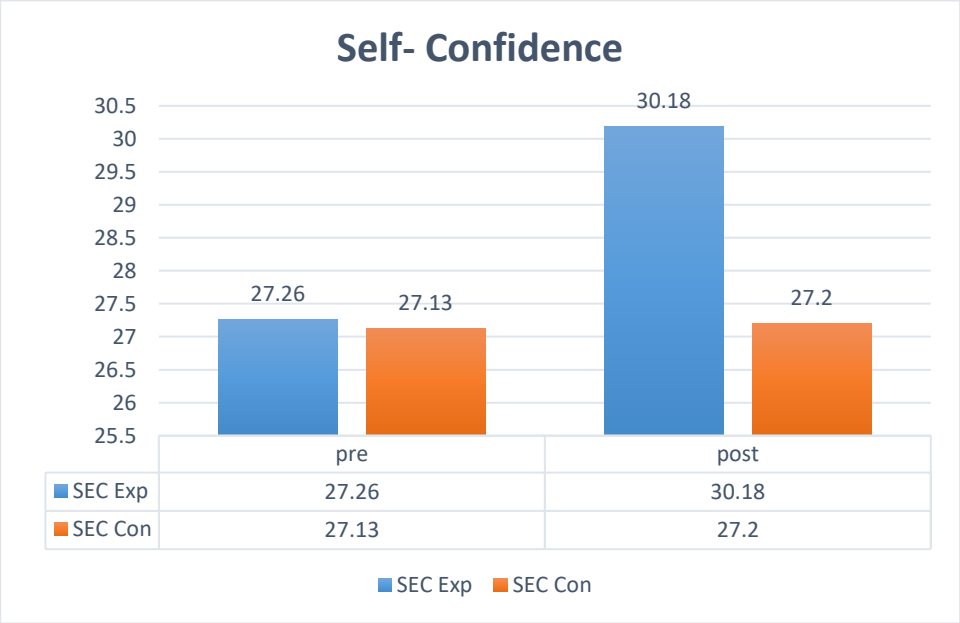


FIGURE- II
BAR DIAGRAM SHOWING THE MEAN VALUE ON SELF CONFIDENCE OF SOCCER PLAYERS ON EXPERIMENTAL AND CONTROL GROUP

TABLE - II
COMPUTATION OF 'T' RATIO ON KICKING ON EXPERIMENTAL GROUP AND CONTROL GROUP
(Scores in Numbers)

GROUPS	PRE TEST	POST TEST	NUMBERS	SD	"T" RATIO
Experimental Group	41.05	45.35	20	1.99	14.79*
Control group	41.45	41.85	20	1.61	1.93

*significant level 0.05 level (degree of freedom 2.09, 1 and 19)

Table I reveals the computation of mean, standard deviation and 't' ratio on selected variable for kicking of experimental group. The obtained't' ratio on kicking were 14.79 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained't' values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and 't' ratio on selected variable for kicking of control group. The obtained 't' ratio on kicking were 1.93 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained 't' values were lesser than the table value it was found to be statistically not significant.

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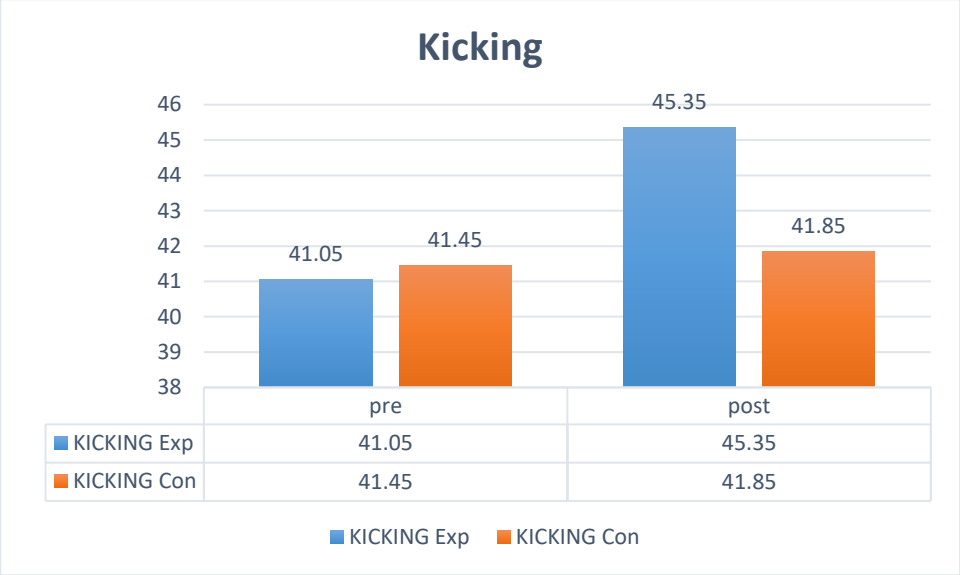


FIGURE- III
BAR DIAGRAM SHOWING THE MEAN VALUE ON KICKING OF SOCCER PLAYERS ON EXPERIMENTAL AND CONTROL GROUP

DISCUSSION ON FINDINGS

The present-day study considered the influence of eight weeks of game specific field training on selected physiological, psychological and skill performance variables of footballers. The results of this study designated that game specific field training is more efficient to bring out desirable changes over the physiological, psychological and skill performance variables of the footballers. Investigators have extended their interest to consider the Vo2 max, self- confidence and kicking commencement from the way a footballers approaches the game specific field training.

Venbilsen *et al.,* **(2023)** results showed that the use of a specific strategy made the STG participants respond faster to the trained contrast level task, but not on the contour exercises task. Furthermore, both STG and NSTG showed pre- and post-transfers, however no significant differences were found when comparing the groups, for both behaviour and ERP responses. In conclusion, we believe these preliminary results provide evidence for the importance of strategy choice in cognitive training protocols.

Griva *et al.,* **(2017)** results indicated no statistically significant effects for the mental skills training on any of the domains of competitive anxiety, apart from statistically significant group and time main effects for somatic anxiety intensity.

Araslan *et al.,* **(2021)** inclusion of core strength training to a SSG periodization is greatly effective to improve speed and strength-based conditioning in young soccer players.

Asrul *et al.,* **(2021)** significant difference in the effect of the small sided games training method with the drill on improving soccer passing accuracy. There is a significant difference in the effect of the small sided games training method and the drill training method on increasing VO2Max.

Hammami *et al.,* **(2018)** represent an effective strategy of multicomponent training that can induce greater positive effects on specific skills tasks when compared with interval or agility training and moderate to large improvements in team sport-related physical fitness.

The twelve weeks training of game specific field training with mental strategy have been significantly improved Vo 2 max, self-confidence and kicking ability of football players.

CONCLUSIONS

Based on the findings and within the limitation of the study it is noticed that practice of game specific field training helped to improve physiological, psychological and skill performance variables of football players at school level. It was also seen that there is progressive improvement in the selected criterion variables of game specific field training group of football players after eight weeks of training programme.

From the results of the present study, it is very clear that school level football players significantly difference in game specific field training of vo2max, self-confidence and kicking.

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A STUDY OF HUMAN RESOURCE PRACTICES AND ITS IMPACT ON ORGANIZATIONAL PRODUCTIVITY OF ORGANIZED SECTOR OF MADHYA PRADESH

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ABSTRACT
Purpose of the research is to explore the impact of HRM Practices on the organizational productivity. In this process three different HRM practices has been identified such as performance appraisal, career planning and compensation management. The study was based on primary data which has been taken from the employee of selected organized organization. The sample has been taken from 134 employees. The ANOVA test has been applied to test the hypothesis at 5% level of significance. The findings of the study indicate that all the selected HRM Practices is significantly and positively related with organizational productivity.
KEY WORDS: *performance appraisal, career planning, compensation management*

INTRODUCTION

Human resource management practices and procedure is playing most important roles in order to achieve organizational goals and maintaining the competitive advantages. Human resource practices also refer the various activities related with human resource planning and insuring the resources are employed to the fulfillment of organizational goals. However, HRM practices is the management of peoples working in the organization, policies and practices related to planning, developing and utilizing resources and retaining the employee to fulfill the organization objectives. On the other hand best human resource practices have an advantage for both employee as well as organization. The present study related with human resource management practices and its impact on organizational productivity towards organized sector. In this process research deals with various HR Practices such as Performance appraisal, career planning and compensation management. The study is based on primary data which has been taken among the employees of selected organized organization by using the questionnaire method, however, in this process a well-structured sects of questionnaire has been prepared on the basis of various human resource management practices such as Performance appraisal, career planning and compensation management

REVIEW OF LITERATURE

Sukhadeve Versha et.al.,(2023), Conducted a research study on the effectiveness of human resource accounting and auditing and its impact on employees in higher education. The purpose of this research study is to examine human resource accounting and auditing practices in order to identify challenges and issues faced by the employee. The study was based on primary data which has been collected among the employees of different higher education institutions. Findings of the study based on HR policy which is related to accounting and auditing. Furthermore it has been explore by the author that policy has positive impact on employees on higher education. In the conclusive remark it has been point out by the author that audit helps to control various decisions regarding to monitor existing policy.

Ingrid Konomi et.al. (2023), conducted a research study on human resource audit in Albania. The purpose of this research is to measure the effectiveness of human resource audit and organisational efficiency. The study explore that human resource audit is one of the most important process of the each and every organization. Furthermore it has been explore by the study that human resource audit is related with profit maximization of the company.

Lydia Sylvia Danku (2016)., Conducted a research study to explore the role of human resource audit in the organization. The purpose of the research study is to explore the role of audit to examine human resources practices in the organization. The study was based on primary data which has been obtained by using structure interview and questionnaire. The findings of the study explore that majority of respondent agrees that the organization is developed a well-defined strategy to utilize modern HR practices to help the organization to achieve the target. Furthermore study concludes that an effective HR audit helps organization to examine and improve entire HR activities of the organization.

Devera .S. Shinivash et. at.(2022)., has been conducted a research study on impact on human resource audit in Indian SMES. The study was based on primary data which has been collected by the observation and survey method. Sample for the study was taken from the 100 peoples. The findings of the study not only explore the impact of HR audit on Indian SMES but also found the elements for the success of the organization. Furthermore in the conclusive remark it has been point out by the author that human resource audit in SMES is helps to examine strength of HR practices.

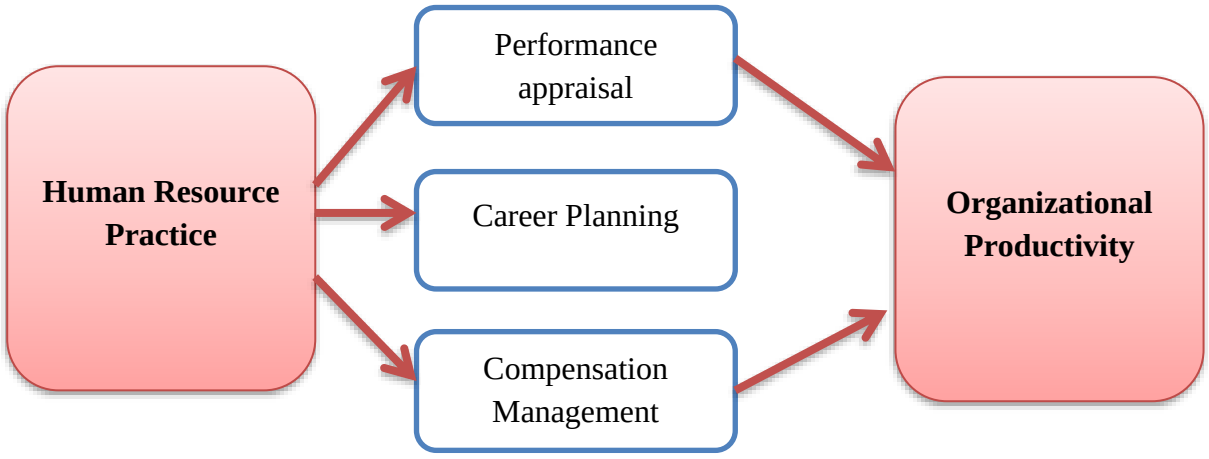
OBJECTIVES OF THE STUDY

The various objectives of the study are as under

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1. To study the relationship between Human resource management practice and its impact on organizational productivity towards performance appraisal
2. To study the relationship between Human resource management practice and its impact on organizational productivity towards Career Planning
3. To study the relationship between Human resource management practice and its impact on organizational productivity towards Compensation Management

RESEARCH FRAMEWORK



FORMULATION OF HYPOTHESIS

The various hypothesis of the study are as under

H_{01}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Performance appraisal

H_{a1}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Performance appraisal

H_{02}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Career Planning

H_{a2}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Career Planning

H_{03}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Compensation Management

H_{a3}: There is no significant relationship between Human resource management practice and organizational productivity with respect to Compensation Management

RESEARCH METHODOLOGY

Descriptive method of research has been adopted to explore the impact of Human resource management practices on organizational productivity. This section deals with sampling design, size, area methods and measurement tools. In order to explore the relationship between independent and dependent variables the primary data has been used. The primary data for the study has been collected by using questionnaire methods.

SAMPLE DESIGN

Sample for the present study has been design on the basis of relationship between HR Practices of organised sector and its impact on organizational productivity. The sample has been taken by using random stratified methods. In order to maintain the accuracy in the data the sample has been taken from different locations of the employees. Sample has been taken by using questionnaire methods which has been prepared in Hindi and English both language.

The entire sampling technique has been adopted three steps

- **Sampling Size**: the sample has been taken by using questionnaire method. In this process the final questionnaire has been distributed among the **150** employees of selected organized organization and **134** employees has been positively reported. However the final sample size is **134**.
- **Sample Method**: Random stratified methods have been adopted to collect the sample among the entire populations.
- **Sample Area:** Sample area for the present study is limited up-to various selected organized organizations located in different locations of Bhopal.

MEASUREMENT TOOLS

Five points Likert scale has been used as measurement tool in order to scaling of data such as 1 strongly disagree to 05 strongly agree.

TOOLS FOR DATA ANALYSIS

ANOVA Test has been used to analyse the data and testing of hypothesis at **5%** level of significance and **95%** level of confidence.

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TESTING OF HYPOTHESIS

Table 1:
(Relationship between HRM Practices of organization and organizational productivity)

Hypothesis	Independent variables	df	F	p-Value	Result
H_{01}/ H_{a1}	**Performance Appraisal**	**5**	**8.472**	**0.027**	**Significant**
H_{02}/ H_{a2}	**Career Planning**	**5**	**11.214**	**0.039**	**Significant**
H_{03}/ H_{a3}	**Compensation Management**	**5**	**6.904**	**0.001**	**Significant**
Dependent Variables: Organizational Productivity					

FINDINGS

Findings of the study are as under

1. **Table 1** explores the relationship between HRM Practices of organized sector organization and organizational productivity with respect to Performance appraisal. It can be seen in the table that calculated value of F is **8.472** and **p value** is **0.027**. The calculated value of **F** is significant at 5% level of significance and 95% level of confidence. The above result is evident to reject the null hypothesis and accept the alternative hypothesis. On the other hand it may be said that performance appraisal system significantly and positively related with organizational productivity
2. **Table 1** explores the relationship between HRM Practices of organized sector organization and organizational productivity with respect to career planning. It can be seen in the table that calculated value of F is **11.214** and **p value** is **0.039**. The calculated value of **F** is significant at 5% level of significance and 95% level of confidence. The above result is evident to reject the null hypothesis and accept the alternative hypothesis. On the other hand it may be said that career planning significantly and positively related with organizational productivity
3. **Table 1** explores the relationship between HRM Practices of organized sector organization and organizational productivity with respect to Compensation Management. It can be seen in the table that calculated value of F is **6.904** and **p value** is **0.001**. The calculated value of **F** is significant at 5% level of significance and 95% level of confidence. The above result is evident to reject the null hypothesis and accept the alternative hypothesis. On the other hand it may be said that compensation management significantly and positively related with organizational productivity

CONCLUSIONS

The purpose of the study is to explore the impact of human resource practices on organizational productivity. In order to explore the impact different HRM Practice has been discussed with respect to selected organized organizations. The findings of the study clearly indicated that all the selected HRM practices such as performance appraisal, career planning, and compensation management played a most important role to improve the organizational productivity. However, on the other hand it may be explore that there is a significant a positive relationship between HRM practices of organized organization and their productivity with respect to performance appraisal, career planning, and compensation management

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A PRAGMATIC ANALYSIS OF THE LANGUAGE OF SELLERS IN E-COMMERCE LIVE STREAMING."

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ABSTRACT

This qualitative study employs discourse analysis aimed at unveiling the speech acts, linguistic persuasion strategies and linguistic features employed in e- commerce live streaming. More so, this study utilizing thematic analysis aimed at exploring the emerging themes focused on the insights of e-commerce live streaming viewers on the linguistic persuasive strategies employed by streamers in e-commerce live streaming. Through purposive sampling, 15 videos of e-commerce live streaming served as the corpora of the study. Consequently, the study revealed that e-commerce live streamers employed different speech acts such as directive, assertive, commissive, expressive and declarative. The key findings of this qualitative study opened the door to a new line of inquiry into the persuasive strategies employed in e-commerce live streaming.

KEYWORDS: *Education, speech acts, linguistic persuasion strategies e-commerce live streaming, linguistic features, pragmatic, Philippines*

INTRODUCTION

Learning The growth of e-commerce live-streaming has led to diverse marketing and consumption patterns globally, presenting challenges for online sellers to boost sales. The persuasiveness of linguistic styles used by sellers significantly influences customers' purchasing behavior during live streams. Challenges related to language arise in various countries, including China, India, and European nations, where misleading language, high-pressure sales tactics, and vague product descriptions affect consumer trust and decision-making processes. Additionally, cultural and language barriers faced by Filipino sellers hinder effective communication, resulting in reduced message effectiveness and revenue decline (Flosi et al., 2021; Pfeiffer, 2022; Druckman, 2021; Fu, 2021; Hofstede, 2016; Bovee, 2021).

While existing research explores persuasive marketing strategies in e-commerce, there's a scarcity of studies analyzing the persuasive expressions and linguistic styles of online sellers in live streaming. This study, proposed by [Author Name], aims to fill this gap by focusing on the linguistic persuasive style of hosts in social e-commerce, incorporating pragmatic analysis with an emphasis on perlocutionary acts. Understanding these linguistic nuances is crucial in the evolving dynamics of online commerce, where accessibility and convenience are vital for customer interaction and business success.

The proposed research holds implications not only for business and marketing domains but also for language education. By examining contemporary language usage in live selling, this study can inform language educators on effective teaching methods in business communication courses, enriching the learning experiences of students. Furthermore, disseminating the results internationally and among live streamers contributes to advancing language education methodologies and enhancing consumer empowerment, industry practices, and ethical communication in the digital marketing landscape.

Purpose of the Study

The purpose of this study is to unveil and understand the persuasive expressions among online sellers in e-commerce live streaming as well as the perlocutionary acts embedded in the response of the viewers. At this stage of research, persuasive expression is generally defined as the skills and strategies to influence a person's behavior through language use. In the context of e-commerce live streaming, it is a linguistic technique that can guide the consumers' attitude and behavior towards the sellers' intended direction.

Research Questions

1. What speech acts are used by sellers in e-commerce live streaming?
2. What are the linguistic persuasion strategies utilized by sellers in e-commerce live streaming?
3. What are the linguistic features found in these persuasive linguistic strategies?

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METHODS

Research Design

This qualitative study utilized discourse analysis to explore how individuals interpret and derive meaning from their experiences, aligning with Creswell and Creswell's definition. Grounded in qualitative research tradition, it employed diverse methods such as content analysis of visual and textual resources, oral history, diaries, and open-ended questionnaires to comprehensively collect and interpret data. The research focused on understanding how e-commerce live streamers strategically used linguistic persuasion tactics to engage potential buyers. Through discourse analysis, the study aimed to identify these persuasion strategies and their impact on prospective buyers' perceptions and decisions, enriching the depth and scope of the findings.

Research Material

This study analyzed ten (10) e-commerce livestream videos from Facebook and TikTok in the Philippines, each lasting at least one hour, focusing on how online sellers used language to persuade customers. The videos, sourced from accounts with over 10,000 followers and posted between 2020 and the present, underwent content analysis to reveal rhetorical strategies present in the discourse

Procedure

As a researcher, I systematically and ethically conducted a study analyzing 10 e-commerce livestream videos from Facebook and TikTok, focusing on linguistic marketing strategies. The qualitative research design utilized discourse analysis, applying theoretical frameworks such as Searle's Speech Acts and Lamb's persuasive techniques. Ethical protocols included obtaining approvals from the Research Ethics Committee and the Dean, validating the interview guide, and securing an endorsement from the dissertation adviser. Participants were selected through maximum variation sampling, and their voluntary participation was ensured via informed consent. Interviews were conducted ethically, with confidentiality and health standards maintained. Transcriptions underwent thematic analysis, and accuracy was verified by participants, ensuring credible and rigorous data analysis.

Data Analysis

The study examined e-commerce livestreams on Facebook and TikTok to understand the linguistic and communicative strategies used by live streamers to promote products and engage audiences. Using qualitative discourse analysis and theoretical frameworks such as Speech Acts, persuasive techniques, and Social Judgement Theory, it analyzed speech categories, persuasive techniques, and linguistic elements in the livestreams. This revealed the complex strategies live streamers use and their effects on audience perception and behavior in online retail. Additionally, interviews with a diverse group of viewers explored their perceptions, attitudes, and purchase intentions influenced by the livestreams. This comprehensive approach provided valuable insights into how persuasive techniques shape consumer behavior and offered practical implications for marketers in online retail and social media marketing.

Ethical Considerations

This paper was evaluated thoroughly by the Research Ethics Committee of the University of the Immaculate Conception based on the ten ethical tenets of research: social value; informed consent; vulnerability of the research participants; risks, benefits, and safety; privacy and confidentiality; justice; transparency, qualifications of the researcher; adequacy of facilities; and community involvement. As such, the study was subjected to careful scrutiny to affirm that the ethical principles were strictly applied in the research process at all times to protect human participants, most particularly those who belong in the vulnerable sectors.

RESULTS AND DISCUSSION

Speech acts used by e-commerce live streamers.

Speech Acts	Sample Statement
Directives	• *""Let's share our live selling video to our six viewers. Please share the video online so we can attract more viewers. Also, don't forget to hit the like button below, give it a click."* ***(EL01)*** • *"There it is, it's very hot, let's have a jackpot, ma'am, it's first come, first served here! So, what are you waiting for, come on!"* ***(EL02)***
Assertive	• *"It really looks gorgeous. What brand is it, dear? (Target Collection). It's a US brand from the Target collection, right? Because it's US bail, as we mentioned earlier, my dear friends, US Bail. I'm not kidding, this is truly US Bail, I promise."* ***(EL04)*** • *"We have many beautiful bags here, all from other countries. That means our items are original."* ***(EL05)***
Commissive	• *"Please mention and invite your friends, guys, because we will give a free plant to those who mention and share our live stream a lot."* ***(EL07)*** • *"Even though we bought it cheaply, we could sell it to you for 945 pesos, but we won't do that. You know us, as a couple, we are very honest, and that's our commitment to you."* ***(EL08)***

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Expressive	• *"Well, this is just a try, my dear customers. If it doesn't sell, at least I tried. /laughs/ But if many people buy it, then that's happiness."* ***(EL10)*** • *"Smile... okay, hello to my 12 beautiful viewers... Alright, hold on, let's not get too excited..."* ***(EL11)***
Declarative	• *"This product is crafted from high-quality materials to ensure durability and longevity."* ***(EL13)*** • *"Oh, someone commented 'mine.' It's yours now, Ma'am Daisy! This item is all yours, ma'am...*

The excerpts placed in the table discusses various speech acts within John Searle's theory, focusing on directives, assertive, commissive, expressive, and declarative speech acts. It begins by analyzing directives, highlighting how seemingly inclusive statements function as commands, urging specific actions from the audience to increase visibility and viewership. The assertive speech acts are characterized by the speaker confidently asserting opinions and beliefs about the product's appearance, brand, and origin. Commissive speech acts involve the speaker committing to future actions, such as providing rewards to engaged viewers, fostering trust and accountability.

Expressive speech acts convey the speaker's psychological state and attitudes towards the situation, exhibiting cautious optimism, light-heartedness, and satisfaction or joy. Finally, declarative speech acts assert the quality and attributes of the product authoritatively, shaping consumers' perceptions and expectations. Overall, the summary encapsulates how each type of speech act functions within the context provided, demonstrating their roles in guiding audience behavior, establishing trust, and shaping perceptions.

Table 2

Linguistic persuasion strategies utilized by sellers in e-commerce live streaming.

Persuasive Techniques	Sample Statements
Repetition	• *Share the live. Share, share, share! Let's share the live! Let's share."* ***(EL01)*** • *"We have an available Marble Congo, okay, Marble Congo guys, you might like it for only 1,800 pesos, guys."* ***(EL07)***
Inclusive Words	• *"Rachel, please send me the details, our shipping is through Flash Express."* ***(EL01)*** • *"We're just selling off our Morayta clothes, they're cheap, so please share our live."* ***(EL10***
Emotive Words	• *"It's really beautiful, guys, and it's big."* ***(EL07)*** • *"Hello, sir Kris, I'm excited. Wait a moment for the number... Let's proceed to number four, how much was the price before? The previous price was 24,400, ma'am..."* ***(EL11)***
Generalization	• *"It came from abroad. That means our items are original."* ***(EL05)*** • *"So, LCC Essentials is one of the most trusted stores, and everything we sell here is 100% original."* ***(EL08)***
Alliteration	• *"There it is, sad and smile."* ***(EL01)*** • *"Peace be upon you, sisters and friends! Hello Everyone!"* ***(EL12)***
Pun	• *"We have another one, Miralyn Quibo Alburoto. Alright, don't be Miralyn Alburoto."* ***(EL01)*** • *"It's yours now, ma'am Terry, don't Terry me, Terry Calderon."* ***(EL02)***
Rhetorical Question	• *"You don't want it to be expensive, but you also don't want it to be cheap. How should we price this then? Do you like bags?"* ***(EL04)***
Jargons	• *"I'm asking for mine here, again, mine are EF46 and EF47."* ***(EL06)*** • *"Let's be the second miner, maybe Misshie is the joy miner."* ***(EL11)***
Anecdote	• *"I know a lot of people cried, got hurt from the breakup of Kathniel, so let's just mine to move on, right? For all the Kathniel fans out there, you really know, they were greatly affected by their breakup, so just mine now."* ***(EL06)*** • *"Before, we used to sell a lot here, probably around 300 in one posting, when it's on hand it gets sold out so quickly."* ***(EL09)***
Appeal	• *"Our product will bring back cherished memories and create new ones for generations to come."* ***(EL01)***

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	• *"Even though it's stressful here in selling, I still want to sell because of those who support us."* ***(EL10)***
Hyperbole	• *"If you buy this, it's like you've been to Disneyland or your kids."****(EL01)*** • *"Next, hey, you're all so beautiful, mamsh, very beautiful, from medium to semi-large, from medium to semi-large, you're really sexy, just right, you'll see."* ***(EL04)***
Colloquial Language	• *"It's embarrassing... just kidding... shy... later, I'll do a fortune-telling, but no one will answer you..."* ***(EL13)*** • *"Here, sisters, just take these for free, they're free, sisters, just take these as freebies"* ***(EL14)***
Analogies	• *"It's hassle-free now, and this is antibacterial, so it can kill a lot of germs, 99.9%! Like Safeguard, just kidding!"* ***(EL06)*** • *"Here are the details of her leaves, guys, oh there they are, so beautiful. Its color will be even more beautiful and vibrant when it's with the right person, hahaha!"* ***(EL07)***
Simile	• *"I'll just give this to you, ma'am, for only 200 pesos. Here, ma'am, for only 200, it's beautiful, it's made of wood, so this item is considered good as new."* ***(EL02)***
Imagery	• *"It's made of leather, brown in color, like chocolate brown but not too dark. It's beautiful and small, just enough to put money, phones, chargers. When you go to the mall, it's like that!"* ***(EL05)*** • *"Okay, this one, medium to semi-large, I still use this size. Its color is like a parka citrus, just like heading towards that orange color. Medium to semi, I'll add a slit. It's long, suitable for formal, classy events, it's a long dress, sisters."* ***(EL04)***
Assonance	• *"Ma'am, please include mine number nine, mine number nine, sold for ma'am Tinay."* ***(EL11)*** • *"Convertible piece, medium to large, guys, it's a jumpsuit too, suitable for us, cute hahaha, just a bit wrinkled, guys, just a bit wrinkled."* ***(EL13)***
Attacks	• *"It's beautiful, oh, it's Silver Frost, it's quite big, for others, ma'am, it's already 1000-1200 pesos for something this big, ma'am."* ***(EL06)*** • *"It's a Philodendron Melaloni, round form. It's really beautiful, guys, and it's quite big. That's how big it is."* ***(EL07)***
Logic/Reason	• *"And it has gold hardware, mommy, it's gold hardware, and some have film coating on top, others are all with film intact, here, and here, see, it's still covered with film, meaning, it's still in plastic and flapped, that's what we should look at, even if you ask bag collectors."* ***(EL03)*** • *"This is the shower gel, the full size is 250 ml and the minis are 100 ml. This is not a liniment, it's a massage cream, the beauty of this is even if you're meters away, it won't have any smell, it's odorless and it's a cream."* ***(EL09)***
Expert Opinion	• *"So, this is the HERMES Kelly 25 Togo leather and look at the corners, we won't talk about that anymore, mommies, compare the details of this to the HERMES shop, or search it on Google, come on. All my products are proven original, check it out in the reviews."* ***(EL03)*** • *"Okay, this kind of Aglo guys... this kind of Aglo, the mother plant of this is from Thailand, if you search it on Google, you won't find it in the Philippines..."* ***(EL08)***
Evidence	• *"Here's something nice, brand new, only 400 pesos, it's aluminum. Ma'am, you can use the stoneware for storing food, the stoneware, chemical-free. We already have many repeat buyers of this because of its quality."* ***(EL02)*** • *"Okay, for this one, we have anti-bacterial hand soap with apple, and it's buy 1 take 1, 500ml. It's hassle-free now and this is tested anti-bacterial, so it can kill a lot of germs, 99.9%."****(EL06)***
Euphemism	• *"It can be used for ponytails for your little girls, for braiding."* ***(EL02)*** • *"It's an economical alternative and it's made by someone skilled, they're from the pharmaceutical field."* ***(EL09)***

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The excerpt explores various persuasive strategies employed in e-commerce livestreams, ranging from repetition and inclusive language to emotive words and appeals to logic. Repetition is highlighted to emphasize key points and encourage audience engagement, while inclusive words foster a sense of belonging and unity among viewers. Emotive words are used to evoke strong emotional responses and create connections with the audience, enhancing persuasion. Generalization and alliteration add rhythm and emphasis to messages, making them more memorable and impactful.

Additionally, the excerpt discusses the use of rhetorical questions, jargon, anecdotes, appeals, hyperbole, colloquial language, analogy, simile, imagery, assonance, attacks, logic/reason, expert opinion, evidence, and euphemism in persuasive communication within the e-commerce context. Each technique serves a distinct purpose, from engaging the audience and simplifying complex ideas to bolstering credibility and softening unpleasant messages. By employing these persuasive strategies effectively, sellers aim to capture attention, build rapport, and ultimately persuade viewers to take desired actions, such as making a purchase or sharing the livestream.

Implications

Future research in the field of linguistic persuasion strategies in e-commerce live streaming should focus on several key areas. Firstly, expanding the breadth and depth of understanding regarding speech acts through larger and more diverse datasets could provide a comprehensive overview of linguistic interactions. Secondly, employing mixed-methods approaches could offer insights into the impact of linguistic variables on consumer perceptions and behaviors. Additionally, leveraging advanced analytical techniques such as corpus linguistics and computational linguistics could uncover nuanced patterns in persuasive language use. Lastly, adopting larger-scale participant recruitment strategies and longitudinal studies could enhance the generalizability and robustness of findings. Overall, future research should aim to deepen our understanding of persuasive communication dynamics in e-commerce settings, contributing to the advancement of knowledge in digital marketing communication.

CONCLUSIONS

Embarking on the exploration of linguistic persuasion strategies employed by e-commerce live streamers has been an enlightening journey. This endeavor has not only provided valuable insights into digital marketing discourse but has also created an opportunity to establish a new academic niche. The availability of materials for this study has been instrumental in carving out this niche and contributing to our understanding of linguistic persuasion in the context of e-commerce live streaming.

The absence of prior research in this area presented an exciting opportunity to pioneer new insights, driving the researcher's motivation to shed light on this uncharted territory. Throughout the journey, challenges such as time constraints, financial limitations, and the complexities of analyzing persuasive strategies were viewed as opportunities for growth. Collaboration with advisers, consultation with peers, and strategic planning were crucial in overcoming these obstacles and ensuring the successful completion of the study.

Navigating the intricacies of linguistic persuasion strategies in e-commerce live streaming posed significant challenges, yet these obstacles served as pivotal points in the researcher's quest for understanding. Despite the hurdles encountered, the journey has been immensely rewarding, fostering the development of critical thinking skills and a deeper comprehension of digital marketing discourse in the e-commerce sphere. This pioneering study sets the stage for future research, inspiring scholars to delve further into this dynamic field of study.

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MIDDLE-AGED LEARNERS IN LOCAL COMMUNITY COLLEGE ON THEIR BID FOR ENGLISH LANGUAGE LEARNING: A MULTIPLE CASE STUDY

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ABSTRACT

This qualitative multiple case study aimed to unveil the lived experiences, and coping strategies of five middle-aged learners from local colleges in Davao del Norte: single-male, married working-male, single-parent female, married working-female, and married full-time student female, which were chosen through maximum variation sampling. Their experiences and coping strategies were examined using in-depth Interviews. Data triangulation was done by interviewing each case's family members, colleagues, and friends. Thematic analysis resulted six emergent themes on the experiences: linguistic barriers in communication, strong resolve towards linguistic resilience and growth, aspiration for personal and professional growth, varied ESL engagements, multifaceted support network, and learning challenges. The emergent themes for coping mechanism included reliance on reputable sources, self-directed learning strategies, social support system, optimal use of technology, English language immersion, and stress management technique. The five cases were generally similar in their experiences and challenges, but three cases manifested variation in linguistic barriers, and two for strong resolves towards linguistic resilience and growth. As for coping strategies, five cases adopted varied approaches in time management and prioritization, and three cases differ on self-directed strategies. All cases shared the same coping schemes from the rest of the strategies in dealing language learning challenges.

KEYWORDS: *middle-aged learners, English language, local college, multiple case study, Philippines*

INTRODUCTION

Age has been considered a crucial factor in language learning and acquisition (Prianka, 2018). Adult learners often experience a decline in these abilities, especially after age 25, as they were influenced by linguistic distinction between their first language and the new language, which impacts their speaking proficiency significantly (Vieira, 2022). Despite exposure to the language in educational settings, this linguistic challenge is particularly pronounced among middle-aged learners which affects their confidence and communication skills due to fear of ridicule, lack of self-esteem, and fossilization in morphosyntax and pronunciation (Castañeda, 2017). Nevertheless, Narantuya (2022) still underscores a noteworthy trend in adult education, noting a significant increase of enrollments among individuals aged 40 and above studying foreign languages due to globalization and personal development needs. This surge in admission signals a growing commitment among L2 learners to overcome linguistic barriers and actively engage in language learning within the dynamic landscape of adult education.

Middle-aged English language learners (MELLs) embark on a distinctive educational journey, fraught with a multitude of linguistic, cognitive, and socio-cultural challenges (Zammit, 2022). This endeavor among adult learners to learn and refine their language skills, for King (2020), presents a unique set of issues as they often confront the need to simultaneously manage work responsibilities, family obligations, and other life commitments.

Middle-aged learners in Africa often hurdled difficulties in learning English. Learners in Kenya have pronunciation errors due to differences in phonetic features, impacting intelligibility and requiring exposure to proficient English speakers (Ombati and Kirigia, 2020). Middle-aged learners in Ghana have struggled in expanding their English vocabulary and are challenged with vocabulary due to L1 interference, impacting phonemes, morphemes, words, sentences, and discourse structures (Dansieh, 2018). Grammatical mistakes in essay writing English are common among adult EFL learners in Nigeria due to lack of motivation and topic relevance awareness, hindering their ability to write acceptable essays (Okpe & Onjewu, 2017), while in

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China, pronunciation issues such as adding rhotic sounds, misplaced stress, speaking fast, and ignoring vowels due to dialect influence (Huang, 2023); and speaking difficulties due to anxiety and fear of making mistakes are apparent (Amoah & Yeboah, 2021). Further, Wu (2023) supplemented that Chinese adult learners of English face challenges in producing the voiceless interdental fricative sound // due to tongue placement errors, with an average correct pronunciation rate of only 37%.

In the Philippines, middle-aged students often grapple with communicative tasks due to a lack of linguistic competence and psycho-social fears associated with speaking in different contexts (Separa et al., 2020). English language anxiety is indeed common among adult learners, particularly those in college, because of skill deficiencies, personal insecurities, and fear of judgment (Giray, 2022). Similarly, adult Filipino learners face obstacles in English writing, including insufficient guidance, comprehension issues, and text construction challenges, which was exacerbated by schools' transition to modular learning integrating writing learning as compromising strategy in the pedagogy (Aradillos et al., 2023). In addition, middle-aged learners experience reading challenges due to limited mastery, risk factors, and a lack of reading culture, resulting in frustration (Tomas et al., 2021). In view of these linguistic perplexities, targeted strategies and resources within educational programs are crucial to effectively support Filipino adult learners in their pursuit of English language proficiency.

At one local college in Region XI, English Bridging Program (EBP) was institutionalized as the central initiative to address the prevalent language challenges faced by middle-aged learners in the community. In fact, in 2022, 17 middle-aged students voluntarily participated in the program on their desire to pursue college. However, due to certain factors like inhibition, in fear of possible intimidation, age gap, and the like, only two of them pursued. This reveals a concerning number of students who disregarded their education and pursue their dreams despite their age and personal obligations.

Several research have delved into the distinct aspects on middle-aged learners, including investigations into learning experiences of Korean middle-aged women (Ha, Lee & Heo, 2022), stress response and learning needs (Tsai, 2020), and learning topics and life adaptation (Liangqiu and Zhengqiu, 2019). Only few has ventured on studies that focus on the experiences, challenges, and coping strategies of middle-aged learners in a more in-depth form of exploration. There is an urgency to conduct this research because the researcher found a scarce number of study that explores the perks and perils of adult students who continue to enroll and finish degrees particularly in a local community college, with a hope that the results of this study may awaken the educational agency/authorities to design a program that can facilitate the adult learners to learn English language.

Finally, through a comprehensive exploration of the distinctive challenges faced by middle-aged language learners in college, this research may contribute to the advancement of tailored language education programs and support mechanisms, thereby enhancing the linguistic proficiency, personal growth, and socio-economic prospects of this important and growing group.

LITERATURE REVIEW

Middle-aged Learners

Middle-aged learners, typically aged 45 to 60, pursue continuing education and English language acquisition to adapt to life changes and plan for the future. These learners employ cognitive, meta-cognitive, and social learning strategies informed by their age and life experiences (Liangqiu and Zhengqiu, 2019). With the increasing demand for English learning among middle-aged and elderly individuals, systematic studies on their language acquisition have become essential (Ma, 2022; Soataliyevna, 2023). Understanding the motivations of middle-aged learners, who often prioritize self-improvement and personal reasons over work-related incentives, is crucial for successful language learning (Naumčiuk, 2023; Fu et al., 2022).

The COVID-19 pandemic accelerated the shift to online learning, providing an opportunity to examine the experiences and motivations of adult English language learners in this context (Chukwuma, 2020). Searby's (2023) study explored the lived experiences of adult learners during the pandemic, shedding light on their needs, challenges, and persistence motivations in online learning environments. Educators should address learners' psychological needs for autonomy, competence, and relatedness to foster motivation, considering their unique cultural backgrounds (Searby, 2023).

Middle-aged language learners navigate a complex process influenced by various factors, including exposure to comprehensible input, self-directed learning, and socio-cultural contexts (Krashen, 1982; Knowles, 1980; Macaro, 2021). Sociocultural factors such as acculturation and identity negotiations also shape their language learning experiences (Souri & Merc, 2021). Motivations for learning English among middle-aged learners are often multifaceted, combining instrumental and integrative motivations (Hang & Nung, 2023). Effective intervention programs and teaching approaches must consider these diverse factors and tailor instruction to learners' unique needs and contexts (Brown, 2019; Brookfield, 2015). Thus, a learner-centered approach, incorporating real-life contexts and relevant topics, is essential for supporting adult language learners in achieving their language goals.

English Language Learning

Middle-aged learners face a multitude of experiences, challenges and coping schemes in their pursuit of learning English as a Second Language in college. Domysheva and Kopylove's (2021) study investigated the linguistic barriers of adult learners in the development of their writing and speaking skills, which they need in applying for jobs, particularly workplace tasks which involve oral interactions with international partners and clients. In addition, Anh and Nga (2023) discovered that adult learners encounter difficulties with challenging vocabulary words,

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particularly technical terms, due to their complexity and unfamiliarity. These challenges stem from various factors, including a poor sound system, a lack of communicative context, a limited vocabulary, insufficient cultural understanding, and a fear of making communication errors, as indicated in the study on English language difficulties.

Ariyan and Vadeeva (2019) stressed that middle-aged language learners strive to develop communicative competence while also pursuing personal development through building self-esteem, confidence, amiability, and emotional intelligence, which ultimately strengthen their stern connections with the world. Additionally, Souri and Merc (2021) added that middle-aged EFL learners in private language schools study English for both career-related goals, such as job opportunities, and personal interests, such as forming friendships, reflecting a blend of instrumental and integrative motivation.

Meanwhile, many authors and researchers such as Kallinikou and Nicolaidou (2019) ; Sadasivan et. al (2021); Nurani & Rosyada (2015); Bake (2018) ; and Abello (2015) , conducted relevant exploration and investigation on the significance of speakers and reading engagement in the development of the communicative skills of middle-aged teacher learners in English. As a result, the exposure of adult learners in speaking and reading activities enhances the communication skills they possess. In particular, the activities do not only upgrade their speaking proficiency, but also help in developing their pronunciation, conversational strategies, and their vocabulary acquisition. In addition, integration of reading activities tailored to learners' needs and fosters collaborative and dynamic learning environments can empower adult learners to think critically and communicate effectively. In essence, a comprehensive approach that links speaking and reading engagements is vital for adult learners to master communication skills effectively.

Adult learners face various challenges in language acquisition, as highlighted in recent literature. Pronunciation hurdles, encompassing confidence issues, teacher proficiency, time constraints, and resource scarcity, hinder effective learning (Jazrawi, 2023). Online English learning exacerbates difficulties with internet accessibility, comprehension of complex materials, and task submission (Assapari, 2021). Malhotra (2022) identifies additional hurdles such as age-related concerns, fear of ridicule, limited oral practice, and motivation issues leading to high dropout rates. Moreover, middle-aged learners contend with time management complexities due to juggling multiple roles (Arnesen, 2019) and may experience memory and cognitive challenges (Berggren et al., 2020; Stebber & Rossi, 2021). Language anxiety, stemming from self-image threats and perceived incompetency, further impedes progress (Brovarska, 2022).

Technology integration, while offering solutions, introduces new obstacles for adult learners, particularly those unfamiliar with digital tools (Helsper & Enyon, 2017). Memory and cognitive decline associated with aging exacerbate learning difficulties (Park et al., 2022; Craik & Bialystok, 2016). Language anxiety, driven by fear of mistakes, inhibits participation and proficiency (Horwitz & Cope, 1986; Mizuno et al., 2020). Perfectionistic tendencies exacerbate reluctance to err, hindering language acquisition (Liu & Huang, 2021). Mindset towards mistakes impacts willingness to communicate (Rahimi & Abedini, 2021), underscoring the complex interplay between anxiety, mindset, and language proficiency (Gkonou et al., 2017; Juntune & Evans, 2019). These challenges necessitate tailored approaches and supportive environments to foster effective language learning among adult and middle-aged learners.

Coping strategies are vital for middle-aged language learners grappling with the challenges of acquiring a new language in a college setting. Research by Kalwar et al. (2022) indicates that regular practice, instructor guidance, and code-switching from L2 to L1 are employed by students to overcome difficulties. Martinez (2019) underscores the importance of anxiety-reducing strategies and self-concept management in mitigating language anxiety. Yasuda and Nabei (2018) found preparation, relaxation, positive thinking, peer support, and resignation as effective strategies, with preparation and positive thinking significantly reducing speaking anxiety. Middle-aged learners facing lexical hurdles often turn to various credible sources for support, accessing online materials and seeking help from peers and teachers (Jose, 2016; Shirley, 2019). Furthermore, collaborative efforts between learners and educators, along with the utilization of multiple resources, are crucial for addressing linguistic challenges in adult education (Alharthi, 2016; Arnesen, 2019).

Time management and prioritization prove indispensable for middle-aged learners, enabling efficient task completion amidst numerous responsibilities (Hoo et al., 2022; Rodriguez, 2019). Additionally, self-directed learning strategies empower learners to take charge of their educational journey, setting personal goals, assessing resources, and monitoring progress (Pete, 2016; Margaret, 2020). Moreover, the optimal use of technology, including platforms like YouTube and Google, enhances language learning outcomes (Wang et al., 2020; Ashikin et al., 2022). English language immersion, facilitated by interactions with native speakers and exposure to English media, fosters fluency and confidence (Cochi, 2020; Yusup et al., 2020). Stress management techniques, such as mindfulness exercises and social support, aid in alleviating stress and promoting well-being among learners (Son, 2023; Domingo, 2016). These strategies collectively provide middle-aged learners with the tools and support necessary to navigate the complexities of language acquisition effectively.

Purpose of the Study

This qualitative study multiple case study aimed to describe the experiences, challenges, and coping strategies of middle-aged learners as regards to their learning of English in the local colleges in Davao del Norte. At this stage in research, the language learning of middle-aged learners was defined as the specific process of acquiring, developing, and mastering English language skills among middle-aged learners enrolled in a local community

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college. This encompasses various aspects of language acquisition, including listening, speaking, reading, and writing, with a focus on English proficiency.

Research Questions

1. How do the middle-aged learners describe their experiences in learning English as a Second Language in a local college?
2. How do they cope with the challenges of their experience in learning English in local college at 40's?
3. What explains the similarities and differences of each case?

METHODS

Research Design

This qualitative study utilized the multiple case study approach. According to Alblooshi (2023), multiple case study approach is very significant in enhancing or ensuring generalizability of the findings, as through this, the researcher can closely study and investigate how the phenomenon is vary or similar across different contexts, settings, situations, or locations. Further, Creswell and Poth (2018) defined multiple case study as a tradition of qualitative research which seeks to delve deeper into the varying realities of a specific phenomenon from the lens and different angles of the unique cases of the participants. The entire endeavor highlights the similarities and differences of all unique cases enjoined in the study, making the in-depth study of the research topic more comprehensive and insightful. Using multiple case study approach in this study granted me the lens to view the unique cases of the participants and gain understanding of the research topic which is the bid for English language learning of middle-aged learners in local college/

Participants

The participants of this study were the five different cases of middle-aged learners in five local colleges in Region XI. They were selected using maximum variation sampling, as it would result in high-quality, detailed descriptions of each case, which are useful for documenting uniqueness and produce important shared patterns that cut across cases and derive their significance from having emerged out of heterogeneity (Patton, 2022). Each case differed in terms of the age, status, and local college institution. The first case is 40-year-old male and single college student. He is a fourth year returning student taking up Bachelor of Agricultural Technology (BAT). The second case is a 47-year-old male and married college student. He is a second-year student taking up Public Administration (BPA). The third one is a 41-year-old female college student, still single with no romantic affair or relationship, but is already a mother of three (3). She is a second-year student taking up Bachelor of Science in Agriculture (BSA). The fourth case is a 47-year-old female college student, married and working at the same time. She is a fourth-year student taking up a Bachelor of Science in Business Administration major in Financial Management. And lastly, is a 42-year-old female, married and not-working college student. She is a third-year student taking up Bachelor of Science in Agribusiness (BSAb)

In general, I had the following inclusion criteria. My participants must be a student in a local college in Region XI. They must be at their 40s (aged 40-49). Further, they should be enrolled in a four-year degree courses during the Second Semester of the Academic Year 2023-2024. For the exclusion criteria, this study did not include college students enrolled in a Private, and State Universities and Colleges. Students enrolled in local colleges outside Region XI, and aged below 40 and beyond 49 did not partake in this study.

Procedure

Human participants were party to in this study, since they were the sources of data in this dissertation. Standard protocols were conformed to in this study. The first step was the obtainment of permission to implement the study. This document was gleaned from the Research Ethics Committee (REC) of the University of the Immaculate Conception in consonance with that of the Dean of the Graduate Studies. Simultaneously, the self-made interview guide was subjected to validation procedure which was spearheaded by the panel members who also functioned as expert validators. After this one, an endorsement letter was requested from my dissertation adviser.

The second step was to seek the permission of the concerned Presidents and Administrators of the five local colleges to give due courtesy to the authorities. Five local colleges within the region were randomly selected, and I contacted in advance the VP for Research and the research coordinators thereof to help me look for the study participants that fit my inclusion criteria. The unit of this study involved people, particularly the middle-aged learners, who potentially had experiences and insights on how their challenges and coping strategies became integral in ensuring their success in developing their English skills.

As to the sampling method that was employed in this research, maximum variation sampling was applied, given that I looked for heterogeneous information-rich cases of middle-aged learners for my study. Once I shortlisted the prospect participants for my study, I proceeded to the next step.

For the third step, the participants were given a comprehensive orientation about my study in person and online. Individual orientation was done for confidentiality purposes. I introduced myself to my participants and I was frank with my purpose of inviting each of them. I explained to them the purpose and details of my study. Then, I invited them to take part in this study, having met all the criteria that I was looking for among my prospect participants. Once they initially responded affirmatively to the invitation, the middle-aged college students, their family members, friends and classmates signed the informed consent form as attestation to their voluntary participation. Of course, the participants and informants were given the option to refuse in doing so as well as the options to ask questions. Giving them these options further enhanced the ethical criterion of voluntary participation in this study.

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The interviews were scheduled at a time that was mostly convenient for the participants. Face-to-face and online interviews were done with the participants while adhering to health and safety standards. Still, they were afforded with utmost care and freedom to withdraw participation or ask questions while the interview was happening. This one was done to uphold the entitlements of the participants for ethical consideration. Coercion was avoided at all costs, and questions during the interview only focused on the English language learning experiences of the middle-aged learners. Their permission was also asked before the interview was recorded. I explained that the purpose of recording such was to help me recall the vital answers of the participants during the interviews. Moreover, the interviews were kept confidential in consideration to their safety and well-being.

After the interviews, I manually transcribed the responses of my participants during the interviews. Before I subjected the transcribed responses to thematic analysis, I proceeded first to the verification process wherein I went back to the participants and asked their aid to verify the accuracy of the transcripts against the responses that they made in the interview. Once they testified to the accuracy of the transcripts by signing the member checking certificate, the transcripts were subjected to data analysis with the supervision of my designated qualitative data analyst.

Data Analysis

The data from the interviews was subjected to thorough transcription, translation, and data analysis to enable the researcher to understand the complexities of the phenomenon in question. In consonance, Maguire and Delahunt (2017) espoused that one of the methods in analyzing qualitative research data is thematic analysis. This is summarized as the endeavor of identifying, analyzing, and presenting patterns that exist within a large amount of data. The thick, rich, and detailed descriptions of the phenomenon will be unlocked through undergoing this process.

In applying the thematic analysis in this dissertation, the proposed model of Braun and Clarke (2006) was emulated in this context. This one indicated that I adhered to the intricate processes of thematic analysis which include the familiarizing of the data, formulating the initial codes, identifying the potential themes, double-checking the themes that were generated, deciding on theme labels, and completing the report.

Ethical Considerations

This paper was evaluated thoroughly by the Research Ethics Committee of the University of the Immaculate Conception based on the ten ethical tenets of research: social value; informed consent; vulnerability of the research participants; risks, benefits, and safety; privacy and confidentiality; justice; transparency, qualifications of the researcher; adequacy of facilities; and community involvement. As such, the study was subjected to careful scrutiny to affirm that the ethical principles were strictly applied in the research process at all times to protect human participants, most particularly those who belong in the vulnerable sectors.

RESULTS AND DISCUSSION

Participants' Profile

As depicted in the Table 1, the five cases of outstanding independent readers were differentiated in terms of their demographics and unique aspects. Case-A is a single male in his 40s pursuing a Bachelor of Agricultural Technology. He has no children and is in his 4th year as a returnee student. Case-B, on the other hand, is a married male in his late 40s studying Bachelor of Public Administration. He has a large family with seven children and is a 2nd-year regular student. Case-C is a single parent female in her early 40s enrolled in Bachelor of Science in Agriculture. She juggles her studies with the responsibility of raising three children while in her 2nd year as a regular student. Case-D is a married, working female in her mid-40s pursuing Bachelor of Science in Business Administration – Financial Management. With two children, she manages her education alongside her career and is currently in her 4th year as a regular student. Lastly, Case-E is a married, non-working female in her early 40s studying Bachelor of Science in Agribusiness. With four children, she balances her studies as a 3rd-year regular student. Each individual's unique personality is shaped by their life circumstances, educational goals, and familial responsibilities, reflecting their diverse backgrounds and experiences.

Table 1. Profile of the Participants in In-depth Interviews

POINT OF SIMILARITIES AND DIFFERENCES	MIDDLE-AGED LEARNER SINGLE MALE (Case-A)	MIDDLE-AGED LEARNER MARRIED MALE (Case-B)	MIDDLE-AGED LEARNER SINGLE PARENT FEMALE (Case-C)	MIDDLE-AGED LEARNER MARRIED WORKING FEMALE (Case-D)	MIDDLE-AGED LEARNER MARRIED NOT WORKING FEMALE (Case-E)
AGE	40	47	41	46	42
SEX	Male	Male	Female	Female	Female
YEAR	4th year - returnee	2nd year - regular	2nd year regular	4th year regular	3rd year regular
CODE	PO1	PO2	PO3	PO4	PO5

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Presentation of Findings

Experiences. Using Braun and Clarke's (2006) model of thematic analysis: four themes emerged which explained the experiences of outstanding independent readers in relation to their life skills in reading. As shown in Table 2, these themes are: *linguistic barriers in communication, strong resolve towards communicative goals, aspiration for personal and professional growth, speaking and reading engagements, conducive learning environment, and learning challenges.*

Table 2. Experiences of Middle-aged Language Learners in Local College

Essential Theme	Core Ideas
Linguistic Barriers in Communication	• catching off guard with unfamiliar and obscure words • finding it difficult to construct sentences properly • struggling in grammar as the first language is Bisaya • having weaknesses in pronouncing English words correctly • having difficulty in expressing oneself orally in English • having difficulty on how to make a communication letter, the technical terminologies to be used. • struggling in keeping correct spelling and pronunciation of English terms.
Strong Resolve towards Linguistic Resilience and Growth	• having the determination and will to compete with the younger generation in order not to fall behind • having high aspiration and determination to develop communicative competence • having determination to exert effort in learning the language • developing love to communicate to enrich English skills and build interpersonal relationship • making self-sacrifice and fortitude to strive for the goals to learn and improve English. • becoming courageous to face criticisms and comments of others as adult learner of English • having a positive outlook and determination in life despite busy schedules
Aspiration for Personal and Professional Growth	• being challenged to learn English to improve public speaking skills • being encouraged to learn English to improve hosting skills • having self-motivation and significant aspirations for personal growth • gaining confidence in oneself by facing visitors in school • constantly communicating through social media to improve communication skills • making extra effort to study more and become adept in English • being encouraged to learn English to achieve competence in office's paper works • having motivation to learn English to respond interview questions accordingly when landing a job
Varied ESL Engagements	• participating in classroom and school activities • reporting actively to practice and develop English speaking skills • attending and participating in a seminar or a contest in school during Intramurals, like oration or extemporaneous speaking. • participating in interviews as assessment on speaking proficiency • joining or participating literary events during intramural like scrabble • having wide exposure to English reading materials like books and modules that develop vocabulary • reading dictionaries to understand meaning of unfamiliar words
Multifaceted Support System	• having good teachers • having helpful classmates • having home as platform to practice speaking skills • living in countryside free from noise for concentration • having exposure to technology for development of research skills in English. • having school facility for drills to improve fluency and articulation

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Learning Challenges	• lacking focus and time due to life responsibilities like balancing time between family, work and school • having weak memory and thought process as compared during younger years • struggling with technology, especially in power point presentations • struggling with using cellphone due to age-related vision problems • feeling anxious when answering questions in class • expecting to get embarrassed when reporting, sharing insights, reciting orally, among others. • having inferiority complex with intelligent classmates in the classroom

Linguistic Barriers in Communication. The participants presented more than one statement connected with linguistic obstacles they encountered in expressing themselves both in written and oral form. Cases A, B, C, D, E had their own stories to tell as to the difficulties they face or experience when using English across diverse communication context. In fact, Case B had this to say:

> I struggled when I enrolled again after graduating in 1993 and returning to college in 2021. I felt like I didn't have any stock knowledge left. However, I tried my best with my studies, even though I was busy. I have dreams for the future; I know I need to keep growing. (P02_RQ1.S1)

Strong Resolves toward Linguistic Resilience and Growth. All five participants revealed that what keep them stimulated in learning English despite their age in college are their perceived attitude, characteristics, and beliefs. Common among them is their determination, positive outlook, and will to exert efforts to learn English. In other words, they have their respective strong resolve towards their communicative goals - that is to improve English skills. Case D gladly remarked that she strives communicative goals by being courageous to face criticisms and comments of others. In detail she said:

> Many people may comment or say things about why I chose to go to school, but I simply don't pay attention to them. I just strive hard because I really need to finish my studies and develop my English skills. If I don't go to school, I won't know anything, I'll fall behind, and I'll feel very helpless. (P04_RQ1.S2)

Aspiration for Personal and Professional Growth. The participants have common motivations and inspirations that encourage them to learn English at this stage of their life. Accordingly, they are making efforts and sacrifices to learn English because they wanted to achieve significant change and development in the personal and professional aspects of their life. Case E confirmed this by emphasizing:

> It's really important. I was motivated to learn English because it's extensively used in job applications, understanding instructions, and answering questions. (P05_RQ1.S3)

Varied ESL Engagements. All participants value this as an essential opportunity to engage to learn English especially on the development of vocabulary and oral communication skills. Accordingly, joining and participating in classroom and school activities like oral recitation, reporting, literary contests such as oration and extemporaneous, and seminars and training help improve speaking skills. Meanwhile, having wide exposure to English reading materials like books and modules, and dictionaries develop to enrich vocabulary and unfamiliar words. Case B demonstrated his exposure by engaging into oral reporting, and shared:

> I'll never forget that time during the reporting. It was a great opportunity for me to practice my speaking skills. Using a laptop to prepare for my reports was crucial. We needed to answer questions about our reports, study them, and then immediately develop our comprehension and understanding in English. I also asked for help from my classmates since they had laptops. Additionally, the method used by our teacher to require us to report in English also helped in developing our English-speaking skills. (P02_RQ1.S4)

Multifaceted Support System. With no hesitations, the participants shared their respective experiences as regards to the impact of their environment on their bid for language learning. All of them have similar responses and revealed that the school through its competent teachers, facility, and classmates, home, and exposure to technology help them a lot in their pursuit of communication skills. Combination of these elements constitutes a conducive learning environment for middle-aged learners in college. Case A, for instance, conveyed:

> The school has been a great help to me, especially with their English learning system. The teachers effectively implement the curriculum, ensuring students understand the lessons well. School activities such as intramurals and organizational events like literary competitions also contribute significantly. As a leader in our organization, even though we may not be participants, we still learn because we supervise them during practice and rehearsals. We observe and apply the techniques they use to deliver presentations effectively in English. Additionally, the school facilities have also been immensely helpful. (P01_RQ1.S6)

Learning Challenges. These five middle-aged learners in local colleges have experienced challenges and drawbacks that tested their will and determination to pursue learning English. They have encountered a multitude of challenges when it comes to balancing their time between home and school obligations. Juggling household tasks alongside academic responsibilities proved to be a daunting task for them. Furthermore, they all grappled with cognitive and memory issues, making it

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challenging to comprehend intricate English concepts and retain the information provided in their studies. This struggle often resulted in frustration and feelings of inadequacy. Moreover, the fear of committing linguistic errors added an additional layer of anxiety for them. They worried about not being able to articulate their thoughts effectively or convey their ideas accurately due to language barriers, which hindered their confidence in participating in class discussions or expressing their opinions freely. This language anxiety further exacerbated their learning experience, making it even more challenging to overcome their academic hurdles. Case C emotionally stated her struggles and said:

> Balancing my time between my children and my studies is a significant challenge. I struggle with providing for my children's needs as a single parent. Although I receive income from our farm on weekends, making a living is still incredibly difficult. Another challenge is the ease of forgetting things, especially as one gets older. The sacrifices I make are truly significant. On weekdays, I stay in a boarding house for school, and then on Fridays, I return home to take care of my sibling's child as a sideline to earn money, which I then use to provide for my children's school expenses. Usually, I spend my Sundays doing laundry for my children's clothes because I study during weekdays. Life is challenging, and managing time effectively is crucial. I also struggle with making PowerPoint presentations for reports and research. It's a challenge, especially considering our age. Finally, there are times when I feel afraid to speak in case my English gets mixed up or I make mistakes. I get embarrassed or anxious in front of my classmates, especially those who are really good at English. I worry that they might bully me or laugh at me if I make mistakes in my responses or if my grammar is wrong. (P03_RQ1.S7)

Coping Strategies. Meanwhile, the coping strategies of middle-aged learners in association to their learning of English in Local Community Colleges were also unveiled in this study. As shown in Table 3, four emerging themes were presented: *reliance on reputable sources; time management and prioritization; self-directed learning strategies; social support system, optimal use of technology, English language immersion, and stress management techniques.*

Table 3. Coping Strategies on the Challenges of Middle-aged Learners in Local Colleges

Essential Theme	Core Ideas on Coping	Challenges
Reliance on Reputable Sources	• brainstorming with classmates • asking questions to smart and fast learners' classmates • searching and optimizing internet connection to identify and understand meanings • looking up in the dictionary	Linguistic Perplexities
	• conducting research in the library • consulting an expert co-worker to clarify teachers' inputs • internalizing in oneself to understand difficult concept • asking for clarification to instructors	Instructor's ambiguous inputs
Self-directed Learning Strategies	• going to the library to search for meaning • practicing to gain confidence in expressing ideas • listening attentively to the teacher's explanation • reading a lot to understand deeply what has been read, and for retention • inquiring from classmates to catch up missed lessons and reminders • listing down unfamiliar words and important information in notes and handouts	Cognitive Setbacks
Social Support System	• having supportive friends and classmates when struggling with school tasks	Hefty academic workloads
	• having immediate family for encouragement, moral and financial support • seeking help from expert relatives, and co-workers,	Stressful moments and frustration
	• having competent and approachable instructors when struggling with speech, written outputs, in grammar, pronunciation • seeking assistance from daughter in college on techniques and methods to present report in English	Communication Oversights

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Optimal Use of Technology	• watching commercials, TV shows, and news to update and enhance vocabulary • following educational vlogs in Facebook to cultivate English skills • using Grammarly to check grammatical errors • using ChatGPT to gather information and explanation • searching in Google, YouTube for English topics and lessons	Grammatical deficiencies
	• using social media for communication with friends and classmates to catch up missed lessons	Absence in class
	• observing and learning to make PowerPoint presentations from classmates • seeking assistance from family to use LMS like google meet and google classroom	Lack of technology literacy skills
English Language Immersion	• exposure to public, such as hosting events • using English in conversation at home • using English in daily life practices like going other places • having friends and classmates to practice communication skills • communicating constantly with foreigners to develop speaking and writing skills • conducting interviews using English in Agricultural extension subject	Lack of communicative competence
Stress Management Technique	• taking a rest and sleep • setting mind to relax • participating in leisure activities from the office to unwind	Excessive paper works
	• seeking Divine Providence through prayer • bonding with my friends • remaining steadfast to overcome challenges • surpassing moment of downfall through positive mindset • joking and employing entertaining technique to ease nervousness	Frustrations, self-doubts, and language anxiety

Reliance on Reputable Sources. In some circumstances, the participants offered many statements related to coping with a linguistic perplexity, and their instructors' ambiguous inputs. Cases A, B, C, D, and E each used their unique coping mechanisms to overcome this obstacle while still pursuing their studies as middle-aged learners in College. Case D, for instance, stated:

> I felt stressed during the explanation by the teacher, and no matter how hard I tried, I couldn't understand. So, what I did was I researched at home. Then, when I was assigned to create a letter by my colleague at work, I felt overwhelmed, and my head was spinning. It took me half a day to complete the letter because I didn't know where to start. What I did was, I read through it and searched on Google. Finally, I had it checked by my expert co-worker especially when I need clarification on the teachers' inputs in English. (P04_RQ2.S1)

Self-directed Learning Strategies. When dealing with cognitive setbacks like being confronted with difficult lessons, topics, and concepts in English, they resorted to their specific self-directed strategies such as going to library to search for meaning, listening attentively to teachers' explanation, reading a lot, listing down unfamiliar words, making further inquiry on classmates, and gaining confidence before speaking through practice. Case A illustrates this by putting emphasis on the following:

> I found ways to learn how to read. If I have difficulty understanding a story. I always make an effort to find ways to help myself. I do not give up immediately because I believe there is always a way. (P02_CQ2.S2)

Social Support System. All the participants considered this to be an important takeaway that they use in handling hefty academic workloads, stressful moments, frustration, and communication oversights. As can be seen in the table, there are five core ideas developed in relation to the social support system as theme of the coping strategy that each participant used in hurdling these challenges in language learning journey. As disclosed in the result, these five cases have established common support network such as having supportive friends and classmates, competent instructors, and immediate family who provided the much-needed support when they are confronted with psychological issues, overloaded works, difficulties in both oral and written communication. Case C passionately stated the following in this resource regarding his coping schemes employed to communication problems, as well as anxiety and frustration:

> My instructors, even though they're younger than me, have been incredibly supportive. They really push me, especially during moments when I feel hopeless about learning or when I struggle with English. They encourage me to keep fighting. I truly see the help from my relatives, classmates, and friends because of them. They give me the confidence

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and motivation to learn. Whenever I encounter difficulties in storytelling, writing, grammar, or pronunciation, they are always there to help and guide me. (P03_RQ2.S2)

Optimal Use of Technology. They learn to take advantage on the benefits of technology to their language learning journey in the most optimum way. As coping to deal with grammatical deficiencies, they watch commercials, TV shows and news, follow and obtain relevant inputs from Vlogs, and search in Google and YouTube for English topics. What resonated me most is their disclosure on their usage of Artificial Intelligence like Grammarly and ChatGPT to organize sentence structure and gather significant and immediate information and explanation on ambiguous or complicated linguistic inputs emanated from the class. Further, due to overlapping schedules and family emergencies, they could not attend classes, and to catch up on missed lessons, they communicated with their classmates through their group chat in messenger. Case A elaborated:

> Commercials, TV shows, and news have also helped update and enhance my vocabulary. In terms of technology, I use apps like Grammarly to check my grammar, and I also use ChatGPT. It's very easy to use—just one instruction and the information or explanation is provided right away. However, I don't just copy and paste; I still read through the responses. I simply use it to get ideas. (P01_RQ2.S6)

English Language Immersion. As presented in the table, the participants extensively engage in public events, enhancing their language skills and cultural exposure. This immersion extends to home environments, where English conversations become commonplace, fostering proficiency and a supportive learning atmosphere. Additionally, individuals integrate English seamlessly into daily life practices, such as navigating various settings and interacting with English-speaking communities, promoting practical language application and fluency. Social interactions with friends and classmates serve as pivotal platforms for honing communication skills and language proficiency in diverse contexts. Moreover, constant communication with foreigners proves invaluable in refining speaking and writing abilities, contributing significantly to their overall language development. Lastly, one participant gains practical experience by conducting interviews in English for agricultural extension subjects, reinforcing language learning within vocational settings. Case D shared her experience and how she took her daily communication with foreigner shapes her communication progress. She said:

> I also use English, especially when I go to different places. The things I've learned from school really come in handy when interacting with people. Also, continuously communicating with foreigners has significantly helped in developing my English speaking and writing skills. (P03_RQ2.S8)

Stress Management Techniques. This theme was explored through a study with several core ideas emerging as effective strategies for dealing with excessive paper works, frustrations, self-doubts, and language anxiety. One participant reported utilizing a variety of techniques to manage excessive workloads, including taking breaks and prioritizing rest and sleep, found solace in setting minds to relax, and engaging in leisure activities outside the office to unwind. In addition, seeking Divine Providence through prayer was also a prevalent coping mechanism among participants, spanning across multiple cases. Social support proved invaluable, with bonding activities with friends identified as a source of comfort and relief. Remaining steadfast in the face of challenges and maintaining a positive mindset were highlighted as crucial factors in overcoming moments of downfall and self-doubt of the two participants. Lastly, employing humor and entertaining techniques to ease nervousness emerged as effective strategies to alleviate language anxiety. Case D, in detail shared that:

> I balanced my time between my child, our household chores, and school. It was really exhausting, and there were moments when my body felt like giving up. When I was too tired, I just lay down. I set my mind to relax. Sometimes, we would go out for leisure at the office. Of course, managing my work, school, and household responsibilities remained a priority. (P04_RQ2.S2)

Similarities and Differences. As part of the cross-case analysis, similarities and differences among cases are analyzed in the context of English language learning of middle-aged learners. It can be generally inferred that although most of the cases were similar, there are also notable differences of their experiences and challenges identified in this study. As depicted in Table 4, Cases A, C, and D struggle in understanding unfamiliar and technical words; B and E struggle in pronunciation; case B has grammar difficulties; case D was challenged on writing communication letters due to technical terminologies; and case E is problematic in spelling. Cases A, B, and E manifested strong determination to learn English; Case C communicates English to build interpersonal relationships; and Case D strives for communicative goals by facing comments and criticisms courageously. Further, Case B, C, and E learn English for personal growth, while A and D learn English for professional development. It is also noted that all participants shared the same reading and speaking engagements and deemed a conducive learning environment as factor in learning and developing English skills. They also shared the same learning challenges, however, case D has never experienced trouble in technology adaptation due to her exposure at it at her workplace.

In the aspect of coping schemes, although all cases seek clarification through the internet, dictionary and teachers, case A, C, D, and E used to brainstorm with classmates when faced with linguistic perplexities. D and E ask questions with smart classmates, cases A and D do internalization, and D consults expert colleague to clarify ambiguities. It is also revealed that all cases have distinct ways of dealing conflicting schedules and overlapping responsibilities. Meanwhile, case A, B and go to the library to quench ambiguous English concepts; case C reads a lot

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to deal cognitive setbacks; case D listens attentively to teacher's inputs; and case E practices her materials to gain confidence in expression ideas. Additionally, all participants converged in deeming friends and family as their social support system in learning English. However, differences are apparent in the use of technology, although all of them search in Google and YouTube to address grammar issues, case A used Grammarly and watches commercials, TV shows and news to enhance vocabulary; case B maximizes social media to catch up lessons; case C observes classmates and learns to make PPT presentation; case D follow educational vlogs; and case E seeks family's assistance to navigate LMS. It is also evident that all participants immersed themselves in English thru practice and use of English at home. Lastly, case C, D, and E pray to ease stress; while case A bonds with friends, case C jokes and employ entertaining techniques, and case D takes rest and relaxation to ease stress, frustrations and anxiety.

Table 4. ***Similarities and Differences of Experiences and Coping Strategies of Outstanding Independent Readers in Secondary Schools***

Themes on Experiences and Coping Strategies	Case Unit	
	Similar	Different
Experiences:		
Linguistic Barriers in Communication	A, C, D	
	B, E	
		B
		D
		E
Strong Resolve towards Linguistic Resilience and Growth	A, B, E	
		C
		D
Aspiration for Personal and Professional Growth	B, C, E	
	A, D	
Varied ESL Engagements	A, B, C,D,E	
Multifaceted Support System	A, B, C,D,E	
Learning Challenges	A, B, C,D,E	
		D
Coping Strategies:		
Reliance on Reputable Sources	A, B, C,D,E	
	A,C,D,E	
	D,E	
	A, C	
		D
Self-directed Learning Strategies	A, B, C	
		C
		D
		E
Social Support System	A, B, C,D,E	
Optimal Use of Technology	A, B, C,D,E	
	A, E	
		A
		B
		C
		D
		E
English Language Immersion	A, B, C,D,E	
Stress Management Technique	C,D,E	
		A
		C
		D

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Implications

The experiences and coping strategies shared by the middle-aged language learners in Local Community Colleges in Davao del Norte offer a balanced and intricate view of implications for the teaching practice. This sheds light on how educators, academicians, and the institutions at large can effectively extend support to this demographic. By adopting strategies such as reliance on reputable sources, time management and prioritization, self-directed learning, etc., middle-aged learners can effectively navigate the challenges prevailing in the process of learning and acquiring English as a second language, while balancing other responsibilities and commitments as family member and worker. These strategies will help learners to stay focused and abreast on their goals and manage their studies alongside their personal and professional obligations and aspirations.

One of the vital approaches to sustaining learners of middle age is providing access to relevant resources and boosting technology skills. This appears necessary because not only do the valuable materials need to be sorted but also the use of electronic devices require guidance on navigating them for language learning and practice. Overall, raising awareness with reference to the significance of digital skills can assist learners in making full use of the range of their options. As a result, they will feel more capable and effective in pursuing language goals.

Further, the role of a supportive social network cannot be disregarded and understated L2 journey, as it offers middle-aged learners with a relevant opportunity for encouragement and meaningful practice. Whether through teachers, peers, family members, or language communities, this linkage fosters a collaborative learning environment that promotes language proficiency and builds confidence in multicultural communication setting. Engaging also with others facilitates middle-aged learners to gain insights into cultural nuances and context and tailor one's communication that demonstrates utmost respect and understanding towards each other's diverse nature and culture.

Stress management techniques, as evident in the study, are essential tools for middle-aged learners to maintain and sustain focus and productivity amidst the complexities of overlapping responsibilities and conflicting schedules. As such, educators must provide authentic resources and necessary guidance on managing learners' stress so that they will be able to maintain a healthy disposition as anxiety associated with language learning is significantly reduced or lessened. By prioritizing well-being, these types of learners are better equipped to succeed in their respective studies.

The relevant findings and results of this study suggest the need for a quantitative research approaches to explore and look into further details the various themes, which can serve as variables in a survey questionnaire instrument to better understand the learning experiences and coping strategies of middle-aged learners. With the specific emerging themes, future research could assess how these coping strategies vary across different settings and contexts, such as in online language courses, community-based programs, or in workplace-based learning. This would surely help uncover how situational and environmental factors may impact the experiences and coping strategies of this demographic. Furthermore, this study paves way for opportunities to expand the scope of research participants and include other groups of middle-aged learners across diverse cultural and linguistic frame of references and backgrounds. This larger perspective could possibly lead to valuable insights into the universal and context-specific factors that significantly influence the learning experiences and coping strategies of middle-aged learners pursuing learning in English as Second language.

CONCLUSIONS

The experiences and coping mechanisms of middle-aged learners in local community colleges present both the challenges and successes of their English language learning journey. While facing setbacks, many of them have adopted specific measures that are appropriate to their respective characteristics and preferences. This study allowed me to gain a fuller insight into their experiences, leading to a deeper understanding of the complexity of language acquisition process for individuals aged 40s.This type of research is challenging; however, it was rewarding as it has revealed significant experiences, challenges and coping schemes that everyone across ages must reflect and leverage to navigate English language learning journey successfully. I realized that strong will and determination, coupled with the initiatives to utilize available resources effectively, supportive social system, and above all the providence of God as potent stress technique to manage frustrations and anxieties, nothing is impossible to achieve. Learning English knows no age and boundaries. We just have to pursue what we aspire for so we can achieve our communicative goals and savor the benefits it could offer us wherever we are, and whoever interlocutors we are dealing with the use of English for various purposes.

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FORMULATIONS AND EVALUATION OF HERBAL TOOTHPASTE

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ABSTRACT

Toothpaste is a widely used product for oral hygiene, commonly employed for teeth and mouth cleaning, as well as for treating various dental disorders. Dentists often recommend toothpaste for addressing issues like sensitivity and chronic gingivitis. Herbal toothpastes harness the antibacterial and antimicrobial properties of different herbal extracts from crude drugs. These formulations utilize a variety of herbs and bark, among others. Evaluation of herbal toothpastes involves multiple tests including physical examination, relative density, abrasiveness, spreadability determination, pH determination, homogeneity, foaming, stability, moisture and volatile matter determination, moisture content, foaming character, and organoleptic evaluation, among others. This research aims to consolidate on herbal toothpaste, covering its introduction, various formulations, and evaluation parameters, facilitating researchers interested in exploring this area further.

KEYWORDS: *Neem, Toothpaste, Clove, Herbal Toothpaste etc.*

INTRODUCTION

Toothpaste is the most common preventive measure in oral health care, serving as a vital component in maintaining oral hygiene. Many commercially available dentifrices claim to have antimicrobial properties, but there is limited research to validate these claims. This study aimed to evaluate the efficacy of different toothpaste formulations in reducing oral microbial load. The findings indicated that the selected toothpaste formulations were effective in controlling microbial load, thereby contributing to good oral hygiene. However, practicing appropriate oral hygiene measures and brushing techniques is crucial for maintaining oral health, potentially more so than the specific ingredients in the toothpaste.

Chronic gingivitis, one of the most prevalent oral diseases globally, is primarily caused by dental plaque. While mechanical methods, such as brushing and flossing, are essential for plaque removal, their limitations necessitate supplementary measures. The inclusion of safe and effective antimicrobial agents in toothpaste is considered a beneficial adjunct to mechanical plaque control. Research has demonstrated that certain chemicals, such as chlorhexidine and triclosan, can be added to toothpaste to inhibit plaque formation directly.

Various chemical agents have been incorporated into toothpastes and mouth rinses, with some showing efficacy in reducing dental plaque formation. With increasing awareness of indigenous medical practices, there has been a growing interest in herbal medicine and alternative therapies for health care promotion. Herbal toothpastes, which do not contain synthetic agents like triclosan or fluoride, often use natural ingredients such as mineral salts (e.g., sodium fluoride and sodium chloride) and plant extracts like lemon, eucalyptus, rosemary, chamomile, sage, and myrrh.

The primary purpose of toothpaste is to reduce oral bacterial flora and deliver fluoride to the teeth, as fluoride is proven to protect teeth against bacterial attacks. Fluoride occurs naturally in many foods and drinking water. Effective toothpastes that reduce oral bacterial flora significantly contribute to dental health. For instance, triclosan is frequently used in toothpaste for its antibacterial properties to prevent gum disease, while sodium fluoride also possesses antibacterial qualities.

Natural toothpastes, which exclude synthetic ingredients like triclosan and fluoride, aim to offer similar benefits through natural compounds. They typically contain minerals and plant extracts that have antibacterial and anti-inflammatory properties.

Despite the benefits of chemical agents, self-performed mechanical plaque removal remains the most widely accepted method of controlling plaque and gingivitis. Mechanical plaque control is time-consuming, and many individuals may lack the motivation for these procedures. Therefore, integrating effective chemical agents in toothpastes can enhance plaque control and support overall oral health.

Plants with therapeutic effects have been beneficial to oral health for thousands of years across the world. Traditional medicine often has more advantages and fewer side effects, such as allergies, compared to modern treatments. Neem is one of the most widely researched tropical trees for its therapeutic properties. Approximately 20 years ago, the components of

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neem extract were analyzed for their medicinal value. Chewing sticks, including those made from neem, have been used in the Indian subcontinent, the Middle East, and Africa since ancient times.

Dental caries is steadily increasing in underdeveloped and developing countries, creating an urgent need to promote traditional preventive measures that are accessible, readily available, and cost-effective. Neem has been recognized for its antibacterial activity since ancient times. It has been used for various purposes, including as an astringent, antiseptic, insecticidal agent, anti-ulcer treatment, and for cleaning teeth affected by pyorrhea and other dental diseases. Neem leaf extract has demonstrated superior antiviral and antihyperglycemic activity in vitro and in vivo on animals. It also shows broad-spectrum antibacterial activity in vitro.
Nanotechnology, which involves creating materials, drugs, and devices that manipulate matter at specific sizes to enhance drug targeting, is being explored to improve the efficacy of herbal medicines. Developing nano-materials from herbal extracts can enhance their action and benefits.

In this comparative study, the focus is on the difference between food debris and dental plaque. Food debris consists of small white particles on teeth that can be easily rinsed off, while dental plaque is a thin, yellowish film of bacteria that adheres to teeth and cannot be rinsed off. There is a close relationship between tartar, calculus, and periodontal disease. Various natural extracts are used in different categories, such as neem for antibacterial purposes, guava for anti-inflammatory effects, babul as an astringent, kalmi as a flavoring agent, and other ingredients like camphor (antiseptic), honey (sweetening agent), glycerine (humectant), calcium carbonate (abrasive), SLS (detergent), sodium chloride, and distilled water. This has led to increased attention on using natural ingredients in herbal dentifrices.

Toothpaste is the most common preventive approach in oral health care. Many commercially available dentifrices claim to have antimicrobial properties, but little research has been conducted to investigate these claims. It is well understood that more than 2000 years ago, dentifrices were used for cleaning teeth, and the use of toothpicks and brushes dates back even further. Today's dentifrices follow many of the same concepts developed centuries ago. The use of natural or Ayurvedic medicines for general and oral health is an integral part of Indian tradition. Many Ayurvedic toothpastes available in the market claim to have excellent antimicrobial properties.

While toothpastes are used almost universally in the developed world, some groups and cultures still practice traditional tooth brushing without dentifrice, using items like miswak or salt. Although dentifrices have been used since antiquity, recent formulations aim to deliver active compounds that prevent and/or treat oral diseases. The history of toothpastes is extensively reviewed elsewhere.
Neem possesses antibacterial, anti-inflammatory, and anti-caries properties. Its antimicrobial effects have been reported against Streptococcus mutans and Streptococcus faecalis. Dried neem chewing sticks show significant antibacterial activity against S. mutans. However, limited research is available regarding the efficacy of natural dentifrices. Therefore, this study was undertaken to evaluate their impact on oral hygiene and gingival bleeding.

Toothpaste not only protects, cleans, and polishes teeth but also enhances oral hygiene efficiency. It has a pleasant flavor and smell and freshens breath. Brushing twice a day with toothpaste is crucial for maintaining a healthy mouth. The major goal of this research is to formulate and evaluate herbal toothpaste. Toothpaste is typically used by all individuals for cleaning teeth and mouth and is also used to treat many dental issues.

IDEAL PROPERTIES OF TOOTHPASTE

Non-Harmful to Oral Tissues
The toothpaste should be gentle on the gums, tongue, and other oral tissues, preventing irritation or damage.

Non-Staining
It should not cause any discoloration of the teeth, ensuring the natural whiteness is maintained.

Non-Abrasive to Enamel
The formulation should be non-scratching and safe for the enamel surface of the teeth, preventing erosion and sensitivity.

Safe if Ingested
If accidentally swallowed, the toothpaste should not cause harm to the gastrointestinal tract (GIT).

Pleasant Odor and Taste

- It should have a pleasant flavor and smell, making the brushing experience enjoyable.
- Free from Unnatural Chemicals
- Ideally, the toothpaste should not contain artificial chemicals, dyes, flavors, or preservatives, reducing the risk of adverse reactions.

Natural Ingredients Only
The formulation should be made exclusively with natural ingredients to ensure safety and environmental friendliness.

No Growth Hormones, Chemicals, or Pesticides
Ingredients should be free from growth hormones, chemicals, or pesticides to ensure purity and health safety.

Benefits of Toothpaste
Combat Dental Issues
Toothpaste helps prevent dental caries, gum disease, bad breath, calculus buildup, erosion, and dentin hypersensitivity.

Abrasives for Cleaning and Whitening
Contains mild abrasives to effectively clean teeth and remove surface stains, resulting in whiter teeth.

Flavour for Fresh Breath
Includes flavors that help freshen breath, providing a pleasant aftertaste.

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Visual Appeal

- Dyes are used to give the toothpaste a visually appealing color, enhancing user experience.
- Enamel Strengthening.
- Helps to remineralize and strengthen enamel that has been weakened by acids, protecting against decay.

Germ-Killing Properties
Contains antibacterial agents to kill germs and prevent infections, promoting overall oral health.

Active Ingredient Delivery
Delivers active ingredients effectively to help prevent various dental diseases, ensuring targeted oral care.

Relieves Toothache
Certain formulations can provide relief from toothache, reducing discomfort.

Cavity Prevention and Fresh Breath

- Fights against cavities and maintains fresh breath, essential for daily oral hygiene.
- Intrinsic Stain Removal
- Helps in removing intrinsic stains from teeth, restoring natural color.

Bacteria Removal
Effective in removing harmful bacteria from the oral cavity, reducing the risk of infections.

Anti-Inflammatory Effects
Shows anti-inflammatory effects on gums, reducing swelling and redness.

Advantages of Using Toothpaste
Ensures Safe Teeth Cleaning
Provides effective cleaning of teeth without causing harm to the oral tissues or enamel, ensuring a thorough yet gentle cleaning experience.

Calms Throbbing Pain in Gums
Contains soothing agents that can alleviate gum pain and inflammation, providing relief from discomfort.

Removes Stains Without Damaging Enamel
Formulated with mild abrasives that effectively remove surface stains while preserving the integrity of the enamel, helping to maintain a bright smile.

Freshens Your Breath
Includes ingredients that neutralize bad odors, leaving the mouth feeling fresh and clean.

Safe for Children
Specially designed to be safe if ingested, making it an excellent choice for young children who might accidentally swallow toothpaste.

Stronger Enamel and Better Protection Against Tooth Decay
Enriched with fluoride and other minerals that strengthen enamel, providing enhanced protection against cavities and tooth decay.

No Risk to Children's Health if Swallowed
Represents a safe alternative to ordinary toothpaste for children, reducing concerns about accidental ingestion.

Disadvantages of Using Toothpaste

- Ineffective at Removing Major Stains
- While it can handle minor discoloration, toothpaste alone is not sufficient for major stains; professional whitening services may be required for more significant results.

Increased Salivation
Some formulations may stimulate increased salivation, which can be uncomfortable for some users.

Potential Enamel Erosion
Overuse of certain abrasive toothpastes can gradually wear down the enamel, leading to enamel erosion over time.

Dentin Abrasion and Increased Tooth Sensitivity
If the toothpaste is too abrasive, it can cause dentin abrasion, which exposes the sensitive inner layers of the teeth, leading to increased sensitivity and discomfort.

Applications of Toothpaste
Perfume Your Palms
Eliminate Strong Odors: Cutting onions, cleaning fish, or handling garlic can leave strong odors on your hands. Wash them with toothpaste to effectively remove these smells.

Clean you're Jewellery
Polish Metal Jewellery: Use a soft toothbrush with a small amount of toothpaste to brush dull metal jewellery. Rinse and polish it with a soft cloth to restore its shine. For more tarnished pieces, soak the metal in a cup of water with dissolved toothpaste.

Caution for Pearls: Avoid using toothpaste on pearls as it can damage their delicate surface.

Remove Crayon Marks from Painted Walls
Wipe with Toothpaste: Put a dab of toothpaste on a damp sponge and gently wipe crayon marks off painted walls without damaging the paint.

Defog Goggles
Prevent Fogging: The mild abrasives in toothpaste can help prevent goggles and masks from fogging up. Lightly rub toothpaste inside a diving mask, motorcycle goggles, or a hockey helmet face guard. Wipe and rinse the surface clean.

Caution for Coatings: Be aware that toothpaste may remove special coatings like anti-glare treatments, so use it cautiously.

Clear Pimples
Overnight Treatment: Dab a small amount of toothpaste on pimples before bed. In the morning, wash your face clean. This

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method can also work for bug bites and bee stings—just ensure you remove the stinger first. The toothpaste will dry out and reduce the size of the blemishes.

MATERIAL AND METHODS

The materials utilized in the experiment were of pharmaceutical grade or the highest quality laboratory reagents, directly obtained from the manufacturer. Throughout the experiment, double-distilled water served as the solvent. The list of materials used included various substances categorized according to their respective functions. Firstly, Neem, recognized as the active ingredient, played a pivotal role in the experiment's formulation. Clove, serving as a flavouring agent, added a distinct taste to the final product. Dicalcium phosphate functioned as a leavening agent, contributing to the texture and consistency of the formulation. Calcium carbonate acted as an oxidation agent, influencing the chemical reactions within the experiment. Glycerine served as a moisturizing agent, ensuring the product's smooth and hydrating properties. Gum Tragacanth was utilized as an emulsifier, aiding in the uniform distribution of ingredients. Saccharin, a sweetening agent, provided a pleasant taste without adding calories. Finally, sodium lauryl sulphate functioned as an additional emulsifier, enhancing the stability and consistency of the formulation throughout the experiment. Each material played a crucial role in achieving the desired characteristics and properties of the final product.

Neem and Clove were acquired from the local market for the experiment. Additionally, a range of chemical reagents were employed in the study, including Dicalcium Phosphate, Calcium Carbonate, Glycerine, Gum Tragacanth, Saccharin, and Sodium Lauryl Sulphate.

DRUG PROFILES

Neem Powder *(Azadirachta indica)*

Neem's health-promoting effects are largely attributed to its rich antioxidant content, making it a valuable resource in traditional medicinal practices such as Chinese, Ayurvedic, and Unani medicine, particularly prevalent in the Indian subcontinent. Neem has been extensively utilized for the treatment and prevention of various diseases. Previous research has confirmed that both Neem and its constituents play a crucial role in scavenging free radicals and inhibiting disease pathogens.

Studies conducted on animal models have further demonstrated the pivotal role of Neem and its primary constituents in anticancer management. Through the modulation of various molecular pathways, Neem exhibits promising potential in combating cancer. Importantly, Neem is considered a safe medicinal plant that modulates numerous biological processes without adverse effects.

Furthermore, Neem showcases a wide array of biological and pharmacological activities, including antibacterial, antifungal, and anti-inflammatory properties. Its versatility in targeting multiple biological pathways underscores its significance as a therapeutic agent in traditional medicine systems and highlights its potential for modern medical applications.

On the other hand, Neem powder, derived from the Azadirachta indica tree, offers remarkable benefits for oral health. Despite its bitter taste, Neem is highly regarded for its antibacterial and anti-inflammatory properties. These properties make it an excellent aid in oral hygiene, as it can effectively clean teeth and reduce plaque buildup over time. By targeting harmful bacteria and reducing inflammation in the oral cavity, Neem powder contributes to maintaining overall dental health. Its natural composition makes it a preferred choice for individuals seeking alternative and holistic approaches to oral care.

Clove oil *(SyzygiumAromaticum)*

Clove oil, derived from the *Syzygium aromaticum* plant, holds significant pharmacological importance beyond its culinary and aromatic applications. This essential oil contains eugenol, a potent phytochemical renowned for its analgesic properties. In South Korea and India, eugenol extracted from clove oil is traditionally utilized to alleviate toothaches. When applied topically to a cavity in a decayed tooth or a post-extraction socket, clove oil or eugenol can provide temporary relief from dental pain. However, in the United States, the FDA (Food and Drug Administration) has questioned the effectiveness of eugenol in treating dental pain, leading to the downgrading of clove oil's status as an analgesic due to insufficient evidence supporting its efficacy.

Clove oil contains several important phytochemicals, with eugenyl acetate, eugenol, and β-caryophyllene being the most significant. These compounds are not only responsible for the distinct aroma and flavor of clove oil but also possess notable pharmacological properties. Pharmacologically, Syzygium aromaticum, the plant from which clove oil is derived, has been extensively studied for its effects on various pathogenic parasites and microorganisms. These include pathogenic bacteria, Plasmodium, Babesia, and Theileria parasites, as well as viruses such as Herpes simplex and hepatitis C.

Eugenyl acetate, eugenol, and β-caryophyllene exhibit diverse pharmacological activities, including antimicrobial, antiparasitic, and antiviral effects. They have been investigated for their potential therapeutic applications in combating infectious diseases caused by bacteria, parasites, and viruses. Additionally, studies have explored their mechanisms of action and interactions with target pathogens.

Moreover, the physicochemical properties of clove oil, such as color, specific gravity, refractive index, optical rotation, and solubility in ethanol, are also important considerations in pharmacological research. Understanding these properties aids in the characterization and standardization of clove oil formulations for medicinal use. Specifically, the concentrations of eugenol and β-caryophyllene in clove oil are crucial factors determining its pharmacological potency and effectiveness against various pathogens.

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Figure 1: Clove

Dicalcium phosphate (DCP)

Dicalcium phosphate (DCP) is a widely used calcium supplement in the food and pharmaceutical sectors, boasting a range of properties and applications. Comprised of calcium ions and phosphate ions, DCP is minimally soluble in water and typically displays a neutral to slightly basic pH. Its appearance as a fine white powder underscores its versatility in various formulations. Serving as a concentrated calcium source, DCP offers high bioavailability, supporting bone health and other physiological functions. Its stability and compatibility with other ingredients make it suitable for diverse applications, including as a food additive to fortify dairy, baked goods, and beverages, as well as a pharmaceutical excipient in tablet formulations. Additionally, DCP is integral to dietary supplements, animal feed for livestock and poultry, and industrial processes such as water treatment and ceramics manufacturing, showcasing its multifaceted role in promoting nutrition, health, and industrial efficiency.

Calcium carbonate ($CaCO_3$)

Calcium carbonate ($CaCO_3$) is a compound comprising calcium, carbon, and oxygen. It appears as a white powder or colourless crystals and is sparingly soluble in water. With a pH greater than 7, it is basic in nature. Calcium carbonate serves as a significant source of calcium ions, crucial for various physiological functions. Its applications span across multiple industries: in pharmaceuticals, it acts as an antacid; in food and beverages, it fortifies products and serves as a colouring agent; in construction, it enhances the strength of materials; in papermaking, it improves paper quality; in cosmetics, it functions as a bulking agent; and in agriculture, it amends soil and promotes plant growth. Overall, calcium carbonate's versatility and broad applications make it indispensable across numerous sectors.

Sodium lauryl sulfate (SLS)

Sodium lauryl sulfate (SLS) is a versatile synthetic detergent and surfactant widely employed in personal care and household products for its multifaceted properties. It acts as a surfactant, reducing liquid surface tension, making it efficient in removing dirt and grease. With its foaming capabilities, it's a common ingredient in soaps and shampoos, aiding in ingredient dispersion. SLS's emulsifying function stabilizes water and oil mixtures in cosmetic products. Additionally, it serves as a penetration enhancer in skincare items, allowing active ingredients to penetrate the skin more effectively. Its mild antimicrobial properties extend the shelf life of personal care products. SLS is utilized in various sectors, from personal care products to household cleaners and industrial processes, owing to its versatility. However, it's crucial to be mindful of potential skin irritation, particularly in high concentrations. Therefore, moderation is advised, especially in sensitive areas.

Gum Tragacanth

Gum Tragacanth, derived from the dried sap of Astragalus species, is a complex polysaccharide mixture, primarily composed of tragacanthin and bassorin. Its hydrocolloid nature enables it to absorb and retain water, forming a gel-like consistency, while its high viscosity and thixotropic behavior make it an effective thickening agent. With good stability across temperatures and pH levels, Gum Tragacanth is used in diverse formulations. It also exhibits film-forming and emulsifying properties, making it valuable in industries ranging from food and pharmaceuticals to cosmetics and textiles. Recognized as safe for consumption and biodegradable, it finds applications in art conservation, veterinary medicine, and traditional medicine for gastrointestinal discomfort relief. Overall, Gum Tragacanth's versatility enhances the texture, stability, and performance of various products across industries.

Method of Formulation for Toothpaste

Dry Gum Method:

Preparation of Base:

- Solid ingredients such as dicalcium phosphate, calcium carbonate, SLS (Sodium Lauryl Sulfate), sodium saccharine and Gum Tragacanth are accurately weighed as per the formula requirements.
- These ingredients are then sieved with a No. 80 sieve to ensure uniform particle size.
- The sieved chemicals are mixed in a mortar and pestle, and triturated with accurately weighed sorbitol until a semisolid mass is formed.

Addition of Herbal Ingredients

- Herbal extracts in powdered form, accurately weighed, are sieved and added to the base mixture.
- Neem known for their therapeutic properties, are incorporated into the formulation.
- Clove is added at the end to provide flavouring, enhancing the overall sensory experience of the toothpaste.

Wet Gum Method

Preparation of Base

- In this method, the solid ingredients are mixed with water or glycerin to form a paste-like consistency.
- The mixture is then heated and stirred until a smooth base is obtained.

Addition of Herbal Ingredients

- Similar to the dry gum method, accurately weighed herbal extracts and essential oils are added to the base mixture.

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- The formulation is thoroughly mixed to ensure uniform distribution of all ingredients.

Adjustment of Consistency

- The consistency of the toothpaste is adjusted by adding additional water or glycerin if necessary.
- The final product is then homogenized to achieve a smooth texture before packaging.

Both methods have their advantages and are used based on the specific requirements of the formulation and manufacturing process. The choice between the dry gum method and the wet gum method depends on factors such as the desired texture, stability, and compatibility of the ingredients.

EVALUATION OF TOOTHPASTE

Physical Examination

Colour: The formulated toothpaste is evaluated for its color through visual inspection.

Odour: The odour of the toothpaste is determined by smelling the product.

Taste: The taste of the toothpaste is manually checked by tasting the formulation.

Relative Density

The relative density of the toothpaste is determined by weighing the formulation in grams taken in 10 ml of the formulation and 10 ml of distilled water using a relative density (RD) bottle.

Abrasiveness

Toothpaste samples are extruded onto butter paper, and the presence of sharp or hard-edged abrasive particles is examined by pressing the contents with fingertips. Toothpaste should not contain such particles.

Spreadability Determination

The slip and drag characteristics of the toothpaste are evaluated. A specified amount of formulated paste is placed between glass slides, and the time taken for the upper slide to cover a distance of 7.5 cm under a specified weight is noted. Spreadability is calculated using a formula.

pH Determination

- The pH of the formulated herbal toothpaste is determined using a pH meter. Toothpaste is suspended in water, and the pH is measured.

Homogeneity

The toothpaste's homogeneity is assessed by extruding a homogeneous mass from the collapsible tube or container and rolling it gradually to ensure bulk extrusion from the crimp.

Foaming

The foamability of the toothpaste is evaluated by measuring the initial and final volumes of foam formed after shaking the formulation with water in a measuring cylinder. The foaming power is determined by the difference in volumes.

Stability

Stability studies are conducted according to ICH guidelines. The formulated paste is stored under different temperature and humidity conditions for three months and examined for appearance, pH, and spreadability.

Determination of Moisture and Volatile Matter

Moisture and volatile matter content of the toothpaste are determined by drying a specified amount of formulation in an oven and calculating the loss of mass.

Moisture Content

Toothpaste is weighed before and after drying in an oven at 105°C to determine the percentage moisture content.

Foaming Character

Two methods are employed to assess the foaming character of the toothpaste using stoppered test tubes and graduated cylinders.

Organoleptic Evaluation

Colour and taste of the toothpaste are evaluated through sensory and visual inspection.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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ROLE OF VIRTUAL REALITY AS A THERAPEUTIC APPROACH AND ITS IMPACT ON QUALITY OF LIFE AND FUNCTIONAL INDEPENDENCE IN STROKE SURVIVOR: A REVIEW

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ABSTRACT

Objective*: The purpose of this literature review is to determine the role of virtual reality as a therapeutic approach in stroke survivors.*

Method: *The articles were selected from various authentic platforms like Google Scholar, PubMed and Science Direct. The articles were selected from the year 2012-2023. The total articles selected were around 72 and only 16 articles were included in the study according to the criteria of the study.*

Results: *According to study stroke is a serious worldwide health issue that contributes significantly to death and morbidity in industrialised nations as well as a rising number of low- and middle-income nations. Virtual Reality conjunction with traditional physiotherapy shows significant result in upper and lower limb function after stroke*

Conclusion: *The effect of virtual reality as therapeutic approach in post stroke survivor was evaluated in this review. This study concluded that virtual reality compared to conventional therapy shows the effect in post stroke survivors.*

KEYWORDS: *Stroke, Virtual Reality, Therapeutic approach, Review, Stroke Rehabilitation, Post stroke.*

INTRODUCTION

An abrupt, localised loss of brain function triggered by vascular damage (haemorrhage, infarction) to the central nervous system is recognised as a stroke, a form of neurological condition. In the world, stroke ranks as the second most common cause of death and disability. Stroke is a result of multiple risk factors, illness processes, and disease mechanisms rather than a single illness.(1) Considering stroke has neurological repercussions which influence the motor, cognitive, and sensory systems, it has been deemed the leading cause of disability globally.(2)

The two primary forms of strokes are haemorrhagic and ischemic, with several subtypes providing further classification. Haemorrhagic strokes are caused by bleeding into the cerebral cavity from a ruptured blood artery in the brain, whereas ischemic strokes are caused by limited blood flow to the brain as a consequence of an obstructed blood artery. Face numbness and weakness, vision issues, unilateral upper or lower limb weakness, poor balance, nausea, abrupt, strong headaches without a known reason, and trouble speaking are the most common signs of a stroke. According to reports, men and women experience these basic symptoms of stroke equally, but women are inclined to experience non-traditional symptoms such as unconsciousness and dizziness.(3)

Stroke-related disability and mortality have important ramifications for individuals as well as society. Stroke constitutes between 2% to 4% of global health care expenses, with industrialised nations demonstrating that stroke accounts for more than 4% of direct health care costs(4).In order to improve patients' quality of life, rehabilitation is an essential part of addressing post-stroke problems . A multidisciplinary strategy is used in rehabilitation with the goal of improving and restoring normal physiological processes in different body parts(5).

The ultimate result of a stroke is mainly determined by its complications. Complications encompass long-term functional disability and cognitive impairment frequently accompany patients. After a stroke, the fatal outcome rate is roughly 15% at one month and 50% after five years. Worldwide, stroke is the primary cause of long-term impairment, and the most prevalent post-stroke damage is dyskinesia, which affects 85% individuals who have had an acute stroke. An estimated 55% to 75% of stroke survivors experience functional restrictions in their upper and lower extremities. Despite a stroke, 50% to 60% of individuals have distinct levels of motor impairment. Two thirds of stroke patients experience a deterioration in their cognitive abilities, such as memory, attention, and executive function. Post-stroke patients have limited daily activities and

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functional tasks due to their cognitive and functional disability; this can end up in an overall decline in health-related quality of life(6).

One of the most popular advanced neurorehabilitation technologies for improving stroke patients' physical and cognitive abilities is virtual reality (VR). With the use of computer-based technology, virtual reality (VR) developers may produce interactive simulations that submerge users in multisensory, simulated environments and offer real-time performance feedback. It provides a distinctive and immersive rehabilitation experience by enabling stroke victims to participate in activities that mimic real-world objects and events. Virtual reality has been shown to have potential advantages in neurorehabilitation, especially in stroke rehabilitation(7). A virtual reality system replicates the intricacies of the actual world within a regulated setting. Additionally, VR can offer a therapeutic setting that enables users to execute several exercises with sufficient motivation and assessments, all of which are acknowledged as crucial elements in rehabilitation(8).

Three essential components—duplication, feedback, and motivation—are involved in the scientific underpinnings and benefits of using VR technology in rehabilitation therapy. Practicing is the first step towards learning a motor skill. However, constant practice alone is insufficient. Patients need to gradually receive feedback and success stories(9). Because of its many well-known advantages, virtual reality is a great tool for rehabilitation interventions. These advantages include the chance for hands-on, active learning as well as the capacity to measure behaviour objectively in demanding, secure, and ecologically sound settings while upholding stringent experimental control over the distribution and measurement of stimuli. Additionally, VR allows for the customisation of treatment plans while progressively raising task complexity and lowering clinician support(10).

METHODOLOGY

Materials and method

An extensive search was carried out across electronic databases, such as PubMed and Google Scholar.
Keywords such as Stroke, Virtual Reality, Therapeutic approach, Review, Stroke Rehabilitation, Post stroke.
Research examining the potential of virtual reality as a therapeutic intervention for stroke survivors. All of the articles were collected together. Only 16 of the 76 publications that were compiled are used in this research study.

Study Selection

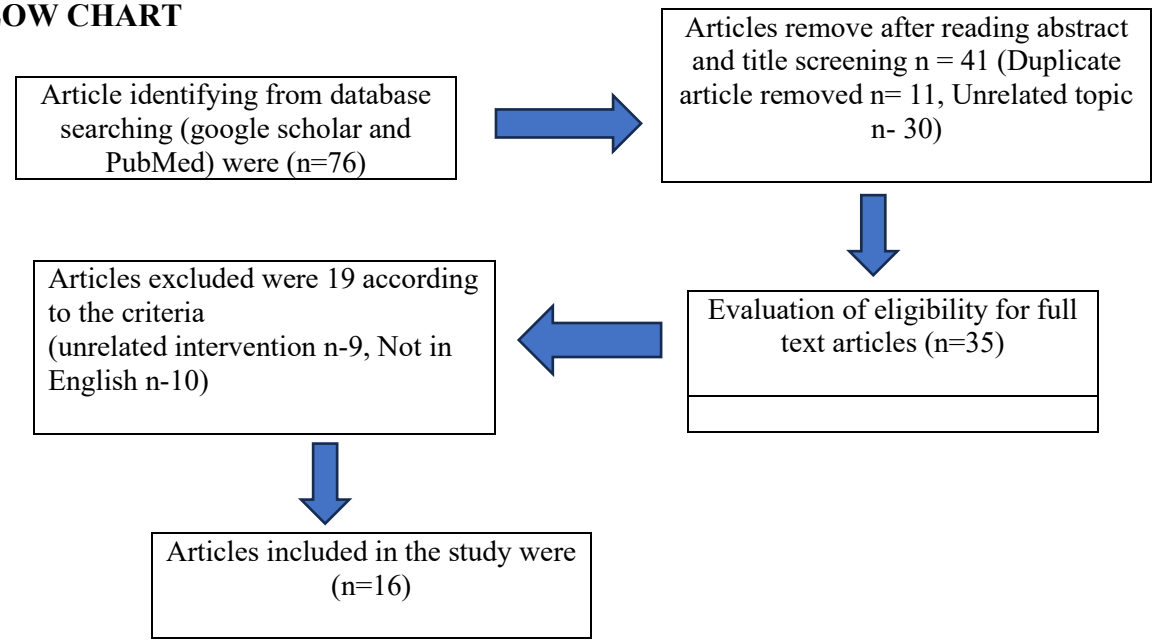
Inclusion Criteria

- The included articles ranged from 2012 to 2023.
- Articles include the effect of virtual reality in stroke survivors.

Exclusion Criteria:

- Articles published prior to 2012 are not included.
- Person's inability to speak and any other neurological disorders are excluded.
- Articles which is not in English.

FLOW CHART



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REVIEW OF LITREATURE

Sr. No	Author & year	Methods	Conclusion
1.	Carlos luque-Moreno et al, 2021	The study involved 20 patients in total, split into 2 groups: VR + CP and CP. Result were measured by Fugel Meyer scale, Functional ambulatory categoery and Functional independence measurement.	The use of a VR treatment through boosted feedback in conjunction with a CP programme has been shown to be more useful than a comparable quantity of CP treatment for optimising the functional recovery of the LE and gait adhering to a stroke. (11).
2.	Jinlong Wu et al, 2021	10 studies totalling nearly 550 stroke patients were obtained after adjusting for overlap. The impact of virtual reality instruction on stroke sufferers' motor abilities	an analysis of the latest information, virtual reality (VR) has a medium to significant impact size and helps stroke patients with their balance and motor function, particularly with their upper extremities(12).
3.	Roxana steliana miclaus et al, 2021	Of the 76 inpatients that were initially identified, fifty-nine were enrolled in the study. While the control group (n = 28) received normal physiotherapy, the experimental group (n = 31) received both MT and VR therapy. For 10 days, each group received therapy for seventy minutes each day.	The outcomes of our investigation demonstrate that VR rehabilitation technology, when coupled with MT exercises, optimises the environment for chronic stroke patients' lower extremity rehabilitation by including diverse feedback sources with a greater influence on neuroplasticity.(13)
4.	Roxana miclaus et al, 2020	A total of fifty-five inpatients were assigned at random to control and experimental groups. Subacute groups were created from the two groups. At baseline and two weeks into treatment, the following standardised tests were administered:	When addressing success metrics, the duration of virtual reality therapy, and other peculiar features of the post-stroke population, such as moderate impairments, aphasia, or cognitive impairment, it may be advantageous to use certain NVIRs for upper extremity rehabilitation in post-stroke patients. (14).
5.	Pawel kyper et al, 2020	59 stroke inpatients in all, whose average age is 60.3 years and 14 months, were divided into two groups: subacute and chronic. Before and after treatment, a variety of clinical scales were used.	When VR therapy is used with conventional physiotherapy following a stroke, at the subacute and chronic stages, it can assist enhance functional outcomes(15).
6.	Mohd azzuan ahmed et al, 2019	In this study, 36 volunteers with mean ages of 57 and 63 years, respectively, were split up into two groups, with 18 people in the control group and 18 people in the experimental group.	It has been proved that using virtual reality games in conjunction to conventional physiotherapy is equally advantageous for the recovery from upper limb strokes as using standard physiotherapy alone. Our study's utilisation of VR games was not meant to take the place of the existing therapy strategy(16).
7.	Jigna patel et al, 2019	Along with their inpatient rehabilitation, seven individuals underwent eight to one hour sessions of upper limb virtual reality and robotic training. The only therapy given to the six participants was inpatient care.	When compared to standard care alone, an additional 8 hours of intense VR/robotic based upper limb training started within the first month after a stroke may yield greater gains in impairment. Importantly, it was possible to address behavioural, neurophysiological, and disability issues in the early phases after a stroke.(17)
8.	Albero luiz aramai et al, 2019	This was a mixed-methods study. For forty minutes a day, three days a week, ten stroke patients—both subacute and chronic—participated in a 12-week rehabilitation programme through non-immersive virtual reality games.	Virtual reality (VR) presents a promising avenue for improving the functional outcomes of stroke patients, particularly in terms of job satisfaction and occupational performance(18).

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9.	Jeffrey M rogers et al, 2019	Twenty-one persons (aged 42–94) who had subacute strokes were randomised to receive treatment as usual alone or to get four weeks of virtual rehabilitation from Elements in addition to their regular care. Before and after inpatient training, as well as a month later.	Following a stroke, both motor and cognitive recovery are aided by an Elements virtual rehabilitation programme that uses goal-directed and exploratory upper-limb movement tasks(19).
10.	Kynan Eng, et al.2018	In a multi-center, parallel-group, randomised controlled study, patients who had suffered a stroke at least six months prior were randomly assigned to either the experimental group or the control group, which had standard therapy (16 sessions of 45 minutes per week for four weeks). The virtual reality-based training system replicated the movements of the patients' upper limbs in real-time, enabling them to manipulate virtual objects.	The majority of the advantages occurred in the first two weeks and continued into the two-month follow-up period, with identical results for patients in the experimental and control groups. At admission, the study cohort's motor function was moderately to severely deteriorated. Less impaired patients exhibited better improvement relative to the experimental group(20).
11.	Jeannine Bergmann et al. 2018	VR-enhanced RAGT (group under intervention) or conventional RAGT (control group) for twelve sessions spanned over four weeks. Individual mean walking time, patients' motivation as estimated by the Intrinsic Motivation Inventory [IMI], the acceptability of the therapies (drop-out rate, questionnaire), and the viability of prospective outcome measures (completion rate, reaction to interventions) were all analysed.	VR-augmented RAGT produced longer training times, a lower drop-out rate, and higher levels of acknowledgment and motivation than standard RAGT. This pilot study outlines guidelines for an imminent RCT on the effectiveness of VR-augmented RAGT. (21)
12.	Erika pedreira da Fonseca et al. 2017	The treatment group and the control group were randomly assigned in this blinded clinical experiment comprising post-stroke patients. The Dynamic Gait Index was applied to determine the treatment group's balance, and falls were recorded prior to and after the 20 intervention sessions.	The reduction in falls can be influenced by the use of virtual reality in stroke survivors' rehabilitation of gait and balance(22).
13.	Zhen L et al. 2015	The databases MEDLINE, CINAHL, EMBASE, Web of Science, and CENTRAL were searched in order to find studies. A couple of reviewers selected which studies to include, gathered data, and evaluated the trials' quality.	The use of virtual reality to improve balance after a stroke is validated by this meta-analysis of randomised controlled studies(4).
14.	Davide Corbetta et al. 2015	A meta-analysis in conjunction with a systematic review of randomised trials. Adults diagnosed with stroke clinically are the participants. Intervention: One of the following comparisons required to be present in eligible trials: VRBR utilised in addition to or in place of regular therapy.	When VRBR is implemented in place of some or all of a standard rehabilitation programme, stroke survivors have greater improvements in walking speed, balance, and mobility(23).
15.	Keith R lohse et al, 2014	The Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, DARE, PEDro, EMBASE, ERIC, PSYCInfo, CINAHL, and MEDLINE were all used in a thorough search. Controlled trials comparing VR to conventional therapy were among them.	Virtual reality therapy exhibits a noteworthy modest effect in terms of outcomes related to bodily activity and function in relation to CT. Even while involvement effects are not well studied, early results show that VR therapy is superior to CT(24).

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16.	Andrea turolla et al, 2013	were admitted to our rehabilitation centre and took part in an actual clinical study. 376 people with motor arm subscores between 1 and 3 on the Italian National Institutes of Health Stroke Scale (It-NIHSS) who did not have substantial cognitive deficits hindering their rehabilitation were recruited. Patients were split into two treatment groups: those who had VR in addition to ULC therapy or ULC therapy alone.	Virtual reality rehabilitation seems to be more effective than traditional therapy when it comes to addressing upper limb motor deficits and motor-related functional capacities in stroke survivors(25).

DISCUSSION

There were 16 articles selected in study one systemic review, prospective controlled trial, randomized clinical trial, ranadomized control pilot study, Cohort randomized trial and control trial, three systemic review and meta analysis and comparative study, two ranadomized control trial and feasibility study. This study investigate the impact of virtual reality on stroke survivors.

A chronic experimental group and a chronic control group were distributed to patients in Roxana Miclaus et al.'s small cohort randomised control study. The investigation carried out over a period of nine months. The outcomes of the study indicate that, relative to regular physiotherapy, NIVR boosts upper extremity functional recovery in individuals with stroke, both acute and chronic.(26) For a period of nine months, Roxana Steliana Miclaus et al. conducted a prospective randomised trial in which fifty-nine patients were split into two groups: an experimental group and a control group. Each of the two groups experienced lower extremity rehabilitation lasting seventy minutes every ten days. The experimental group exercised on an ergometer, a bike, and a treadmill for 20 minutes, and they also received virtual reality therapy for 27 to 37 minutes. The finding of the study indicates that VR therapy in conjunction with MT may potentially substitute traditional physical therapy in the post-stroke rehabilitation of the lower extremities(27).

For the second research, a pilot randomised control trial, twenty patients were selected and separated into two groups, an experimental group and a control group. The experimental group underwent twelve sessions of VR-augmented RAGT, whereas the control group underwent standard RAGT. The author came to the conclusion that VR-augmented RAGT had a longer training period and a lower drop-out rate than normal RAGT, and that it was also more motivating and acceptable. Suggestions for a future RCT on the efficacy of VR-augmented RAGT have been provided by this pilot study(28). Keith R. Lohse et al.'s systemic review and meta-analysis included 26 papers that met the inclusion criteria. The chosen research demonstrates how virtual reality therapy compares to conventional therapy for adults who have had a stroke. The findings indicate that VR rehabilitation for adult stroke victims somewhat improves results when compared to standard therapy. It is not possible to assess the potential positive effects of CG given the quantity and scope of existing CG treatments. Further research in this area should define the phrases "conventional therapy," record metrics related to participation, consider the factors that motivate therapy, and investigate commercially available technologies in larger RCTs(24).

Ten stroke patients, both subacute and chronic, participated in a 12-week rehabilitation programme by playing games in non-immersive virtual reality for forty minutes a day, three days a week, according to a feasibility study conducted by Alberto Luiz Aramaki et al. The outcome variables that were part of the sociodemographic data collection were the Participation Scale and the Canadian Occupational Performance Measure (COPM). At the end of the programme, an interview with the participants was conducted, and their frequency of attendance and adherence were recorded in a field journal. The conclusion demonstrates that virtual reality (VR) offers a potentially effective treatment option for stroke patients' functional rehabilitation, especially in terms of job satisfaction and occupational performance(29).

Use of virtual reality shown in various studies shows that virtual reality compared to convectional physiotherapy also virtual reality combine with augment robotic training shows the positive results in patient with post stroke.

CONCLUSION

As known stroke is a significant worldwide public health issue, due to which individuals upper and lower limb functional capacity is affected which lead to difficulty in doing activity of daily living. The effect of virtual reality as therapeutic approach in post stroke survivor was evaluated in this review. This study concluded that virtual reality compared to convectional therapy shows the effect in post stroke surviours in there upper and lower limb functional capacities.

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STRIDE: STRUGGLING READERS' INTERVENTION TOWARDS DEVELOPMENT IN WORD READING, COMPREHENSION AND READING SPEED OF GRADE 7 NON-READERS IN KAPAYAPAAN INTEGRATED SCHOOL SY 2022-2023

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ABSTRACT

Reading is a fundamental skill that enables learners to access the essential knowledge needed to accomplish learning tasks and achieve desired learning outcomes. The rationale of the study is to determine the impact of Project STRIDE Reading Intervention Program to the non-readers in grade 7 of Kapayapaan Integrated School SY 2022-2023 based on Phil IRI reading assessment results and responses to the interview questions that described their generally positive experience in the intervention. The study used a mixed method research design. The reading levels of the participants were determined using the pretest and posttest followed by t-test to analyze significant difference in word reading, comprehension, and reading speed after the reading intervention program. The results show that from a non-reader status, the participants gained improvements corresponding to instructional level in word reading and independent level in comprehension. Individuals reading at an instructional level can still comprehend written material. The instructional level is a reading level at which an individual can read with assistance or guidance to understand and interpret the content. The study implied the importance of having capacitated reading teachers as facilitators of the reading intervention, consistent and responsive participants and structured learning sessions with technology-based instructions and periodic assessments in reading until learners can read at their grade level.

INTRODUCTION

Reading is a fundamental skill that enables learners to access the essential knowledge needed to accomplish learning tasks and achieve desired learning outcomes. Likewise, reading is integral in various subjects and grade levels. Thus, the students must read and understand texts related to all learning areas. Moreover, when students take part in constant reading, it does not only improve their vocabulary but also contributes to their comprehension of concepts (Duru and Koklu, 2011). However, many Filipino children struggle with reading; this leads to low achievement results especially in the public schools (Abocejo et al., 2022). In the actual learning context, the struggling readers will not understand the concepts, and they will fail to attain the learning competencies expected of them because of a lack of skill in reading (Esposa, 2021). Inadvertently, the impact of the pandemic on education is also substantial in the learning loss among learners. The past two pandemic years hindered the teaching-learning opportunity to further develop the reading skills of the students.

The school year 2022-2023 remarkably resumed the in-person classes in Kapayapaan Integrated School. Anchored on Calamba City Division DREAM Learning Recovery and Continuity Framework under Area 4: Assess Learners' Literacy and Numeracy Level as stipulated in Division Memorandum No. 185, s. 2022, Guidelines on the Implementation of Project DREAM as a Banner Initiative under the Basic Education-Learning Recovery and Continuity Plan (BE-LRCP) for SY 2022-2023, Kapayapaan Integrated School's Project DREAM: RISE necessitates the development of a reading intervention program that aims to close the gap in the reading proficiency of struggling readers and reduce the number of non-readers to zero. Moreover, KIS commits to helping learners develop their reading skills as a response to the 3Bs Initiative known as Hamon: Bawat Bata Bumabasa mandated in DepEd Memorandum No. 173, s. 2019, to make every learner a proficient reader.

The conduct of PHIL IRI assessment was the first step to determine the reading profile of the students. Kapayapaan Integrated School held a year-round reading assessment using the DepEd-prescribed Phil IRI Manual, which is a tool for measuring and describing reading performance. The result of the pre assessment revealed difficulties in decoding, fluency and accuracy, and understanding the text. Further, the result led to the identification of 10 non-readers in grade 7 who scored the lowest in oral reading and comprehension. Their utterance did not match the text they were reading and personally admitted to the teachers that they cannot read.

Abocejo, et al., 2022 asserts that despite the implementation of reading programs, substantial elementary graduates were still assessed as slow or non-readers. On the other hand, reading proficiency lies in the hand of teachers based upon the successful implementation of reading programs in schools (Cabalo and Cabalo, 2019).

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Grounded on this premise, a structured reading intervention program is necessary for the non-readers to address their difficulties and help them acquire essential reading skills. This study aims to determine the grade 7 non-readers' reading level and the significant difference thereof before and after the implementation of a reading intervention program.

Research Questions

This study aims to determine the impact of a reading intervention in enabling the non-readers to read at the grade 7 level by gradually teaching them the components of reading and regularly monitoring their reading progress. Specifically, it aims to answer the following questions:

1. What is the reading level of the participants in Project STRIDE in terms of a.1 oral reading, b. comprehension, and c. reading speed?

2. Is there a significant difference between the reading level of the participants before and after receiving the intervention in terms of a. oral reading, b. reading comprehension and c. reading speed?

3. How do the participants describe their experiences in the reading intervention?

Scope and Limitation of the Study

This study was conducted in the school year 2022-2023 when DepEd officially announced the safe reopening of in-person classes in schools after two pandemic years.

The researcher only included the identified non-readers with no manifestation of learning disability in grade 7 of Kapayapaan Integrated School. The reading intervention program utilized in the study comprised a series of learning sessions which ran for 12 weeks in between pre and post assessments with reading progress monitoring during the intervention period. The conduct of sessions was facilitated by three language teachers who had participated in SLAC session on teaching the basics of reading and writing.

The pre and post assessments were administered using the Phil IRI graded passages while a questionnaire was constructed and administered by means of interview to all the sample students to obtain their perception and reflection on their experiences in the reading intervention program.

The conduct of activities included in the study was monitored by the head teacher of English department and the school head based on the school's M&E tool for programs, projects and activities.

The researcher limited the study on the impact of Project STRIDE: Struggling Reader's Intervention towards Development in Oral Reading and Comprehension of the grade 7 non-readers.

Framework



Figure 1. Conceptual Framework of the Study

The framework shows how a reading intervention program can contribute to the development of oral reading and comprehension among the students who are non-readers. Also, conducting an interview after the assessment can provide a vivid description of the participants' experiences in the reading intervention program that would inform the impact of the intervention to the non-readers.

II. METHODOLOGY

This chapter describes the research design, description of participants, sampling and procedure on collecting information on the impact of a reading intervention program to help develop the oral reading and comprehension. This is followed by a discussion about how the data was analyzed.

Research Design

This research employed mixed-method design.The integration of both quantitative and qualitative data in the study is valuable in seeking comprehensive understanding of the results and impact of the intervention to the participants.

The design involved one group of respondents, the non-readers. A pretest was administered to these students to determine their word reading, reading comprehension and reading speed. Then, a reading intervention program was conducted by the language teachers who attended the SLAC session on teaching the basics of reading and writing. After the series of reading intervention, the respondents were given the posttest and were interviewed to describe their experiences in the reading program.

Respondents of the Study

The participants of the study are 8 non-readers in grade 7 of Kapayapaan Integrated School, officially enrolled for School Year 2022-2023.

The participants were chosen through purposive sampling method. The selection was based on the results of PHIL IRI pretest. The non-readers had been identified based on high record of miscues made in oral reading and low to zero scores in reading comprehension. Furthermore, those students who demonstrated utterance that did not match most of the words, as well as those who personally admit they cannot read were included. They were selected to participate in Project STRIDE Reading Intervention Program.

Research Instrument

This study adopted the DepEd's Phil IRI Manual of 2018 which provided the assessment tools and graded passages used in

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pretest and posttest and reading progress monitoring during the reading intervention program. The research instrument included Phil IRI Form 3B which shows data on word reading score, comprehension score, and words per minute for reading speed.

A one-on-one interview with the participants was conducted to describe the participants' experiences in the reading Intervention, following the reflexive thematic analysis

The study also integrated technology through Microsoft's Reading Progress Tool that record and automatically produce results in word reading and speed measured in words per minute (WPM). This was used only during progress monitoring during sessions in the intervention.

Data Gathering

This study employs mixed methods approach whereby the researcher collects and analyzes both quantitative and qualitative data within the study.

The baseline data were collected through the conduct of pre-assessment in word reading and comprehension in September 2022. The result from pre-assessment indicated that there were non-readers among grade 7 students. Word reading was assessed through having the students read orally the Phil-IRI 7th grade passage entitled "Sneezing". The text consists of 153 words with 8 items to test comprehension. As the student reads, the teacher marks the errors and notes the total miscues. The Phil-IRI Form 3 is the Grade Level Passage Rating Sheet that is used to record reading time and miscues and responses to the comprehension questions while Phil-IRI Form 4 is the Oral Reading Observation List that indicates the behaviors while reading. Both forms are used in the pre-assessment of initial reading level of the grade 7 students at the before the reading intervention program was implemented in the school year 2022-2023.

The same process was observed in the conduct of posttest after the reading intervention program. Then, a reflexive thematic analysis was employed to gather qualitative data on the experiences of the participants in the reading intervention.

Statistical Treatment

The participants' reading levels in terms of word reading, reading comprehension and reading speed were analyzed through obtaining the mean scores to answer research question 1 while the significant difference between the reading levels of the respondents was analyzed through a paired t-test to answer research question 2.

Research Ethics

This study adheres to the ethical principles by obtaining informed consent through orientation of the participants and their parents or guardians as they were subjected to the reading intervention program that only had interest in helping them develop their reading skills. On the other hand, the teachers who facilitated the reading intervention participated in a SLAC session on teaching the basics of reading and writing before the implementation of the intervention. The information collected from the participants remained confidential and used only according to the purpose as indicated in the research.

III. RESULTS

This section discusses the study results in determining whether the Project STRIDE Reading Program Intervention could help increase the reading level of non-readers in Grade 7 students in Kapayapaan Integrated School, Calamba City Division.

Table 1. Participants' pre-test reading level in terms of word reading, reading speed, and comprehension.

Variables	Word reading score	Compre-hension Score	Reading Speed (wpm)
STUDENT 1	2	0%	3
STUDENT 2	7	25%	14
STUDENT 3	3	13%	5
STUDENT 4	0	0%	0
STUDENT 5	21	13%	25
STUDENT 6	2	13%	3
STUDENT 7	0	25%	0
STUDENT 8	18	13%	22
Mean Score	**6.625%**	**13%**	**9**
Interpretation	Non-reader	Non-reader	Slow

The participants' mean score in word reading is 6.625% which is far below in reference to the 89% for frustration reading level. Similarly, The mean score in comprehension is 13% which is far below the 58% for frustration reading level. The participants read at a rate of 9 words per minute in pretest.

Table 2. Participants' post-test reading level in terms of word reading, reading speed, and comprehension

Variables	Word reading score	Compre-hension Score	Reading Speed (wpm)
STUDENT 1	85	63%	78
STUDENT 2	96	88%	95
STUDENT 3	92	75%	90
STUDENT 4	84	75%	74
STUDENT 5	95	88%	105
STUDENT 6	92	75%	88
STUDENT 7	83	88%	71
STUDENT 8	93	88%	104
Mean Score	**90%**	**80%**	**88**
Interpretation	INSTRUCTIONAL	INDEPENDENT	SLOW

The participants' mean score in word reading is 90%; they read at instructional level. The mean score in comprehension is 80% which corresponds to independent level. The participants read at a rate of 88 words per minute in the posttest.

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Table 3. Test of Significant Difference of the pre-test and post-test scores in reading level.

Variables	t-computed	t-critical	p-value	Decision on Ho	Remarks
Word Reading	-42.858	2.364	.000	Reject	Significant
Reading Speed	-38.264	2.364	.000	Reject	Significant
Comprehension	-29.375	2.364	.000	Reject	Significant

The results of t-test for the word reading, comprehension and reading speed at .000 p-value reveal significant difference in the reading levels of the respondents before and after the reading intervention program.

Table 4. Participants' responses to the interview on their experience in the reading intervention program

Student 1: *"Mabuti nalang po may ganitong turuan ng pagbabasa habang first grading kase kung wala po baka bagsak na ko agad sa card."* ***Student 4:*** *"Naintindihan ko naman po na kasama ako sa reading program kase hindi ko po talaga kaya bumasa lalo na 'pag nasa klase, e first quarter palang."* ***Student 7:*** *"Ang hirap lang po na may isa pa pala kong subject na reading pero ok lang po kase nakabukod naman po kame para kameng grade 1, hahaha. Kala ko nga po 'gang 4th grading e"* **The responses above indicate that the reading intervention program was held at the right time of the school year.**
Student 1: *"Yung naintindihan ko po yung isa-sound pala ang letter tapos parang ididikit mo yung sound para makabasa."* ***Student 3:*** *"Kaya ko na bumasa kase paulit-ulit kami sa pagbabasa."* ***Student 7:*** *"Dun sa isahang-basa po, yung pinapakinggan ako ng teacher habang nagbabasa ng pang grade 1 tapos grade 2 tapos hanggang grade 7, ginagalingan ko na."* **The responses above indicate that the participants' believed the STRIDE reading intervention program helped improved their oral reading and comprehension skills.**
Student 2: *"Masaya kami naging kaibigan ko na yung iba kase lagi ko sila kasama sa reading center."* ***Student 5:*** *"Ok naman po kase hindi po magagalitin yung nagtuturo samin, hindi po masungit kahit mabagal magbasa."* ***Student 6:*** *"Nagpapasalamat po na tinuturuan kami bumasa tsaka may mga papel naman binigay para ipraktis sa bahay.* **The responses above indicate a generally positive experience among participants of the reading intervention program.**
Student 1: *"Yung pagbabasa po na simula sa parang bata ABC sounds tapos pang grade 1 hanggang pang grade 7 na reading na test, maganda po."* ***Student 6:*** *"The best po yung nagbabasa kami sa computer tapos narerecord kami tapos may score na din."* ***Student 8:*** *"Yung Microsoft ba yon sir, yung nagvivideo habang nagbabasa, ayun yung natuwa akong activities."* **The responses above indicate that the testing included in the intervention was fair and relevant.**

IV. DISCUSSION

Addressing the needs of the identified non-readers in grade 7 necessitates that the students relearn the key components of reading that they may have missed in their formative and elementary years. The students must be able to sound out letters of the alphabet, blend sounds to form words, develop vocabulary, and practice oral reading regularly through reading exercises that will lead to the development of their reading skills and enable them to read at a grade level standard.

Following Cognitive Load Theory as the guiding principle in teaching the non-readers or individuals with limited reading abilities, the learning sessions in the reading intervention program were conducted by presenting one idea or concept at a time, ensuring that the non-readers can focus on and process each piece of information without feeling overwhelmed. The participants were offered with structured practice and guidance as they engage with the material. The reading teachers scaffold the learning process by providing support that gradually fades as the participants progress.

The results indicate that participants in the STRIDE reading intervention program showed progress in oral reading, comprehension and reading speed. This implies confidence in performing the learning tasks that involve reading among the participants.

Furthermore, the participants described their experience in the reading intervention program to be timely and relevant. The intervention was conducted from first to second quarter of SY 2022-2023. It was necessary to take immediate action to capacitate the struggling readers so that they could catch up learning the MELCs. The intervention also paved the way to build relationship among participants and their reading teachers. Maintaining harmonious relationship during the intervention was vital to establishing the discipline and meeting the goals of the reading program.

The integration of Microsoft Reading Progress tool was an innovation that kept the learners interested and engaged in reading assessments done gradually during the intervention.

This study affirms that reading proficiency lies in the hand of teachers based upon the successful implementation of reading programs in schools (Cabalo and Cabalo, 2019).

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PERFORMANCE OF LEGACY PROPRIETARY BILLING AND COLLECTION SYSTEM IN SAN PABLO CITY WATER DISTRICT: A BASIS FOR EFFICIENT IN-HOUSE SYSTEM DEVELOPMENT OF BILLING AND COLLECTION SYSTEM

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ABSTRACT

This study on the Performance of Legacy Proprietary Billing and Collection System in San Pablo City Water District was conducted using a descriptive method approach. This study hypothesized that there is no significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for In-House System Development in the San Pablo City Water District. Using the descriptive research design, twenty (20) personnel of SPCWD, of which ten (10) from the Billing and Accounts Division of the Commercial Services Department as the authorized users of Billing Module, five (5) from the Treasury and Budget Division of Financial Management Department as authorized users of Collection Module, and five (5) from Information and Communication Technology Section of Office of the General Manager as the in-house system developers served as the respondents of the study. After the validity test of the experts, a self-constructed questionnaire was used as the main instrument to gather adequate data and information in this study to ensure they adequately represented the construct and administered the instrument to the selected respondents. The 4-Point Likert Scale and its Verbal Interpretation for Level of Performance were utilized to determine the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of user satisfaction, technical support, and scalability and the Level of Capability in terms of peopleware, hardware, software, and financial resources. Data were analyzed using descriptive and inferential statistical treatments such as weighted mean, standard deviation, and Pearson Product Movement Correlation Coefficient (r). Among the three indicators measuring the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding user satisfaction, technical support and scalability was interpreted as "needs improvement." Four indicators measuring the Level of Capability of SPCWD for in-house System Development were found to be "very capable." These were peopleware, software, hardware, and financial resources. Therefore, the hypothesis stating that "there is no significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for In-House System Development in San Pablo City Water District" was rejected. The following conclusions were drawn based on the findings: It suggests the necessity for refining user experience, enhancing technical support mechanisms, and ensuring scalability to accommodate future growth and demand. By addressing these areas, SPCWD can strive towards optimizing the performance of its billing and collection system, ultimately leading to higher levels of satisfaction and efficiency. Capability bodes well for SPCWD's ability to innovate, customize solutions, and address specific organizational needs through internal development efforts, fostering greater independence and flexibility in managing its technological infrastructure.; in-house system development allows SPCWD to create customized solutions tailored to its unique needs and operational requirements. This capability ensures that the software and hardware systems developed align closely with the organization's processes and workflows, potentially leading to improved efficiency and effectiveness.

OBJECTIVES

This study aimed to determine the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD as a basis for in-house development of the Billing and Collection System of SPCWD.

Specifically, it sought to answer the following questions:

1. What is the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of;
   1.1. User Satisfaction
   1.2. Technical Support
   1.3. Scalability
2. What is the level of capability of SPCWD for in-house system development in terms of;
   2.1. Peopleware
   2.2. Software
   2.3. Hardware
   2.4. Financial Resources

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3. Is there a significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for in-house system development?
4. In view of the findings, what in-house system for billing and collection should be developed?

BACKGROUND

With its mission, "The San Pablo City Water District, A Corporation duly organized under PD 198 as amended, is tasked to contribute to the improvement of the quality of life of the residents of the San Pablo City by providing potable, adequate and affordable water supply in the entire city while remaining to be self-reliant and financially viable water district." Committed to delivering quality public service, the SPCWD acquired and implemented a computerized Billing and Collection System on 1995 from a private system provider.

The San Pablo City Water District is a government-owned utility responsible for providing water services to the residents of San Pablo City. Over the years, the Water District has used a legacy proprietary billing and collection system to manage its concessionaire accounts, meter readings, bill generation, and payment processing.

However, the legacy system has started to exhibit limitations and challenges that hinder the Water District's billing and collection process. These limitations include insufficient technical support, lack of scalability, insufficient integration capabilities, and difficulty accommodating regulatory requirements that affects user satisfaction. Specifically, pursuant to Executive Order (EO) No. 170 dated 12 May 2022, "ADOPTION OF DIGITAL PAYMENTS FOR GOVERNMENT DISBURSEMENTS AND COLLECTIONS," SPCWD is obliged to implement online payment of water bills through various online payment platforms without integrating the billing and collection system directly to the system of third-party online payment platforms, causing for manual encoding of all online payment transactions to the billing and collection system that become additional task to the user of billing and collection system.

In 2019, the private system provider of the legacy billing and collection system informed SPCWD that limited technical support could only be accommodated through phone or online support due to health reasons and the unavailability of personnel. All system enhancements and new requirements may take time to accomplish.

Given the exhibited limitations of the billing and collection system and conditions of the private system provider, SPCWD is considering the possibility of developing an in-house system. The in-house development offers the potential to overcome the limitations of the legacy system and achieve greater operational efficiency, accuracy, and user satisfaction.

To embark on developing an in-house billing and collection system, it is crucial to conduct a comprehensive study that assesses the current legacy system, identifies its limitations, and determines the feasibility and benefits of developing an in-house system. The study aims to serve as the basis for decision-making and guide development.

By conducting this study, the SPCWD can gather valuable insights into the existing system, understand the requirements and objectives for the new system, assess the feasibility of in-house development, and identify potential benefits and challenges associated with the implementation. The findings of the study will provide a solid foundation for the development of an effective, customized, and scalable billing and collection system that caters to the unique needs of the Water District and supports its mission to contribute to the improvement of the quality of life of the residents of the San Pablo City by providing potable, adequate and affordable water supply in the entire city while remaining to be self-reliant and financially viable water district.

RESEARCH DESIGN

The study used a descriptive research method to describe the procedures and data flow of the Legacy Proprietary Billing and Collection System of SPCWD. Also, the descriptive method was used to evaluate the performance regarding user satisfaction, technical support, and scalability of the legacy billing and collection system. Furthermore, the descriptive method was used to evaluate the capability of SPCWD in terms of peopleware, software, hardware, and financial resources for in-house system development.

POPULATION AND SAMPLING

Purposive sampling, also known as judgmental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their judgment when choosing members of the population to participate in their surveys, Alchemer (2021). Specifically, expert sampling was used in the study, which involves selecting individuals with expertise using the legacy proprietary billing and collection system of SPCWD. Expert sampling was chosen to collect data from the knowledgeable personnel of SPCWD currently using the billing ang collection system. Also, SPCWD personnel involved in system development and maintenance were selected as respondents for the study.

The twenty (20) personnel of SPCWD, of which ten (10) are from the Billing and Accounts Division of the Commercial Services Department as the authorized users of the Billing Module, five (5) from the Treasury and Budget Division of the Financial Management Department as authorized users of Collection Module, and five (5) from Information and Communication Technology Section of Office of the General Manager as the in-house system developers will be utilized as respondents for the study.

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LEVEL OF PERFORMANCE OF THE LEGACY PROPRIETARY BILLING AND COLLECTION SYSTEM OF SPCWD

Table 3 presents the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding user satisfaction.

Table 3. Level of Performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of User Satisfaction

Statements	Mean	SD	Verbal Interpretation
1. It has an overall positive performance rating.	2.55	0.67	Satisfactory
2. It provides the system's speed and efficiency.	2.40	0.80	Needs Improvement
3. It has met your expectations regarding accuracy in billing and collection processes.	2.35	0.79	Needs Improvement
4. It is user-friendly.	2.55	1.02	Satisfactory
5. It has navigation and menu options that are intuitive and easy to understand.	2.50	1.07	Needs Improvement
Overall Mean	**2.47**	**0.83**	**Needs Improvement**

The average weighted mean value of 2.47 with a standard deviation of 0.83 revealed that the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding user satisfaction was interpreted as **"needs improvement."**

This implies room for enhancement or modification in the Legacy Proprietary Billing and Collection System to meet users' needs and expectations better. This could involve addressing specific issues highlighted in the assessment or implementing changes to enhance user experience.

It indicates that user satisfaction is integral to the success of billing and collection system as it directly influences overall organizational impact, as it is integral to the success of billing and collection system as it directly influences productivity, cost efficiency, employee morale, and overall organizational impact.

In addition, there are likely issues or deficiencies in the system that negatively impact user satisfaction, such as user navigation, efficiency, and accuracy in billing and collection processes.

This comprehensive approach highlights the interconnectedness of various elements in creating a satisfactory user experience, underscoring the importance of a holistic design approach. It offered a comprehensive exploration of the multifaceted factors impacting user satisfaction. Their research encompassed system performance, usability, user experience design, and customer support. Doll and Torkzadeh (2018).

Table 4 presents the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of technical support.

Table 4. Level of Performance of the Legacy Proprietary Billing andCollection System of SPCWD in terms of Technical Support

Statements	Mean	SD	Verbal Interpretation
1. It shows the responsiveness of service provider technical support.	2.30	0.90	Needs Improvement
2. It provides accessibility to technical support channels (e.g., helpdesk, email, phone).	2.30	0.78	Needs Improvement
3. It has the overall quality of technical support provided for the Legacy System.	2.35	0.85	Needs Improvement
Overall Mean	**2.32**	**0.83**	**Needs Improvement**

The average weighted mean value of 2.32 with a standard deviation of 0.83 revealed that the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding technical support was interpreted as **"needs improvement."**

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This implies that technical support for the billing and collection system is insufficient. This can result in delays or ineffective resolution of issues reported by users.

Users may be facing challenges or issues related to technical assistance, which could impact their overall experience with the system.
It indicates that technical support is essential for maintaining the integrity, security, and functionality of billing and collection system. It shows that the overall quality of technical support provided for the Legacy System needs improvement.

Competent technical support can greatly improve customer satisfaction by resolving issues promptly and providing users with the assistance they need. It ensures the continuity of an efficient and effective billing and collection system.

It helps maintain positive relationships with system users and ensures the continuing enhancement of the system.
Thus, based on the study conducted by Limoncelli et al. (2016), this guidance is extended by providing a thorough guide to system and network administration, which encompasses vital aspects of technical support. Their work emphasizes essential practices, troubleshooting techniques, customer service skills, and effective team management. This holistic perspective ensures that technical support professionals are well-rounded in their expertise and capable of handling a wide array of challenges.

It is essential for maintaining the integrity, security, and functionality of billing and collection system, ultimately contributing to the overall success of SPCWD.

Table 5 presents the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of scalability.

Table 5. Level of Performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of Scalability

Statements	Mean	SD	Verbal Interpretation
1. Handling of increased data volume without significant performance degradation.	2.75	1.04	Satisfactory
2. Adding new features or modules to the system without major disruptions.	2.35	0.96	Needs Improvement
3. System customization to meet evolving business requirements (ex., Online Payment such as Gcash and Maya).	1.80	1.03	Needs Improvement
4. Integrating with other applications or systems (ex., Accounting System, Geographical Information System (GIS)).	1.80	1.03	Needs Improvement
Overall Mean	**2.18**	**0.95**	**Needs Improvement**

The average mean value of 2.18 with a standard deviation of 0.95 revealed that the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding scalability was interpreted as **"needs improvement."**

It implies that the current scalability of the billing and collection system is considered insufficient or below expectations. This suggests that users may have concerns about the system's ability to handle new requirements or increased demands effectively.

It shows that scalability is a strategic aspect of a system that allows to adapt to changing requirements and conditions.
In this connection, Kozuch and Satyanarayanan (2013) emphasize the prescient wisdom of considering scalability right from the inception of system design. They advocate for the integration of components like load balancers, distributed databases, and microservices, which are integral to the architecture of scalable systems. Their approach reinforces the idea that scalability is not merely an afterthought but a fundamental aspect of system architecture.

Level of Capability of SPCWD for an In-house System Development

Table 6 presents the SPCWD's level of capability for in-house system development in terms of peopleware.

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Table 6. Level of Capability of SPCWD for an In-house System Development in terms of Peopleware

Statements	Mean	SD	Verbal Interpretation
1. The IT team at SPCWD possesses the necessary technical skills and knowledge for system development.	3.70	0.46	Very Capable
2. There is a dedicated team responsible for software development and maintenance.	3.75	0.43	Very Capable
3. SPCWD provides ongoing training opportunities for staff to enhance their technical skills.	3.60	0.49	Very Capable
4. Communication channels within the organization facilitates effective information sharing.	3.75	0.43	Very Capable
5. SPCWD demonstrates a willingness to adopt and adapt to new technologies.	3.95	0.22	Very Capable
Weighted Mean	**3.75**	**0.34**	**Very Capable**

The average weighted mean value of 3.75 with a standard deviation of 0.34 revealed that the level of capability of SPCWD for in-house system development in terms of peopleware was interpreted as **"very capable."**

It implies that SPCWD may have a highly skilled and experienced team of developers who possess the necessary technical expertise and domain knowledge to develop and implement the billing and collection system effectively.

Also, it suggests that personnel of SPCWD can led to high-performing
teams capable of delivering successful software solutions that meet the organizational needs.

SPCWD employs effective project management practices to plan, execute, and monitor development. This includes setting realistic goals, allocating resources efficiently, managing timelines and budgets, and addressing potential risks proactively.

SPCWD system development personnel possess the necessary technical skills and knowledge for system development.

SPCWD has a dedicated team responsible for software development and maintenance.

SPCWD provides ongoing training opportunities for staff to enhance their technical skills.

SPCWD has a communication channel within the organization to facilitate effective information sharing.

SPCWD are willing to adopt and adapt to new technologies. It boosts a culture of innovation by nurturing an environment where personnel empowered to experiment, take risks, and think outside the box without fear of failure.

This has been stressed by the research findings of Maag (2019), which address the integration of peopleware practices and tools in the software development process. This research discusses strategies for aligning human aspects with technical practices. It emphasizes the importance of harmonizing human and technical factors for optimal development outcomes.

Table 7 presents the SPCWD's level of capability for in-house system development in terms of software.

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Table 7. Level of Capability of SPCWD for an in-house System Development in terms of Software

Statements	Mean	SD	Verbal Interpretation
1. SPCWD employs modern and appropriate development tools and platforms for system development.	3.70	0.46	Very Capable
2. The development team follows established coding standards and best practices.	3.65	0.48	Very Capable
3. Code reviews and quality assurance processes are in place to ensure adherence to best practices.	3.45	0.50	Very Capable
4. SPCWD uses version control systems to manage code changes and revisions.	3.50	0.50	Very Capable
5. Comprehensive documentation is maintained for software projects, including code, architecture, and user guides.	3.50	0.50	Very Capable
6. SPCWD has robust testing processes, including unit testing, integration testing, and user acceptance testing.	3.70	0.46	Very Capable
7. SPCWD implements security best practices in software development to protect against vulnerabilities and breaches.	3.60	0.49	Very Capable
Weighted Mean	**3.59**	**0.42**	**Very Capable**

The average weighted mean value of 3.59 with a standard deviation of 0.42 revealed that the level of capability of SPCWD for in-house system development in terms of software was interpreted as **"very capable."**

It implies that the in-house development team can tailor the software precisely to the unique needs and requirements of SPCWD. This customization ensures that the software aligns perfectly with the organization's workflows and processes, maximizing efficiency and effectiveness.

By developing software in-house, SPCWD has full control over the development process, allowing them to prioritize tasks, manage resources, and adapt quickly to changing requirements. In-house development can be cost-effective in the long run compared to purchasing off-the-shelf solutions or outsourcing development to external vendors. While initial development costs may be higher, SPCWD can save money on licensing fees and ongoing support costs over time.

It was pointed out that the findings of Perry and Wolf (2014) present a roadmap for software architecture research, outlining key areas of focus and emerging trends in the field. This provides a structured approach to advancing research in software architecture, guiding future developments in the discipline.

Table 8 presents the level of capability of SPCWD for in-house system development in terms of hardware.

Table 8. Level of Capability of SPCWD for an in-house System Development in terms of Hardware

Statements	Mean	SD	Verbal Interpretation
1. SPCWD has hardware infrastructure to support in-house system development.	3.95	0.22	Very Capable
2. Hardware resources (e.g., servers and workstations) are regularly updated and maintained.	3.60	0.49	Very Capable
3. The hardware components are compatible with the software and applications used for development.	3.60	0.49	Very Capable
4. SPCWD conducts capacity planning to ensure that hardware resources meet the demands of system development.	3.85	0.36	Very Capable

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5. SPCWD has redundancy measures to prevent single points of failure in the hardware infrastructure.	3.65	0.48	Very Capable
6. SPCWD implements physical security measures to protect hardware resources from unauthorized access or damage.	3.70	0.46	Very Capable
Weighted Mean	**3.73**	**0.34**	**Very Capable**

The average weighted mean value of 3.73 with a standard deviation of 0.34 revealed that the level of capability of SPCWD for in-house system development in terms of hardware was interpreted as **"very capable."**

This implies that SPCWD's in-house hardware capability allows it to scale its infrastructure according to changing demands and growth requirements. The organization can adapt hardware configurations to accommodate increased workloads, new software features, or evolving technologies, ensuring scalability and flexibility.

SPCWD can maintain stringent quality control standards throughout the hardware development process. This includes rigorous testing, validation, and performance optimization to ensure that hardware components meet reliability, security, and efficiency criteria.

Also, SPCWD implements physical security measures to protect hardware resources from unauthorized access or damage, redundancy measures to prevent single points of failure, and hardware resources are regularly updated and maintained to support in-house system development.

Koushanfar and Devadas (2014) delve into using hardware-based data representations for security purposes. They explore the potential benefits and challenges of employing specialized hardware for data protection, providing insights into a promising approach to enhance security measures.

Overall, SPCWD's capability in in-house hardware development enables the organization to optimize its infrastructure, integrate seamlessly with software systems, achieve cost efficiency, leverage technical expertise, ensure scalability and flexibility, maintain quality assurance, and manage risks effectively. These factors contribute to successfully deploying and operating hardware solutions that support SPCWD's mission and objectives.

Table 9 presents the SPCWD's level of capability for in-house system development in terms of financial resources.

Table 9. Level of Capability of SPCWD for an in-house System Development in terms of Financial Resources

Statements	Mean	SD	Verbal Interpretation
1. The organization allocates a sufficient budget for in-house system development projects.	3.60	0.58	Very Capable
2. SPCWD invests in technology resources (e.g., software licenses and hardware upgrades) to support system development.	3.55	0.59	Very Capable
3. Financial resources are allocated for staff training and development in the context of system development.	3.60	0.58	Very Capable
Weighted Mean	**3.58**	**0.55**	**Very Capable**

The average weighted mean value of 3.58 with a standard deviation of 0. revealed that the level of capability of SPCWD for in-house system development in terms of financial resources was interpreted as **"very capable."**

It implies that SPCWD allocates financial resources strategically, prioritizing investments in technology and system development to support its core business objectives. This ensures that adequate funding is available for in-house development projects.

SPCWD allocates financial resources for staff training and development in the context of system development.
Developing systems in-house can be cost-effective in the long run compared to purchasing off-the-shelf solutions or outsourcing development to external vendors. By leveraging

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internal resources and expertise, SPCWD can avoid licensing fees, vendor lock-in, and ongoing support costs associated with third-party solutions.

SPCWD views in-house system development as a long-term investment in the organization's future. By building custom solutions tailored to its specific needs, SPCWD can realize significant returns on investment over time, including increased operational efficiency, improved customer satisfaction, and competitive advantage.

In this regard, Oluseye and Diugwu (2020) analyze how internal and external financial resources influence innovative performance, considering the moderating effects of firm size and age. This research offers a nuanced understanding of how financial resources interact with organizational characteristics to drive innovation.

SPCWD's capability in in-house system development in terms of financial resources stems from its strategic budget allocation, cost savings, efficient resource utilization, risk management practices, long-term investment perspective, strategic partnerships, financial stability, and rigorous cost-benefit analysis. These factors enable SPCWD to fund and sustain in-house development efforts that effectively support its mission and strategic objectives.

Table 10 presents the significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD as the basis for the in-house development of the Billing and Collection System of SPCWD.

Table 10. Significant Relationship of the Level of Performance of the Legacy Proprietary Billing and Collection System and the Level of Capability for In-House System Development of SPCWD

Variables	Overall Mean	df	Computed r-value	Remarks
Performance of the Legacy Proprietary Billing and Collection System	2.43	18	-0.54	*Significant*
Capability of SPCWD for in-house Development	3.66			

The table further revealed that the computed r-value -0.54 is beyond the critical r- r-value ±0.44, at a 0.05 significance level with 18 degrees of freedom. Therefore, the hypothesis stating that "*there is no significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for In-House System Development in San Pablo City Water District"* is rejected.

It can be concluded that there is a negative correlation between the performance of the legacy proprietary billing and collection system and the capability for in-house system development at SPCWD. The legacy proprietary system performance in user satisfaction, technical support, and scalability required improvement. In contrast, the level of capability for SPCWD's in-house system development is perceived to be very high. There is a greater impetus for SPCWD to develop an in-house billing and collection system to address shortcomings and innovate solutions internally.

With an In-house System Development, SPCWD will retain full control over the entire development process, from conception to implementation. This control enables the organization to prioritize development efforts based on its strategic goals and address critical areas for improvement more effectively.

In-house system development offers SPCWD the flexibility to adapt quickly to changing requirements, emerging technologies, and evolving industry standards. This agility allows the organization to respond promptly to user feedback, incorporate new features, and make necessary adjustments to enhance system performance and usability.

By leveraging internal resources and expertise, SPCWD can avoid ongoing licensing fees, vendor lock-in, and other hidden expenses associated with external solutions.

In-house system development fosters knowledge retention and skill development among SPCWD staff. By actively participating in the development process, employees gain valuable experience, deepen their understanding of system architecture and functionality, and enhance their technical competencies, ultimately contributing to improved system performance and support capabilities. It ensures system development efforts align closely with SPCWD's organizational goals, mission, and values.

In the study of Da Silva (2014), where he systematically reviews and comprehensively explores various facets of software development sourcing by examining the factors that influence sourcing decisions and evaluating the impact of different sourcing strategies on project outcomes, the findings provide valuable guidance for organizations navigating software development projects.

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In-house system development is crucial in driving performance improvement for SPCWD by providing tailored solutions, control over the development process, flexibility and adaptability, cost-efficiency, knowledge control and continuous improvement, and strategic differentiation.

Leveraging its existing capability in in-house development, SPCWD can effectively address performance gaps and deliver solutions that meet its stakeholders' evolving needs while remaining a self-reliant and financially viable water district.

Further, this study recommends the In-house System Development program as a basis for an efficient billing and collection system for SPCWD.

SUMMARY

This study was conducted to examine the existing Legacy Proprietary Billing and Collection System in SPCWD and propose an innovative solution. This study aimed to enhance the billing and collection processes' operational efficiency and user satisfaction levels.

Specifically, it sought to answer the following research questions. 1. What is the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD in terms of 1.1. User Satisfaction, 1.2. Technical Support, and 1.3. Scalability. 2. What is the level of capability of SPCWD for in-house system development in terms of 2.1. Peopleware, 2.2. Software, 2.3. Hardware, and 2.4. Financial Resources. 3. Is there a significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for in-house system development?

The study used descriptive research methods to describe the procedures and data flow of the Legacy Proprietary Billing and Collection System of SPCWD. Descriptive methods were also used to evaluate the performance regarding user satisfaction, technical support, and scalability of the legacy billing and collection system. Furthermore, descriptive methods were used to evaluate the capability of SPCWD in terms of peopleware, software, hardware, and financial resources for in-house system development.

The average weighted mean value of 2.32 with a standard deviation of 0.87 revealed that the level of performance of the Legacy Proprietary Billing and Collection System of SPCWD regarding user satisfaction, technical support and scalability was interpreted as “needs improvement.”
The average weighted mean value of 3.63 with a standard deviation of 0.41 revealed that the level of capability of SPCWD for in-house system development in terms of peopleware, software, hardware and financial resources was interpreted as “very capable.”

The results further revealed that the computed r-value -0.54 is beyond the critical r- r-value ±0.44, at a 0.05 level of significance with 18 degrees of freedom.

Therefore, the hypothesis stating that “there is no significant relationship between the level of performance of the Legacy Proprietary Billing and Collection System and the level of capability of SPCWD for In-House System Development in San Pablo City Water District” was rejected.

CONCLUSIONS

Based on the findings of the study, the following conclusions are made:

1. The researcher found out there are areas within the system that require attention and enhancement to meet users' expectations and requirements better. It suggests the necessity for refining user experience, enhancing technical support mechanisms, and ensuring scalability to accommodate future growth and demand. By addressing these areas, SPCWD can strive towards optimizing the performance of its billing and collection system, ultimately leading to higher levels
levels of satisfaction and efficiency.

2. The researcher discovered that SPCWD possesses the necessary human resources, software tools, hardware infrastructure, and financial resources to develop in-house systems effectively. The high score indicates the organization's strong foundation and readiness to undertake and successfully execute system development projects. This capability bodes well for SPCWD's ability to innovate, customize solutions, and address specific organizational needs through internal development efforts, fostering greater independence and flexibility in managing its technological infrastructure.

3. It can be concluded that in-house system development allows SPCWD to create customized solutions tailored to its unique needs and operational requirements. This capability ensures that the software and hardware systems developed align closely with the organization's processes and workflows, potentially leading to improved efficiency and effectiveness.

RECOMMENDATIONS

Based on the findings made and conclusions drawn, the following recommendations were implied:

1. Foster open communication channels with stakeholders, including end-users, management, and IT personnel. Solicit feedback and input from stakeholders throughout the enhancement process to ensure alignment with their needs and expectations. Implement a ticketing system to manage technical support queries efficiently. Document system architecture and technical support procedures. Regularly conduct performance testing and capacity planning to anticipate scalability needs.

By implementing these recommendations, SPCWD can effectively address the identified areas for improvement within the billing and collection system, leading to enhanced user satisfaction, operational efficiency, and long-term sustainability.

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2. Regularly update IT personnel training through formal and informal training programs. Also, the budget for future systems development and enhancements should continue to be aligned with evolving needs.

Through this, SPCWD can further enhance its capability for in-house system development, enabling the organization to customize solutions and address specific organizational needs effectively. This will ultimately contribute to greater independence, flexibility, and efficiency in managing the organization's technological infrastructure.

3. Establish processes for system maintenance, support, and enhancement of in-house systems post-deployment. Monitor system performance and user feedback to identify areas for optimization and improvement.

Aligning with this recommendation, SPCWD can leverage its capability for in-house system development to create tailored solutions that enhance operational efficiency, effectiveness, and user satisfaction. This approach ensures that software and hardware systems closely align with organizational processes and workflows, ultimately driving improvements in overall performance and outcomes as future researchers can carry out.

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REVIEW OF LITERATURE ON PREVALENCE OF PRIMARY DYSMENORRHE IN UNIVERSITY STUDENTS

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ABSTRACT

Objective: *The main goal of this investigation is to analyze the effects of primary dysmenorrhea on academic performance, quality of life, and psychological well-being among university students.*
Method: *The articles were chosen from a range of authentic platform like Google Scholar, Pub Med and Science direct. The articles span the years 2010–2023.only twenty of the approximately thirty-five articles matched the inclusion criteria of the study.*
Results: *Primary dysmenorrhea is a major problem among university students worldwide. It has an impact on various groups of these people, with the highest prevalence in female students between the ages of 18 and 25. Additionally, those experiencing primary dysmenorrhea often report its impact on academic and social aspects of university life.*
Conclusion:
Our initial finding from this study is that adolescent females, particularly those attending universities, demonstrated the highest prevalence. Primary dysmenorrhea is more likely to develop in Adolescent girls.The majority of factors associated with primary dysmenorrhea in college students include age, the duration of the menstrual cycle, and the strength of the menstrual flow.These students' primary dysmenorrhea has a substantial impact on their learning, exam performance, absenteeism, quality of life, and ability to focus in different pain levels.The second conclusion is that primary dysmenorrhea has a detrimental effect on female young adult students' productivity and overall psychological health.

KEYWORDS: *Primary dysmenorrhea, university students, Prevalence rate.*

INTRODUCTION

A person's general well-being, which encompasses their social,emotional, and mechanical components, is essential to preserving and advancing their health.

This holistic approach to health reflects an individual's capability to handle life's challenges and sustain optimal functioning(1). Gynecological disorders, a prominent health issue globally, significantly impact the standard of living of those affected.Among these conditions, primary dysmenorrhea stands out as a prevalent issue, particularly affecting young adult women during menstruation.

The main feature of primary dysmenorrhea is the presence of excruciating lower abdominal cramps that either precede or coincide with menstruation (2). Research indicates varying prevalence rates across different populations, with studies from Croatia suggesting a prevalence of up to 91.8% among university students(1). Comparably, research from Saudi Arabia and Ethiopia revealed incidence rates between 54.8% and 75% (3)(4).

The consequences of primary dysmenorrhea extends beyond physical discomfort, affecting academic performance, social participation, and overall quality of lifeStudies have shown that it has a negative impact on Educational attainment in Results from academic institutions indicate absences improve with education, decreases participation in cultural and athletic activities, and impairs focus and concentration (5)–(7).Furthermore, there is evidence linking primary dysmenorrhea to emotional problems like depression, stress, and a decline in overall wellbeing (8)–(9). The correlation between primary dysmenorrhea and decreased exercise, social engagement, and occupational productivity highlights the substantial effect this illness had on a person's quality of life. To lessen primary dysmenorrhea's negative effects, aimed actions and interventions are necessary due to its high incidence in college students.As primary dysmenorrhea predominantly affects individuals during their reproductive stage,it can disrupt academic and career activities, limiting their participation in social and work-related tasks(10).Given the significant burden of primary dysmenorrhea on the well-being and functionality of young women,By understanding the multifaceted impact of primary dysmenorrhea on physical, mental, and social dimensions of well-being, effective interventions can be developed to enhance the overall quality of life for those affected.

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METHODOLOGY

Materials and Methods

Online search engine that are used to collect journals are Google scholar, Pub Med and Science Direct. Using the keyboards, the authors were able to identify the articles.The articles were collected in full text.Out of the 24 articles that were gathered, only 20 are utilized in this research study.

Study Selection

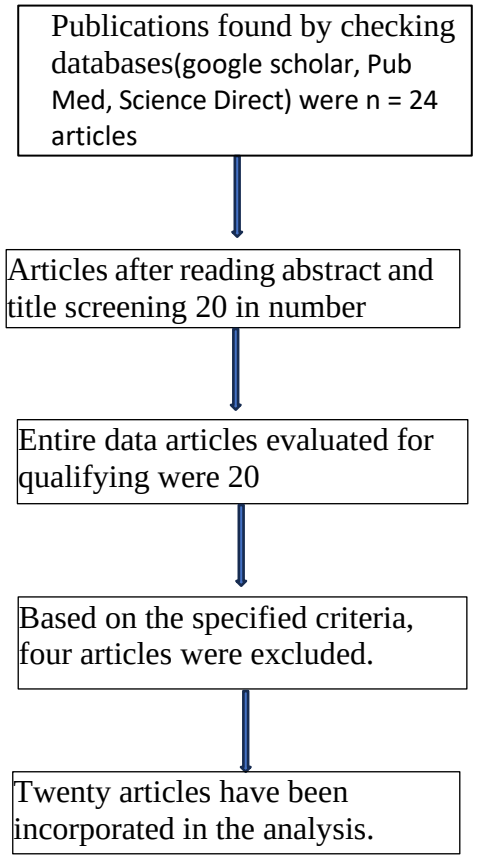
Inclusion Criteria

- Articles were included from year 2010 to 2023.
- Articles include the primary dysmenorrhea in university students.

Exclusion Criteria

- Articles before the year 2010 not be included.
- No pathological disorders
- condition were included which caused Primary dysmenorrhea.

FLOW CHART



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REVIEW OF LITERATURE

S NO	TITTLE OF THE ARTICLE	NAME OF THE AUTHOR	YEAR OF PUBLICATION	TYPE OF STUDY	MODE OF INTERVENTION	RESULTS
1.	Primary Dysmenorrhea the prevalence and Its Effects on Academic Performance among Croatian Students during the COVID-19 Pandemic	Marta Horvat, Doroteja Pavan Jukić, Lovro Marinović, Dina Bursać, Rosana Ribić, Marijana Neuberg, and Danijel Bursać	2023	Cross sectional	Web based questionnaire	The prevalence of initial dysmenorrhea had been 90.1%. - Menstrual pain severity: Mild in 7.4%, Moderate in 28.8%, Severe in 63.8%. - 94.1% of female students reported reduced concentration in class due to dysmenorrhea. - 94.0% reported difficulty in doing homework and learning due to dysmenorrhea. - There is a connection between the severity of discomfort during periods and how it impacts academic achievement.
2.	An evaluation of university students' primary dysmenorrhea prevalence	Meena Shamrao Deogade	2020	Questionnaire	Survey based	Dysmenorrhea prevalence in college students:90.68% (409 out of 451 students). Out of those affected, 74.08% liked to eat spicy/junk food and 49.87% were suffering from anxiety/depression. Food habits and stress were identified as potential causes.more thorough research using a Larger numbers of samples are necessary for evaluaton.
3.	Primary dysmenorrhea in female students: prevalence ,severity, effects, and related variables at Northwest Ethiopia's Gondar City Preparation Academy,Northwest Ethiopia	Abere Woretaw Azagew, Destaye Guadie Kassie, & Tarkie Abebe Walle	2020	Cross sectional	Self administrated structured questionnaire	Prevalence of primary dysmenorrhea: 64.7% (95% CI; 60.2–69.2%) - 61% reported moderate intensity of menstrual pain. - 50.7% complained about lower abdominal pain. - 65% reported absenteeism from school due to menstrual pain. - Factors associated with primary dysmenorrhea: irregular monthly menstrual cycle (AOR = 1.70, 95% CI; 1.02, 2.84) as well as a favorable ancestral record of menstrual cramps (AOR = 5.19, 95% CI: 3.21, 8.37).
4.	The prevalence of primary dysmenorrhea and its impact upon life satisfaction in female medical students in the University of King Saud in Riyadh, Saudi Arabia. A cross-sectional investigation	Refan T Hashim, Sara S Alkhalifah, Alanoud A Alsalman, Demah M Alfaris, Munira A Alhussaini, Raghda S Qasim, Shaffi A Shaik	2020	Cross sectional	None specified	Prevalence of primary dysmenorrhea between female medical students was 80.1%. Most participants (n=134) reported moderate pain (49.8%). Caffeine consumption has been strongly related to dysmenorrhea ($p < 0.05$). Among the SF-36 domains, physical health ($p < 0.001$) and emotional health ($p=0.01$) were significantly affected by dysmenorrhea. The effect of dysmenorrhea on academic performance was also substantial.
5.	A comprehensive review and meta-analysis of the prevalence and effects of dysmenorrhea on academic performance in 21,573 young women	Mike Armour, Kelly Parry, Narendar Manohar, Kathryn Holmes, Tania Ferfolja, Christina Curry, Freya	2019	Meta analysis	Systematic review and meta analysis	Prevalence of dysmenorrhea among young women: 71.1% (95% CI 66.6-75.2). 20.1% recorded leave from educational institutions or university due to dysmenorrhea (95% CI 14.9-26.7). 40.9% reported negative impact on classroom performance or concentration (95% CI 28.3-54.9).

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		MacMillan, Caroline A Smith				
6.	Prevalence, Wellbeing, and Symptoms of Greek College Nursing Students' Experiences with Dysmenorrhea	Eugenia Vlachou 1,Dimitra Anna Owens 2,Maria Lavdaniti 3,John Kalemikerakis 4,Eleni Evagelou 5, Nikoletta Margari 6,Georgia Fasoi 7,Eftychia Evangelidou 8,Ourania Govina 9,Athanasios N Tsartsalis 10	2019	Cross sectional	Questionnaire	Prevalence of dysmenorrhea was 89.2%. - Rate of severe intensity was 52.5%. - Factors associated with severe dysmenorrhea: family history (p = 0.02), early menarche (p = 0.05), menstruation duration (p = 0.05). - Use of pain relievers reported by women with moderate and severe pain (NSAIDs, paracetamol, etc., p < 0.0005). - Activities affected by severe pain: class attendance (p = 0.01), personal studying (p < 0.0005), exercising (p < 0.0005), and socializing (p < 0.0005). - Exam attendance (p = 0.27) and clinical placement attendance (p = 0.48) were not affected by severe dysmenorrhea.
7.	Teenager dysmenorrhea in Sweden: the prevalence and consequences	Lisa Söderman et al.	2019	Cross sectional	Web-based questionnaire	89% (95% CI 87-90) stated they had dysmenorrhea. - Severe dysmenorrhea (scores 8-10 on the numeric rating scale for pain) was reported by 36% (95% CI 34-39). - Fatigue reported by 83% (95% CI 81-85). - Headache reported by 82% (95% CI 80-84). - Dyschezia reported by 37% (95% CI 34-39). - Dysuria reported by 35% (95% CI 33-38). - 10% used hormonal therapy for pain. - Healthcare facilities visited by 33% (95% CI 31-36). - Doctors consulted by 7% (95% CI 6-9). - 59% refrained from social activities due to dysmenorrhea. - Absenteeism from school occurred monthly for 14% (95% CI 13-16) and a few times annually to 45% (95% CI 43-48).
8.	Students' experiences with dysmenorrhea, related symptoms, and treatment at King Khalid University in Saudi Arabia	Mohammed Abadi Alsaleem	2018	Cross sectional	Self administrated questionnaire	The average rate of dysmenorrhea in female students at King Khalid College is 70.6% (KKC). - Severe pain reported by 35.2% of those with dysmenorrhea. - 66% used medications for pain relief. - Herbal medicine use: 69.1%. - The majority of symptoms were related to the digestive system. . - 23% consulted a doctor for dysmenorrhea, while most consulted with friends and family.

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9.	The impact of painful periods on academic achievement, athletic participation, and interpersonal relationships in Turkish college students suffering from primary dysmenorrhea	Serap Özgül 1, Esra Üzelpasacı 1, Türkan Akbayrak 1, Ceren Orhan 1, Şeyda Toprak Çelenay 2, Funda Demirtürk 3,	2018	Cross sectional	Investigated pain characteristics, academic performance and participation in sports and social interactions between students who have both primary dysmenorrhea (PD) and different forms of pain	In comparison to the no-pain, mild, and moderate pain groups, there was an important rise in university absence, decreased concentrate in class, and the impact on athletics and social interactions in the extremely painful group (P less than 0.001). For the mild, moderate, and substantial pain individuals, there were notable variations in the duration,structure, and levels of the day of greatest sensation of pain (P < 0.05).
10.	Some of Palestinian female university students, the high incidence of dysmenorrhea and factors influencing the severity of its pain	Heba A Abu Helwa et al.	2018	Cross sectional	Questionnaire & Visual Analogue Scale	Prevalence of dysmenorrhea (85.1%; 95% CI), Significant association with age at menarche, mean pain score 6.79 ± 2.64, predictors of moderate/severe pain: irregular cycle, skipping breakfast, academic specialization, high stress level, living in dormitories.
11.	Relationship between physiological and economic variables and primary dysmenorrhea in Polish university students	Martyna Zurawiecka, Iwona Wronka	2018	Cross sectional	Questionnaire & Measurements	In the group under research, the incidence of primary dysmenorrhea (PD) was 64.85%. 30.40% of respondents reported moderate to severe pain, while 69.60% reported mild pain. Women with both excess and insufficient abdominal adiposity felt more likely to have PD.PD was more common in women who reached menarche earlier. The incidence of PD rose and fell with the educational attainment of the mother and father, respectively.Women along with wider families are prone to experience painful menstruation.The consequences of abnormal body mass, abnormal gastrointestinal weight gain, and age at menarche on the incidence of painful periods were all confirmed by logistic regression. Women with longer fourth fingers compared to second fingers were more likely to develop Parkinson's disease. Obesity of the abdomen and an adequate body mass index were proposed as ways to lower the risk of primary dysmenorrhea.
12.	A cross-sectional investigation was conducted to determine the prevalence ,effects, and management practices of dysmenorrhea in academic Gondar, Ethiopia students	Minaleshewa Biruk Gebeyehu et al.	2017	Cross sectional	Survey and analysis	Prevalence of dysmenorrhea was 77.6%. Majority used home remedies (63.8%) and medications like Ibuprofen and diclofenac. Symptoms included abdominal spasm (70.4%), back pain (69.7%), fatigue, and weakness (63.5%). Social withdrawal (63%) and decreased academic performance (51.4%) were alsoreported.

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	in Northwestern Ethiopia.					
13.	The prevalence of dysmenorrhea and its complications in medical graduates at an educational institution in Malaysia	Heethal Jaiprakash et al.	2016	Cross sectional	Interview and clinical examination	Out of the females who claimed to have dysmenorrhea,52% had moderate symptoms. (br> - Students with dysmenorrhea are 21.4±2.2 years old on average. (br> The average menstrual cycle age was 12.2±2 years. (br> - Of them, 59% seemed Indian, 17.1% were Malay, 16.6% were Chinese, and 7.1% were other. (br> - 92.2% of people regularly ate fast food, and 61.7% of people worked out twice a week on average. (br> - 9.% felt obese, while 58.1% were regular a body mass index. (br> Sixty-four percent weren't taking any kind of drug to treat dysmenorrhea. - After adjusting for examination decade, premenstrual syndrome, and number of pads, factors significantly linked to dysmenorrhea were Malay race, disruption in social activities and family history of the condition (p-value<o.o5)
14.	The severity of primary dysmenorrhea, related indicators, and its impact on educational achievement: information collected from Ethiopian female college students.	S Hailemeskel, A Demissie, N Assefa	2016	Cross sectional	Self-administered questionnaires, weight and height measurements	- Prevalence of PD was 85.4% (368 out of 440 students). - Severity of PD: 28.5% mild, 38.1% moderate, 18.8% severe. - 88.3% reported PD negatively affected academic performance with: - 80% reporting school absence. - 66.8% loss of class concentration. - 56.3% class absence. - 47.4% loss of class participation. - 37.8% limited sport participation. - 31.7% limitation in social outings. - 21% inability to do homework. - Related indicators of risk:lower monthly stipends, attempt to lose weight, history of depression or anxiety, disruption of social network, consumption of tea and soft drinks, nulliparity or relatives with a prior exposure to the illness
15.	A cross-sectional investigation measuring the prevalance of primary dysmenorrhea across college students and the variables related to its quantity	Sayyed Morteza Safavi, Wan Ying Gan, Rejali Zulida, Nahal Habibi, and Mary Soo Lee Huang	2015	Cross sectional	Interviews with pretested questionnaire	89.1% of people had primary dysmenorrhea. There was an important connection found between the higher primary dysmenorrhea intensity and the following elements: residing in the home,younger age, maternal time in formal education, a previous history of dysmenorrhea, greater frequency of bleeding, and less menstrual cycle.

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16.	The prevalence, indicators, and result of dysmenorrhea in female medical scholars at King Abdulaziz University	Nahla Khamis Ibrahim et al.	2015	Cross sectional	Self-administered questionnaire	Prevalence of dysmenorrhea: 60.9%. - Predictors: Heavy period (aOR=1.94; 95% CI: 1.29- 2.91) and stress (aOR=1.90; 95% C.I.: 1.19-3.07). - Severe dysmenorrhea prevalence among sufferers: 38.6%. - Commonest symptom accompanying dysmenorrhea: Depressed mood (80.8%). - Outcome of dysmenorrhea: 67.5% reported emotional instability and 28.3% reported absenteeism from the university.
17.	Dysmenorrhea prevalence in female college students and the factors that contribute to it: effect on overall satisfaction	Demet Aktaş RN, PhD	2014	Cross-sectional	Interview questionnaire, VAS (Visual Analog Scale), General Comfort Questionnaire	Dysmenorrhea is 84% common in female learners at colleges. - Mean severity of pain was 5.78 ± 2.45 on the VAS. - 45.8% of students experienced moderate menstrual pain. - Most common co-occurring symptoms were irritability (34.6%) and fatigue (21.5%). - 25% of students with dysmenorrhea consulted a physician. - Using heat (56.5%), analgesics (69%), and rest (71.4%) were the most often utilized pain relief techniques. - Factors affecting dysmenorrhea included family history, education about menstruation, and frequency of menstrual cycle. - Students with dysmenorrhea had a lower mean general comfort score (2.57 ± 0.25) compared to 00000000those without (2.65 ± 0.23).
18.	Dysmenorrhea prevalence in female students at a medical university	K Meenal, D Ruhi	2014	Cross sectional	Descriptive study	66% of women reported having dysmenorrhea. Of the girls, 44% had premenstrual syndrome. (br> - Almost 50% of the females said they experienced dysmenorrhea each month. (br> - One-third of the girls had dysmenorrhea-related chronic pain. One common reducing aspect was rest. (br> - Dysmenorrhea was cited as the reason for 45% of girls' university absenteeism (br> - 87% of girls said that having dysmenorrhea had limited their ability to do various activities. (br> Merely one-third of females were pursuing medical attention for dysmenorrhea. (br> - 89% of females said they didn't need therapy for dysmenorrhea.
19.	Dysmenorrhea in Hong Kong college students: prevalence, consequences, and treatment	C F Chiaetal.	2013	Cross sectional	Questionnaire survey	In Hong Kong, 80% of college students had dysmenorrhea (95% confidence interval: 75-85%).Mean pain score was 5.0 (1.7). Most common impacts included reduced ability to concentrate/study disturbance (75%) and changes in physical activity (60%). Only 6% sought medical advice.
20.	Women in their twenties who experience monthly pain: what is dysmenorrhea?	Angelo Cagnacc, Annibale Volpe, Marianna	2012	Cross sectional analytical	Self assessment questionnaire	Of the women, 84.1% stated experiencing pain during their periods. 41% of women and 43.1% of women revealed pain at some point during their periods. Menstruation was

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		Cannoletta, Federica Palma, Giovanni Grandi, Serena Ferrari, Anjeza Xholli, and Federica Palma				delayed (P = 0.0002), the menstrual cycle was prolonged (P = 0.006), smoking was more common in women who experienced painful periods (P = 0.031), and the use of hormonal contraceptives was less common (P = 0.015). Age at menarche was inversely related to the degree of discomfort,use of hormonal contraceptives, and previous gynecological surgery, and it positively correlated with menstrual bleeding length, history of abortions performed, and gynecological diseases. Menstrual discomfort was seen in 84.1% of cases, followed by painful periods and medicine need (55.2%), period pain and absenteeism (31.9%), and menstrual pain, prescription drugs need, and absenteeism (25.3%) (P < 0.0001). Menstrual pain that is so severe that it requires medication and causes at least one in four women to miss work or other events

DISCUSSION

Menstrual pain, or dysmenorrhea, is a common problem that affects college students' daily activities, academic performance, and general well-being.An outline of the studies and publications that have been presented on dysmenorrhea in college students will be given in the following paragraphs.

A research investigation by Marta Horvat et al. (2023) looked into the prevalence of primary dysmenorrhea in addition how it affected Croatian female students' educational achievement during the COVID-19 pandemic. In the findings of the research, 63.8% of the subjects revealed severe discomfort, while there was an elevated prevalence of primary dysmenorrhea (90.1%) in them.The study discovered a strong link between the extent of cramping during periods while it affected a variety of academic tasks,including learning, test results, assignments, attendance at school, and focus. In particular, the research found that dysmenorrhea impairs exam performance in 87.1% of students, homework completion and comprehension in 93.3% of students, and focus in class in 93.6% of young people. In comparison to certain other international studies, the prevalence rate reported by Horvat et al., 2023, is noticeably higher.

Similarly, Deogade (2020) evaluated the prevalence of primary dysmenorrhea in college students and discovered that 90.68% of female students experienced this condition. Out of that, 74.08% are females liked to eat spicy/junk food and 49.87% suffered from anxiety/depression. The high incidence of dysmenorrhea in college students might be correlated to certain lifestyle and psychological variables.A literature review and meta-analysis were carried out by Armour et al. (2019) to ascertain the frequency and Educational consequences for dysmenorrhea regarding young women, including university students. The study discovered Dysmenorrhea is extremely common in a variety of populations using a large number of participants of over 21,000 young women.This investigation additionally showed that dysmenorrhea was significantly affected academic performance, with many students reporting absenteeism and reduced concentration due to menstrual pain. This emphasizes how critically dysmenorrhea must be treated as a serious health issue affecting college students.

To examine the impact of menstrual pain on educational achievement, participation in athletics, and interactions with peers among university students with primary dysmenorrhea,In Turkey, Orhan et al. (2018) conducted a case-control study.According to the research, students who had dysmenorrhea performed significantly less proficient than their peers in the classroom without menstrual pain, and They also had a lower chance to engage in extracurricular activities and athletics. This suggests that dysmenorrhea may have a significant effect on college students' general well-being and standard of living. A study by Chia et al. (2013) was carried out in Hong Kong to evaluate the administration, effect, and prevalence of dysmenorrhea in college students. They discovered that dysmenorrhea impacted a sizable proportion of an individual's body and was very common. The study highlighted adverse effects of dysmenorrhea on daily life, including reduced academic performance and disruptions in social activities. Additionally, the study emphasized the importance of effective management strategies to alleviate the symptoms and enhance the living conditions of the impacted students.

CONCLUSION

Our preliminary results from this investigation indicate that female adolescents, particularly those enrolled in universities, had the greatest prevalence.Primary dysmenorrhea is more common in young adolescent females. Age, duration of the menstrual cycle, and the heaviness of the cycle of menses are

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some of the variables linked to the primary dysmenorrhea across university attendees . Primary dysmenorrhea has an important effect on several educational domains for these students, especially regarding focus, general well-being life, and different levels of pain exertion. It also affects absences, education, and achievement on tests .The second conclusion is that primary dysmenorrhea has a detrimental effect on female young adult students' productivity and overall psychological health.

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STRATEGIES AND MOTIVATION AS DETERMINANTS OF WRITING PROFICIENCY AMONG STUDENTS OF TEACHER EDUCATION INSTITUTIONS IN REGION XI: A MIXED METHODS STUDY

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ABSTRACT

The purpose of this study was to assess the causal association of the writing proficiency of students as viewed from the context of writing strategies' utilization and writing motivation among first-year English major students of Teacher Education Institutions in Region XI. The study used an explanatory sequential mixed methods design. The quantitative strand utilized an adopted survey questionnaire distributed to 300 respondents while the qualitative approach employed 17 informants from among the 300 respondents through purposive sampling. Ten were subjected to IDI and seven to FGD among the 17 participants. The study revealed that writing strategies' utilization of respondents indicated high level in metacognitive, effort regulation, cognitive, social and affective strategy. Moreover, students perceived a high level of writing motivation in terms of intrinsic, extrinsic and self-regulatory. Also, students have high level of writing proficiency in terms of attitudes towards writing, generating, revising, feedback, and awareness and control of the writing process. All variables were found to have a significant influence on writing proficiency. The participants of the qualitative strand agreed with the quantitative results. Hence, the nature of data integration was revealed to be connecting-confirmation.

KEYWORDS: *Applied linguistic, education, writing, strategies, motivation, proficiency, first-year English major students, Region XI, Philippines*

INTRODUCTION

Writing proficiency involves the ability of an individual to communicate through written word and use knowledge of syntax to write a sophisticated and high-quality sentence. This denotes also the individual's proficiency in vocabulary selection and organization of writing contents to be able to come up with a well-written output (Redrico et al., 2019). Hassab and Mohammed (2019) pointed out too that the process of learning to write was said to be crucial in the development of an efficient and effective composing process. However, students' main struggled to enhance their writing proficiency even after completing their education it is because of lack of exposure to variety of writing activities. In a study by Coloquit et. al. (2020), the factors which caused the problem in the students writing proficiency are attributed by the following factors: limited vocabulary, insufficient writing practice, weak argumentation, ineffective structuring of ideas, and challenges in grammar and syntax skills among peers.

In the global context, students in the United States, spanning from elementary to high school seniors, struggle to attain proficiency in writing. In the assessment conducted, it was revealed that only approximately 27% of students demonstrated low proficiency in writing from grades four through twelve. These individuals often exhibit numerous grammatical and spelling errors and encounter difficulties in organizing their thoughts on paper thus scuffled in maintaining attention, experiencing distractions, fatigue, or experienced difficulty initiating writing assignments (National Report Card from the National Center for Education Statistics, 2020). Also, in the study of Alamri and Al-Tunisi (2019) as cited by Ahmed (2019), it was indicated that Saudi undergraduate students frequently commit errors related to unity and coherence in their writing. Their written proficiency is characterized by ineffective organization of ideas, a lack of transitional markers, and misuse of cohesive elements which attributed by several factors such as inadequate knowledge of paragraph writing techniques, lack of motivation, interference from their mother tongue, and inappropriate use of writing strategies.

In the Philippines, as indicated by findings from the Southeast Asia-wide study called "Southeast Asia Primary Learning Metrics" (SEA-PLM), reported by Felipe (2020), a significant proportion of Filipino students lack the necessary proficiency in reading, writing, and math to progress to secondary school.

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Senator Gatchalian disclosed that merely 10 percent of Filipino learners have attained proficiency in reading, 17 percent in mathematics, and a mere one percent in writing. This signifies that only one percent of Filipino students possess the ability to compose coherent texts with detailed ideas and a broad range of appropriate vocabulary. The absence of these abilities lead was caused by the lack of strategies and low motivation of students during the writing tasks which leads into the poor writing proficiency. In addition, Tanpoco et. al. (2019) conducted a university-wide study in Naga City on the writing errors among senior high school students. The results demonstrated that students committed grammatical errors as they composed essays and other written output and these are most prevalent in terms of the verb, pronoun and preposition usage. Thus, it revealed that the written-compositions of students struggled to meet the standard on the level of writing proficiency a college student should have.

In the local context, the study by Guliman et. al. (2016) which was conducted in one of the universities in Region XI specified the problem on the writing proficiency of students in higher education institutions. Challenges related to errors in writing compositions as well as structuring correct and meaningful sentences are frequently encountered. During class, students frequently make errors in grammar, spelling, and punctuation, revealing a clear lack of strategies in leading to a problem in their writing proficiency. In the same vein, Mamidted (2023) cited in his study that some faculty members of the College of Education in one of the state universities in Mindanao specifically at Maguindanao observed that the writing proficiency of the university's freshmen students are generally poor and needs to be improved through series of writing activities in terms of grammar, punctuation and sentence structure. Findings report also the importance of students to strive harder to improve their strategy and style skills in writing for them to elevate the level of their writing proficiency.

Researchers have placed an increasing focus and interest on the writing proficiency of college students (Vega et al., 2019; Syafi, 2020; and Ozcelik and Batur, 2023). However, these studies are delimited only to discuss the impact of strategies in the writing proficiency of bilingual students, identify only if the process approach enhances skills in writing, and highlight the outcomes of a proficient writer. On the other hand, this study involved exploring three variables, with writing strategies and writing motivation as independent variables while writing proficiency as the dependent variable. Moreover, there are no publications yet about the influence of these independent variables on the writing proficiency of first-year English major students. Thus, this paper can contribute to the body of related literature so as providing a basis for higher education institutions to further the language curriculum implementation such as on subjects with writing activities in response to the call of innovations and change of times.

From this context, findings and results of the study may be a good avenue and point of reference since the results will be shared to different significant authorities such as the tertiary students, academic institutions, language teachers, technical panel members, research ethics committees, future researchers and other organizations especially those in the education field. Thus, the instruments to be used in the study may be utilized as well by teachers in assessing the writing proficiency of their students and provide possible solutions to answer the problem. Lastly, the study may be presented whether in a local, national or international research conferences and will be published in order that the dissemination of the results will be given into a wide scope of audience.

OBJECTIVES OF THE STUDY

The primary purposes of this study were the following:

1. What is the level of writing strategies' utilization, writing motivation and writing proficiency among first-year English major students across various Teacher Education Institutions in Region XI?
2. Are the combined and singular influence of writing strategies' utilization and writing motivation on writing proficiency among the students significant?
3. What are the standpoints of the participants on the salient points of the qualitative results?
4. How do the qualitative results explain the quantitative results of the study?

METHODS

Design

This study employed the explanatory sequential mixed methods design through regression and phenomenology. As defined by Li et. al. (2015), the mixed methods approach is a methodology that integrates qualitative and quantitative methods across various stages of the research process, encompassing philosophical assumptions, data collection, and interpretation. Also, Creswell (2003) defined mixed methods explanatory sequential design as a research design consisting of two distinct phases: quantitative followed by qualitative. To be specific, the study examined the level, the significant relationship, and the influence of WS' utilization and WM on WP. The researcher also used descriptive statistics like mean and standard deviation, to describe the level of WS' utilization, WM and WP among the first-year English major students of Teacher Education Institutions in Region XI. Further, the researcher used inferential statistics like Pearson-r for determining if the relationship between variables was significant, and multiple regression for predicting the value of WP based on WS' utilization and WM. For the qualitative part, thematic analysis was used to identify emerging themes that substantiated the findings in the quantitative part.

Additionally, the study was conducted in Region XI or Davao Region. Specifically, this study was conducted in the different Teacher Education Institutions (TEIs) in the said region specifically the state universities and colleges. The study covers five (5) different provinces namely, Davao de Oro (Compostela Valley), Davao del Norte, Davao del Sur, Davao Occidental, and Davao Oriental. One (1) TEI was taken as locale in each province.

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In selecting the respondents, the researcher used stratified random sampling to recruit 300 students from the different TEIs in Region XI who are all first-year English major students. On the other hand, for the qualitative participants, there were 17 students for an in-depth interview and focus group discussion. These were identified through purposive sampling technique and were drawn out of the quantitative strand respondents.

RESULTS AND DISCUSSION

Level of Writing Strategies, Writing Motivation and Writing Proficiency

Reflected in Table 1 is the overall mean rating of writing strategies which is 4.04 with a descriptive equivalent of high which means it is oftentimes manifested by the students. This is based on their responses in metacognitive strategy, cognitive strategy, effort regulatory strategy, affective strategy, and social strategy as indicators of the said variable. While the overall mean rating of writing motivation is 3.87 with a descriptive equivalent of high which means that it is oftentimes manifested by the students. This was based on their responses to the indicators of the variable including intrinsic motivation, extrinsic motivation, and self-regulatory. Lastly, the overall mean rating of writing proficiency is 3.87 with a descriptive equivalent of high. This means that the level of writing proficiency among first-year English major students of TEIs in Region XI is oftentimes manifested.

Table 1
Level of Writing Strategies, Writing Motivation and Writing Proficiency among First-Year English Major Students

Variables / Indicators	Standard Deviation	Mean	Descriptive Level
Writing Strategies	**0.45**	**4.04**	**High**
Metacognitive Strategy	0.51	4.28	Very High
Effort Regulatory Strategy	0.57	4.02	High
Cognitive Strategy	0.55	4.11	High
Social Strategy	0.72	3.88	High
Affective Strategy	0.62	3.91	High
Writing Motivation	**0.47**	**3.87**	**High**
Intrinsic Motivation	0.45	4.22	Very High
Extrinsic Motivation	0.58	3.56	High
Self-Regulatory	0.68	3.83	High
Writing Proficiency	**0.50**	**3.87**	**High**
Attitudes towards Writing	0.69	3.91	High
Generating Ideas	0.62	3.70	High
Revising	0.56	4.01	High
Feedback	0.75	3.77	High
Awareness and Control of Writing Process	0.58	3.97	High

These significant results relate to the findings of the study of Aluemalai and Maniam (2020) that the use of writing strategies of the students in ESL writing classroom is high as compared to the result of the study of Maarof and Murat (2013) as cited by Dari et. al. (2022) that out of 125 first-year students, only 18 (14.4%) participants are high in the use of writing strategies. Further, the study of Aldes-Wold et. al. (2023) aligned to the results since it found that the level of writing motivation of students is high which implied that the students are highly motivated as they write. While Khatri (2022) cited that 78.1% from the total sample of 40 students in Nepal were found high in terms of their writing proficiency.

Influence of Writing Strategies' Utilization and Writing Motivation on Writing Proficiency of First-Year English Major Students

Before determining the significant influence of the independent variables towards the dependent variable, correlation between variables was computed to determine its significance. In the case of the said three variables, the correlations are all significant. It can be depicted from the result that there is a significant relationship between WS and WP since shown in Table 2 that the *p*-value is less than 0.05 for its correlation coefficient, r=.802. Likewise, results also showed a significant relationship between WM and WP (r=.699, p<.05).

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Table 2
Relationship between Variables

Independent Variable	Dependent Variable	r- value	*p*-value
Writing Strategies	Writing Proficiency	.802	.000*
Writing Motivation		.699	.000*

The significance of the relationships between writing strategies and writing motivation on writing proficiency warrants the use of regression analysis. Table 3 shows the regression analysis results examining how writing strategies and writing motivation influence the writing proficiency of first-year English major students of Teacher Education Institutions in Region XI. It was revealed on the table that the writing strategies on their singular capacity can significantly influence the writing proficiency ($p<.05$). On the same manner, the writing motivation on its singular capacity can significantly influence the writing proficiency ($p<.05$).

Table 3
The Influence of* Writing Strategies and *Writing Motivation on Writing Proficiency among First-Year Major in English Students

Writing Proficiency					
Independent Variables		*B*	β	*t*	*Sig.*
Constant		.050		.322	.748
Writing Strategies		.692	.622	12.900	.000
Writing Motivation		.265	.248	5.151	.000
R	.820				
R^2	.672				
ΔR	.670				
F	304.882				
ρ	.000				

Moreover, for every unit increase in writing strategies, it corresponds to a .692 increase in writing proficiency if the other predictor is held constant. Similarly, a unit increase in writing motivation forces corresponds to a .265 increase in writing proficiency if the other predictor is held constant. Between the two variables, writing strategies indicate a higher influence to writing proficiency compared to writing motivation. As a model, the r^2 of .672 implies that 67% of the variation of writing proficiency can be explained by the combined influence of the writing strategies and writing motivation. Thus, 33% can be attributed to other factors apart from writing strategies and writing motivation than can influence the writing proficiency of the first-year English major students.

These findings on the influence of WS' utilization and WM on the writing proficiency confirm the result of the study of Nhung (2023) which found that those students who employ less strategies often receive low level of proficiency. Thus, the students with high proficiency with 3.81 mean score were reported that they employ strategies in their writing to produce a well-structure writing output. Consequently, in terms with the influence of writing motivation on writing proficiency, the result of the study by Chayono and Rahayu (2020) showed that the correlation coefficient is 0.707 which means that if the students' motivation in writing is high, the students' writing proficiency is also high.

Standpoints of the Participants on the Qualitative Results

Illustrated in Table 5 are the standpoints of the participants on the quantitative results regarding the level of students' writing strategies, writing motivation and writing proficiency. The table also presents the salient results of the survey which reveals the essential theme (*a priori*) and thematic reasons on confirmation. The essential themes generated are as follows: the confirmed high rating of writing strategies, writing motivation and writing

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proficiency and confirmed significant influence/relationship of writing strategies and writing motivation on writing proficiency.

These findings correlate to the studies of Chen (2022) and Sicat (2022) which both mentioned that the variations in the utilization of writing strategies will influence students' writing proficiency. In which, Sicat (2022) also cited in his study that the regular utilization of writing strategies had a great influence on the level of students' writing proficiency. Meanwhile, Sugumlu et. al. (2019) and Pupita and Iriani (2022) which emphasized that students' writing motivation influence writing proficiency since motivation served as the factor for them to organize and generate ideas in writing.

Table 5

Standpoints of the Participants on the Quantitative Results

Areas of Concern	Essential Theme *(a priori)*	Core Ideas
High Rating of Writing Strategies (WS)	**Confirmed High Rating of WS**	Being exposed to various writing activities and strategies.
		Utilizing different WS to be organized in expressing ideas.
		Assessing what writing strategy does the task requires.
		Preferring writing among other macro-skills.
		Using varied techniques in writing.
High Rating of Writing Motivation (WM)	**Confirmed High Rating of WM**	Being given topics they can relate.
		Motivating themselves.
		Having time pressure motivates students to finish writing.
		Receiving support given by the teachers and classmates motivates writing.
		Being motivated from the rewards given by the teacher.
		When motivated, students become comfortable and confident in writing.
		Being afraid to fail so they are motivated to write.
		Having positive feedback motivates students to write.
High Rating of Writing Proficiency (WP)	**Confirmed High Rating of WP**	Having practice develops writing proficiency.
		Having prior knowledge provides the ability to write well.
		Has the ability to organize and rewrite ideas.
		Accepting feedbacks from individuals.
		Conveying ideas clearly.
		Using appropriate words, observe proper punctuations, and avoids grammatical errors.
		Producing coherent and cohesive written outputs.
Significant Relationship and Influence of WS and WM on WP	**Confirmed Relationship and Influence of WS and WM & its Dimensions on WP**	WS and WM are strong factors of Writing Proficiency, enhancing great performance and good relationship. WM generates creative ideas. Students who are inspired and motivated produce quality written outputs. WS and WM produce valuable ideas in writing. WS and WM promote effective communication and positive WP. WS and WP allow the students to be aware of their written skills. WS and WM affect WP because it fuels passion and interests. WS and WM influence students to become proficient writers. Dimensions of WS like Metacognitive Strategy (MS), Effort Regulatory Strategy (ERS), Cognitive Strategy (CS), Social Strategy (SS) and Affective Strategy (AS)are all important contributors to WP as declared by the participants.

Hence, for Dari et. al. (2022), the utilization of writing strategies into writing can yield positive outcomes, enhancing students' strategic knowledge and increase the students' overall writing proficiency. Hence, students' utilization of strategies during

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writing tasks serves as a demonstration of their proficiency as writers.

Data Integration of Quantitative and Qualitative Results

Illustrated in Table 6 is the joint display of data and information gathered for both quantitative and qualitative results or mixed methods design, specifically the explanatory sequential approach.

Table 6

Joint Display of Quantitative and Qualitative Results

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
1. Status of Writing Strategies, Writing Motivation and Writing Proficiency			
1.1. Status of WS	Means of five indicators of WS ranged from 3.88 to 4.28 with an overall mean of 4.04 or high level indicating that the respondents evaluate WS as oftentimes manifested.	Informants/Participants showed positive experiences on the three indicators considered as a priori themes: *Metacognitive Strategy (MS), Effort Regulatory Strategy (ERS), Cognitive Strategy (CS), Social Strategy (SS) and Affective Strategy (AS)*. Reasons for their confirmation are reflected in their qualitative standpoints.	Connecting-Confirmation
1.2. Status of WM	Means of three indicators of WM ranged from 3.56 to 4.22 with an overall mean of 3.87 or high level which indicates that the respondents evaluate MS as oftentimes manifested.	Informants/Participants confirmed the high rating on the three indicators of WM: *Intrinsic Motivation (IM), Extrinsic Motivation (EM), and Self-Regulatory (SSR).* Reasons for their confirmation are reflected in their qualitative standpoints.	Connecting-Confirmation
1.3. Status of WP	*Revising* got the highest mean (4.01) and the lowest is the *Generating Ideas* (3.70) with an overall mean of 3.87 or high level which indicates that the respondents evaluate WP as oftentimes manifested.	Informants/Participants showed positive experiences on the five indicators considered *as a priori* themes: *Attitudes towards Writing (AW), Generating Ideas (GI), Revising (R), Feedback (F)and Awareness and Controls of Writing Process (ACWP)* with the rating of High in the quantitative results. Reasons for confirmation are reflected in their qualitative standpoints.	Connecting-Confirmation
2. Relationship and Influence of WS and WM on WP.	Both WS and WM have significant relationships (p<0.05) and	The participants/informants were affirmative on the influence of WS and WM on their WP. They verbalized	

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	influences of WS (*B*= .692) and WM (*B*= .265) on WP basing on the combined influence of all its domains (R square =.672; *p*<.05)	the importance of the variable in the development of their WP as can be gleaned from their qualitative standpoints on the topic bearing out the theme confirmed significant relationship and influence of WS and WM on WP.	Connecting-Confirmation
3. Writing Strategies as best predictor of Writing Proficiency	Between WS and WP, Writing Strategies (*B*=0.207; *p*<0.05) Indicated significant influence on WP. Its indicators contribute to the significant influence of WS on WP as demonstrated by the significant R square (.672) of their combined influence on WP.	Participants acknowledged that the five dimensions of WS significantly influence WP. They verbalized the crucial role of MS, ERS, CS, SS and AS in the WP and confirm that they *are Influencers of WP* as reflected in their qualitative standpoints on the topic.	Connecting-Confirmation

These results are confirmed in the study of Arifin (2020) and Hendrayani (2022 that the diverse range of writing strategies or techniques used by students are high since students are equipped with critical abilities as they engage in a series of sub-tasks before producing an acceptable and with quality text. In addition, the studies of Bradshaw (2023), Fabie (2020) and Sarikaya and Yilar (2021) which underscored the roles of internal motivation like needs, interests, curiosity and enjoyment as well as external motivation such as educators, incentives, and instructional approaches towards the students' writing. Also, Adrias (2022), alongside with Kincaid (2009) cited that through stating that the individual's writing proficiency should be in high level as it referred to how skillful a writer is in writing.

Moreover, the relationships among variables and influences of WS' utilization and WM on WP demonstrate a connecting and confirming nature in integrating quantitative and qualitative results. In the study of Dari et. al. (2022) and Mastan et. al. (2017), it was pointed out that there is a relationship between the students' utilization of various writing strategies like metacognition on the enhancement of students' writing proficiency. Also, Vacalares et. al. (2023) confirmed the result through their study that when the students' motivation to write is in the high level, it allows them to express their feelings in which their writing proficiency will also increase.

CONCLUSIONS

After a thorough analysis of the data gathered in this study, conclusions were drawn in answer to the set research questions and objectives of the study.

1. The level of writing strategies' utilization, writing motivation and writing proficiency are high which means that these are oftentimes manifested among first-year English major students.
2. In the study, it is concluded that the variables of writing strategies, writing motivation, and writing proficiency are statistically correlated significantly. It is also concluded that both independent variables – writing strategies and writing motivation – significantly influence writing proficiency both independently and taken as one among first year English major students. Furthermore, writing strategies showed a relatively stronger influence.
3. Also, the quantitative phase results were further substantiated through the essential themes emerged during the thematic analysis of the qualitative phase data. Generally, the results confirmed the quantitative aspect of the study based on the responses provided by the participants and informants during the interview.
4. It is also concluded that the integration of quantitative and qualitative findings had demonstrated a connecting and confirmation nature in all elements, including writing strategies, writing motivation, and writing proficiency.

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THE ROLE OF LEARNING STYLE PREFERENCE AND LEXICAL INFERENCING STRATEGIES ON THE READING COMPREHENSION OF EDUCATION STUDENTS: A MIXED-METHODS STUDY

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ABSTRACT

This explanatory sequential mixed methods study aimed to assess the causal association of the reading comprehension of first year English-major students as viewed from the context of learning style preference and lexical inferencing strategies in the different state colleges and universities in Davao region. The quantitative strand utilized an adopted survey questionnaire distributed to three hundred respondents using stratified random sampling. The qualitative approach employed 17 informants from among the three hundred respondents. Ten were subjected to IDI and seven to FGD. The study revealed that the learning style preference of the respondents indicated high levels in visual, auditory, and kinesthetic. Moreover, the students perceive a high level of lexical inferencing strategies in terms of intralingual strategies and contextual strategies. On one hand, the students have a moderate rating of their reading comprehension in terms of literal, interpretive, and evaluation level while low for the creative level. Learning style preference found to have no significant relationship and influence on reading comprehension. In the contrary, lexical inferencing strategies found to have a significant relationship and a dominant influence on the reading comprehension of the students. The participants of the qualitative strand confirmed and disconfirmed with the quantitative results. Hence, the nature of data integration was revealed to be connecting-confirmation and connecting- expansion. In the broader context, this study will be of great help to the society since improving how students comprehend text translates to a more knowledgeable and capable society, fostering overall societal improvement.

KEYWORDS: *Applied linguistics, Education, learning style preference, lexical inferencing strategies, reading comprehension, first year college students, Philippines*

INTRODUCTION

Reading comprehension is defined as the ability to analyze, interpret, and argue about a topic that has been read, allowing for problem-solving and knowledge application and it entails creating mental representations in working memory by combining external text with internal knowledge, encompassing coherence formation, inferences, and topic-specific models (Schnotz, 2023; Caracas, 2023). Accordingly, reading comprehension skill is vital for knowledge acquisition, incorporating aspects like oral comprehension, reading speed, vocabulary, syntax, and inference generation (Acedillo, 2023). However, Lina et al. (2021) highlighted that challenges persist, particularly among college students, who struggle with interpretative, evaluative, and critical levels, often excelling only in literal comprehension

In Indonesia, college students encounter hurdles in reading comprehension across multiple dimensions: literal, interpretative, evaluative, and creative. These challenges are exacerbated by teachers' limited pedagogical knowledge (Nurjanah, 2018). Harida (2014) also noted difficulties in understanding English texts among these college students due to vocabulary, especially the limited knowledge or mastery of vocabulary. Furthermore, deficiencies in reading comprehension skills at literal, inferential, and critical levels impede critical thinking and expression of subjective views (Cabural & Infantado, 2023). A study conducted by Mutakhirani et al. (2020) in Kenya echoed similar findings, emphasizing the need for enhanced reading practices and motivation.

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In the local setting of Davao City, it was being highlighted that Grade 8 students face challenges with reading comprehension, particularly at the frustration level, impacting their overall academic performance (Larioque, 2019). To add, Pascual (2019) studies reveal that students exhibit low levels of reading comprehension which is exacerbated by factors such as limited exposure to English linguistic environments, poor reading habits among millennials, and high levels of reading anxiety.

This study seeks to address a research gap identified in previous studies, such as Rujani's (2019) exploration of the relationship between learning styles and reading comprehension, Anak et al. (2022) investigated learning style preferences among English Language Education students, and Juliana's (2018) study focused on lexical inferencing strategies and their effect on reading comprehension. While these studies delved into learning style preferences and lexical inferencing strategies, none have comprehensively explored the intricate connections between perceptual learning style preferences, lexical inferencing strategies, and reading comprehension among Education students in Region XI. The existing literature provides valuable insights into the aspects of reading competence and learning styles. However, there is a noticeable gap in exploring the intricate relationship between these variables. This gap emphasizes the necessity for a more focused investigation, which forms the foundation of this study's contribution to the existing knowledge.

This study delving into how Education students approach reading is exceptionally crucial. It aims to unravel the effect of their learning style preference and lexical inferencing strategies on reading comprehension—an urgent endeavor as strong reading comprehension are pivotal for success in both academic and real-life scenarios. By uncovering how students learn best, we empower educators to tailor teaching methods that benefit everyone. The outcomes will offer practical insights for teachers and curriculum planners, contributing to enhanced learning strategies. In the broader context, improving how students comprehend text translates to a more knowledgeable and capable society, fostering overall societal improvement. Therefore, the urgency and social relevance of this study lie in its potential to significantly shape the way students learn and thrive in the academic and broader societal landscape.

OBJECTIVES OF THE STUDY

This study sought to answer the following questions:

1. What is the level of learning style preference, lexical inferencing strategies, and reading comprehension among BSED-English students in the different State Universities and Colleges in Region XI?
2. Is the combined and singular influence of learning style preference and lexical inferencing strategies on reading comprehension among these students significant?
3. What are the standpoints of the participants on the salient points of the quantitative results?
4. How do the qualitative results explain the quantitative results of the study?

METHODS

Design

This study adopted a mixed methods design. Following the definition by Schoonenboom & Johnson (2017), mixed methods involve the integration of qualitative and quantitative approaches throughout various stages of the research process. Further, this study utilized an explanatory sequential mixed methods research design, combining both regression analysis and phenomenology with a non-experimental approach. According to the explanation provided by Creswell and Plano Clark (2011), qualitative data serve to expound upon or build upon the initial quantitative results, contributing to a comprehensive understanding of the research phenomena.

Additionally, phenomenology was used as the approach of choice in the qualitative phase because of its basis in the idea that personal perceptions influence actions and reactions. Forris (2015) asserts that phenomenology seeks to shed light on particular phenomena by investigating how the individuals involved perceive them. This entails obtaining detailed data using qualitative techniques like participant observation, interviews, and discussions and presenting it from the viewpoint of the research participants. According to Creswell (2009), phenomenology is a research approach that identifies the essence of human experiences connected to a phenomenon based on participant descriptions.

Population and Sample

In the quantitative phase, the participants of the study were the 300 first-year English major students enrolled in the different State Universities and Colleges in Region XI. Also, stratified random sampling technique was used in calculating the samples in each population per HEI. For the qualitative strand of the study, 10 first-year BSED-English major students were invited for the in-depth interview and seven participants for the focus group discussion. Their standpoints on the quantitative data were considered and were dealt with accordingly. In the selection of the participants, the researcher employed a purposive random technique. They were selected based on who can best address the research questions and enhance understanding to give vision of the phenomenon under study.

Research Instrument

In this section, the instruments that were used to collect quantitative and qualitative data from the participants of this study were discussed.

In the quantitative strand of the study, three sets of questionnaires were drawn from diverse authors which underwent validation by experts in questionnaire construction. For the learning style preference, it was adapted from Male (2019), the questionnaire for lexical inferencing strategies was adapted from Ngoc Yen (2023) and for reading comprehension, was from Bilbao et al. (2016). Further, in the qualitative aspect, interviews were conducted with the relevant participants using a set of guided questions. An interview protocol and a guide for focus group

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discussions (FGD) were developed and validated by a panel of experts.

Data Analysis

The quantitative data analysis involved descriptive statistics such as mean which determined the level of learning style preference, lexical inferencing strategies, and reading comprehension, Pearson-r assessed the significant relationship between learning style preference and lexical inferencing strategies on the reading comprehension of first-year English major students, standard deviation measured the dispersion of respondents and regression analysis measured the relationship between the two independent variables on the dependent variables. In the qualitative phase, the notes taken from the focus groups and in-depth interviews were subjected to a series of thematic analyses. This approach focuses on finding, analyzing, and recording themes or patterns in the data.

RESULTS AND DISCUSSION

Level of Learning Style Preference, Lexical Inferencing Strategies and Reading Comprehension

Shown in Table 1 are the levels of the study's observed variables: Learning Style Preference, Lexical Inferencing Strategies and Reading Comprehension of first year English-major students in Region 11.

The first independent variable, *learning style preference* gathered an overall mean of 3.69 with a level description of "high." This mean score indicates that the LSP of the students is practiced most of the time. In this variable, all the indicators acquired a level description of "high". Furthermore, the second independent variable, *lexical inferencing strategies,* gathered an overall mean of 3.95 with a level description of "high." This mean score indicates that the first-year students' LIS is practiced most of the time. In this variable, all the indicators also acquired a level description of “high”. Lastly, the dependent variable, *reading comprehension,* gathered an overall mean of 2.72 with a level description of "moderate." This mean score indicates that the said variable is sometimes practiced. In this variable, all of the indicators acquired a level description of “moderate” except for the creative level with low descriptive level.

These results align with the findings of Raju and Madhuri (2022), who similarly discovered a high level of learning style preference among secondary school students in their study. The result also resonates with Foomani's (2015) study, which also identified a high level of lexical inferencing strategies among proficient college listeners. Also, this outcome echoes Yusoff et al.'s (2016) findings, which similarly indicated a moderate level of reading comprehension among students, highlighting the necessity for effective guidance in text comprehension.

Table 1

Status of Learning Style Preference, Lexical Inferencing Strategies, and Reading Comprehension among BSED-English Students in the Different State Universities and Colleges in Region XI

Latent Variables / Observed Variables	Standard Deviation	Mean	Descriptive Level
Learning Style Preference	**0.41**	**3.69**	**High**
Visual Learning Style Preference	0.46	4.06	High
Auditory Learning Style Preference	0.53	3.62	High
Kinesthetic Learning Style Preference	0.61	3.40	High
Lexical Inferencing Strategies	**0.54**	**3.95**	**High**
Intralingual Strategies	0.59	3.91	High
Contextual Strategies	0.60	3.99	High
Reading Comprehension	**0.50**	**2.72**	**Moderate**
Literal Level	0.87	2.60	Moderate
Interpretive Level	0.72	2.84	Moderate
Evaluation Level	0.77	2.97	Moderate
Creative Level	0.68	2.47	Low

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Relationship and Influence of Learning Style Preference and Lexical Inferencing Strategies on the Reading Comprehension of Education Students

Table 2 shows the relationship between learning style preference and lexical inferencing strategies on reading comprehension. Before the influence of the learning style preference and lexical inferencing strategies to reading comprehension was determined, the relationship between each other was first established.

The table shows that there is no significant relationship between learning style preference and reading comprehension of the students. This correlates to the assertions of Pratiwi (2022) which states that there is no significant relationship between learning style preferences and reading comprehension, as indicated by the research they conducted on the twelfth graders. On the other hand, in terms of the relationship between lexical inferencing strategies and reading comprehension it was revealed that the null hypothesis is being rejected in this context. This conforms to the claim of Hassanzadeh et al. (2020) study, which found a significant relationship between lexical inferencing strategy and the development of reading comprehension among Iranian EFL learners, showing improved comprehension through the utilization of this strategy.

Table 2
Relationship between Variables

Independent Variable	Dependent Variable	r-value	*p*-value
Learning Style Preference	Reading Comprehension	.013	.828
Lexical Inferencing Strategies		.155	.007*

*$p<0.05$ *significant*

Table 3 provides the regression analysis results examining how learning style inferencing and lexical inferencing strategies influence the reading comprehension of first year English-major students. The results revealed that the learning style preference on its singular capacity cannot significantly influence reading comprehension ($p>.05$). This conforms the claim of Mutiara (2022) who found that students' learning style preference did not significantly influence reading comprehension achievement among eleventh graders, according to the correlational analysis conducted in the study

Likewise, the lexical inferencing strategies on its singular capacity can significantly influence the reading comprehension ($p<.05$). Between the two independent variables, lexical inferencing strategies indicates a significant influence to reading comprehension over learning style preference. This is in accordance to the claim of Shen (2016) which adds depth to this connection by suggesting that reading comprehension can, in turn, influence lexical inferencing.

Table 3
Combined and Singular Influence of Learning Style Preference and Lexical Inferencing Strategies on Reading Comprehension

Reading Comprehension					
Independent Variables		*B*	B	*T*	*Sig.*
Constant		2.439		9.269	.000
Learning Style Preference		-.145	-.121	-1.717	.087
Lexical Inferencing Strategies		.207	.227	3.202	.002
R	.183				
R^2	.034				
ΔR	.027				
F	5.152				
P	.006				

Standpoints of the Participants on the Quantitative Results Regarding the Level of the two Independent Variables and theDependent Variable

Table 5 shows the standpoints of the participants on the qualitative results regarding the level of Learning Style Preference, Lexical Inferencing Strategies, and Reading Comprehension. The essential themes generated are as follows: the confirmed high rating of Learning Style Preference, Lexical Inferencing Strategies, and confirmed moderate rating of Reading Comprehension. Through these confirmations, it can be stated that the results run parallel to the perspectives presented by Nikmah (2022) which posits that using context clues strategy significantly improves reading comprehension in first-year students. Cohen (2006) also bolstered this viewpoint, asserting that in today's digitally mediated era, an overreliance on the internet can indeed impede reading comprehension. These insights underscore the pressing need to address the influence of

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technology on RC and to foster balanced literacy practices among students.

Table 5
Standpoints of the Participants on the Quantitative Results

Areas of Concern	Essential Theme	Core Ideas
High Rating of Learning Style Preference (LSP)	**Confirmed High Rating of LSP**	• Students utilize an approach that is applicable and effective which allows them to learn easier. • Students understanding and learning improved because of their learning style. • Students' LSPs allow them to cope and comprehend during discussions. • Students gather information easily when using their preferred learning style. • Students have enhanced understanding. • Student solve problems using their LSP.
High Rating of Lexical Inferencing Strategies (LIS)	**Confirmed High Rating of LIS**	• Students employ strategies in learning new words. • Students understand unfamiliar words with the use of LIS. • Students utilize strategies to guess the meaning of words. • Students make use of tools to figure out the meaning of words. • Students use different methods to decipher the meaning.
Moderate Rating of Reading Comprehension (RC)	**Confirmed Moderate Rating of RC**	• Limited access to reading materials provides students difficulty to comprehend. • Students become too dependent and rely much on technology. • Students are exposed to curated and instant information from the internet. • Students are not very proficient in reading. • Students do not have conducive reading environments. • Students lack interest in reading. • Students struggle with questions that require deeper understand of the text.
No Significant Relationship and Influence of LSP on RC	**Confirmed No Relationship and Influence of LSP on RC**	*Reasons of Participants on their Confirmation on the No Significant Relationship & Influence of LSP on their RC:* • Other factors like the levels of development affects the RC than LSP. • The preferred LSP is not suited for the reading activities. • Various external factors affect RC.
	Disconfirmation on the No Relationship and Influence of LSP on RC	*Reasons of Participants on their Disconfirmation on the No Significant Relationship & Influence of LSP on their RC:* • LSP is a strong factor of RC. • LSP helps students to excel in class. • LSP enhanced RC of students. • LSP foster deeper engagement in learning. • Despite LSP of students, they still have difficulty to comprehend.

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Significant Relationship and Influence of LIS on RC	**Confirmed Relationship and Dominant Influence of LIS on RC**	*Reasons of Participants on their Confirmation on the Significant Relationship & Influence of LIS on their RC:* ● The increase of LIS will lead to the increase of students' RC. ● LIS leads to better understanding of the text. ● LIS develops students' ability to analyze and evaluate text. ● Strong belief that LIS can really affect RC. ● Being familiar with the LIS allows learners to employ various strategies that enhances RC.

Standpoints of the Participants on the Relationship and Influence of Learning Style Preference and Lexical Inferencing Strategies on Reading Comprehension

As part of the inquiry, the participants shared their perspectives on the relationship and influence of Learning Style Preference and Lexical Inferencing Strategies on Reading Comprehension. Their views were analyzed and revealed into three essential themes*: confirmed the significant relationship and influence of LSP and RC, disconfirmed the significant relationship and influence of LSP on RC and confirmed relationship and dominant influence of LIS on RC.* The participants believed that there are other factors like the levels of development that will really affect the RC than LSP. This is also in accordance to the claim of Xiaoling (2016) who added that individual factors like motivation, age, sex, and personality, along with situational factors, influence reading comprehension beyond learning style preferences.

The findings from both in-depth interviews and focus group discussions overwhelmingly supported the notion that there is no relationship and influence between Learning Style Preferences (LSP) and Reading Comprehension (RC). According to the majority of informants, factors such as developmental levels have a more pronounced impact on reading comprehension compared to learning style preference. This consensus resonates with Kaplan's 2013 research, which highlighted the significant impact of developmental levels on reading comprehension compared to learning style preference.

In the qualitative interview the students confirmed the relationship and influence of LIS on RC. This indicates that the students agreed that LIS has a significant relationship and a dominant influence on the RC of the first year English-major students. This assertion aligns with findings from Shafiq's study in 2018, which highlighted how lexical inferencing, a component of LIS, aids students in deciphering unfamiliar words within texts.

Data Integration of Salient Quantitative and Qualitative Findings

This paper employed a mixed methods design specifically utilizing an explanatory sequential approach. In Table 6, the joint display of the quantitative and the qualitative results is based on the data collated which revealed that there are two nature of integration: Connecting-confirmation and connecting-expansion. This finding resonates with the study conducted by Kinjari and Gopal in 2020, which emphasized how adolescent school students, with preferred learning styles such as Kinesthetic, Visual, and Auditory, can enhance their learning effectiveness both within and outside the classroom, thereby facilitating self-directed learning. Lastly, the findings are in harmony with the research of Yang, et al. (2023), which both underscore the significance of lexical inferencing strategies in bolstering reading comprehension.

Table 6
Joint Display of Quantitative and Qualitative Results

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
1. Status of Learning Style Preference (LSP), Lexical Inferencing Strategies (LIS) & Reading Comprehension (RC)			
1.1. Status of LSP	Means of three indicators of LSP ranged from 3.40 to 4.06 with an overall mean of 3.69 or high level which indicates the	Informants/Participants showed positive experiences on the three indicators considered as a priori themes: *Visual Learning Style Preference (VLSP), Auditory Learning Style Preference (ALSP), and Kinesthetic Learning Style*	Connecting-Confirmation

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	respondents evaluate LSP as oftentimes manifested.	*Preference (KLSP).* Reasons for their confirmation are reflected in their qualitative standpoints.	
1.2. Status of LIS	Means of two indicators of LIS are 3.91 (IS) and 3.99 (CS) with an overall mean of 3.95 or high level which indicates the respondents evaluate LIS as oftentimes manifested.	Informants/Participants confirmed the high rating on the two indicators of LIS: I*ntralingual Strategies and Contextual Strategies* in the quantitative phase thru IDI & FGD.	Connecting-Confirmation
1.3. Status of RC	Evaluation Level got the highest mean (2.97) and the lowest is the Creative Level (2.47) with an overall mean of 2.72 or moderate level which indicates the respondents evaluate RC as occasionally manifested.	Informants/Participants showed positive experiences on the five indicators considered *as a priori* themes: *Literal, Interpretative, Evaluation and Creative Levels* with the rating of moderate in the quantitative results. Reasons for confirmation are reflected in their qualitative standpoints.	Connecting-Confirmation
2.1 Relationship and Influence of LSP on RC.	LSP has no significant relationship (p>0.05) and influence (B= -.145) on RC basing on the combined influence of all its domains	Majority of the participants/ informants were affirmative on the non influence of LSP on their RC.	Connecting-Confirmation
		A few of the participants rejected the results of the quantitative data. They verbalized the importance of the variable in the development of their RC as can be gleaned from their qualitative standpoints on the topic bearing out the theme significant relationship and influence of LSP on RC	Connecting-Expansion
2.2 Relationship and Influence of LIS on RC.	LIS has significant relationship and influence (p<0.05) on RC basing on the	The participants/ informants were affirmative on the influence of LIS on their RC. They verbalized	Connecting-Confirmation

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	combined influence (R square =.034; p<.05)	the importance of the variable in the development of their RC as can be gleaned from their qualitative standpoints on the topic bearing out the theme confirmed significant relationship and influence of LIS on RC	
3. Lexical Inferencing Strategies as the dominant influencer of Reading Comprehension	Between LSP and LIS, Lexical Inferencing Strategies (B=0.207; p<0.05) indicated significant influence on RC. Although LSP has no significant influence on RC but its contribution is needed by LIS to come up with the combined significant influence on RC as demonstrated by the significant R square (.034; p<0.05)	Participants acknowledged that the LIS significantly influence RC. They verbalized the crucial role of LIS on RC and confirms that LIS' dominant influence on RC compared to LSP as reflected in their qualitative standpoints on the topic.	Connecting-Confirmation

CONCLUSION

After carefully examining the study's results and findings, conclusions are formulated in this section.

1. The respondents of the quantitative phase exhibited a high level of learning style preference. Learning style preference gained a high rating which means that it is oftentimes practiced. Further, the high level of students' lexical inferencing strategies expressed that the second independent variable is practiced by the students most of the time. Also, reading comprehension geared a moderate rating of which means that it is sometimes practiced.
2. In terms of the significant relationship and influence of the first independent variable and the dependent variable, the results of the study revealed that there is no significant relationship and influence between learning style preference and reading comprehension. On the other hand, results revealed that there is a significant relationship between lexical inferencing strategies and reading comprehension.
3. On the standpoint of the participants on the quantitative result of the study, there were various themes that were being generated: confirmed high level of learning style preference, confirmed high level of lexical inferencing strategies, confirmed moderate level of reading comprehension, confirmed no significant relation and influence of learning style preference and reading comprehension, disconfirmation on the relationship and influence of learning style preference and reading comprehension, and confirmed relationship and influence of lexical inferencing strategies and reading comprehension.
4. It is also affirmed that the integration of quantitative and qualitative findings had demonstrated a connecting-confirmation nature in all elements except for the significant relationship and influence of learning style preference and reading comprehension with a connecting-expansion nature.

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IDENTIFYING FACTORS FOR EMPLOYEE PERFORMANCE IN PUBLIC SERVICE

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ABSTRACT

This study aimed to determine the level of employee performance in the public service during the calendar year 2023 – 2024. Involved in the study were one hundred twenty (120) employees from six (6) Local Government Units in Laguna and one hundred twenty clients (120) determined through random sampling.

Descriptive quantitative research method was employed to determine the relationship of variables such as the demographic profile, the level of influence of identifying factors to the employees in terms of Organizational Culture, Training and Development, Employee Motivation and Job Satisfaction and the level of employee performance in terms of Customer Service, Responsibilities towards the organization, Ethical Conduct and Compassion. Data analysis shows that there are significant correlations between Organizational Culture, Training and Development, Employee Motivation, and Job Satisfaction with performance in areas such as Customer Service, Responsibilities Towards the Organization, Ethical Conduct, and Compassion.

Responsibility Towards Organization showed positive relationships with Training and Development, Employee Motivation, and Job Satisfaction. These results provide valuable perspective on the factors impacting employee performance in public service in our society.

KEYWORDS: *Employee Performance, Public Service, Identifying Factors for Employee Performance*

INTRODUCTION

In any field, an organization's success is solely dependent on its employees. Employees play a vital role in any organization, representing its most valuable asset. They are the driving force behind the success and growth of businesses, government agencies, and non-profit organizations. Recognizing and valuing their contributions, providing appropriate support and development opportunities and fostering a positive work environment are essential to overall success and effectiveness of LGUs.

In the public service domain, employee performance directly impacts the delivery of services and the achievement of organizational objectives. Public organizations exist to serve the needs of the public, and the quality, efficiency, and effectiveness of these services are directly tied to the performance of their employees. High-performing employees can ensure that public services are delivered in a timely manner, meet the needs of citizens, and contribute to the overall development and well-being of society.

The researcher wanted to uplift and shed light for the worth of our casual and job order employees through their performance as a part of the forefront of public service delivery.

MATERIALS AND METHOD

Descriptive – quantitative research design harmonizes with the purpose of the study of stablishing associations between the variables, hence to determine the relationships between one thing (an independent variable) and another (dependent variable) within a population (Babbie, 2010). This study will use descriptive quantitative method on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon.

According to Posinasseti (2014), descriptive study is one in which information is collected without changing the environment (e.i., nothing is manipulated). It is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. As stated also by Sugiyono (2015) Quantitative methods can be interpreted as research methods based on positivism philosophy, used to examine in a particular population or sample, data collection using research instruments, quantitative data analysis / statistics, with the aim to test the hypothesis set.

Correlational method is also a vital component of the research design employed in the study since it intends as well to determine the relationships between variables and to what degree, and to test a hypothesis, i.e.; significant relationship between the Identifying Factors and the Level of Performance of employees in the Public Service in the 3rd Class Municipalities of Laguna; and the significant difference between the Identifying Factors and Level of Performance as perceived by the respondents when grouped according to profile.

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RESULTS AND DISCUSSIONS

Table 1
Frequency and Percentage Distribution of Employees Profile

Profile		f	%
Age			
	26 and below	32	26.7
	27 – 36	49	40.8
	37 – 46	18	15.0
	47 – 56	18	15.0
	57 and above	3	2.5
Sex			
	Male	53	44.2
	Female	67	55.8
Educational Attainment			
	High School Undergraduate	11	9.2
	High School Graduate	18	15.0
	College Undergraduate	35	29.2
	College Graduate	45	37.5
	Others	11	9.2
Years in Service			
	Below 1 year	20	16.7
	1 year – 5 years	46	38.3
	6 years – 10 years	30	25.0
	11 years – 15 years	24	20.0
Employment Status			
	Casual Employees	41	34.2
	Job Order	79	65.8

Table 1 presents the age distribution of the casual employees. As reflected in the table, 49 out of 120 employees were mostly in the range of 27 – 36 years old or 40.8 % of the respondents. Second were in 26 years old and below or 26.7% of the population. Third were 37 – 46 years old and 47 – 56 years old or 15.0%. Lastly, 57 years old and above or 2.5 % of the respondents fall on this age. This information is vital as age can be a factor that affects level of influence of identifying factors to the employees in the public service, and it offers insights for possible further analysis on the relationship between age and work performance of employees in the study. It also presents the sex distribution of the employees who took part in the research. As shown in the table, 67 out of 120 respondents were female or 55.8% of the research participant. On the contrary, 53 or 44.2% of the respondents were males.

In addition to this, it shows the educational attainment distribution of the employees who were respondents of the study. As reflected in the table, 45 out of 120 employees were mostly college graduates or 37.5 % of the respondents. Second were college undergraduates or 29.2%. Third were High school graduates or 15.0%. Lastly, eleven were high school undergraduates or 9.2% of the respondents. Eleven respondents fall under the category “others”.

Moreover, in terms of the years in service of the respondents, 46 out of 120 rendered 1 year to 5 years or 38.3%; 30 or 25.0% rendered 6 years to 10 years; 24 or 20.0% were 11 years to 15 years in service and 20 or 16.75% were below 1 year in service. Furthermore, the employment status of the respondents was also presented in the table. It revealed that out of 120 employees, 79 or 65.8% were job orders and 41 or 34.2% were casual employees.

Table 2
Frequency and Percentage Distribution of Clients Profile

Profile	**f**	**%**
Sex		
● Male	56	46.7
● Female	64	53.3
Community Sector		
● Teenagers (13-19)	1	0.8
● Adult (20 – 59)	108	90
● Senior (60 and above)	11	9.2
Frequency of Visit		
● Daily	4	3.3
● Monthly	17	14.2
● Quarterly	40	33.3
● Annually	59	49.2

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Table 2 presents the sex distribution of the clients who took part in the research. As shown in the table, 64 out of 120 respondents were female or 53.3% of the research participants. On the contrary, 56 or 46.7% of the respondents were males.

Moreover, it shows the age distribution of the clients. As reflected in the table, 108 out of 120 employees were mostly adults in the range of 20 – 59 years old or 90% of the respondents. Second were senior who are 60 years old and above or 9.2% of the population. Lastly, teenager in the range of 13 to 19 years old or 0.8% of the respondents fall on this age.

Additionally, the table presents the frequency of visit of the clients. Out of 120 respondents, 59 or 49.2% of respondents visit annually; 40 or 33.3% of respondents visit quarterly; 17 or 14.2% of respondents visit monthly; and 4 or 3.3% of respondents visit daily.

Table 3

Level of Influence of Identifying Factors to the Employees in the Public Service in terms of Organizational Culture

Indicative Statement	Mean	*SD*	Remark
1. Open communication and transparency are promoted.	4.19	1.06	Influential
2. Initiative and innovation are encouraged.	4.09	0.97	Influential
3. Collaboration and teamwork are valued and promoted.	4.06	0.99	Influential
4. A strong commitment to client satisfaction is emphasized.	4.34	0.73	Influential
5. Diversity and inclusion are actively fostered within the organization.	3.98	0.94	Influential
6. Opportunities for professional growth and development are provided.	3.98	1.19	Influential
7. Decision-making process are fair and inclusive.	4.04	0.93	Influential
8. Work-life balance and employee well-being are valued.	4.15	0.88	Influential
9. A strong sense of pride and commitment among employees toward the organization is practiced.	4.19	0.88	Influential
Overall Mean	**4.11**	**0.95**	**Influential**

Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Influential; 3.40 – 4.19 = Influential; 2.60 – 3.39 = Moderately Influential; 1.80 – 2.59 = Slightly Influential; 1.00 – 1.79 = Not Influential.

Table 3 suggests that the employees in the 3rd Class Municipalities of Laguna exhibit a high level of influence to public service in terms of organizational culture. The mean score of 4.11 (*SD* = 0.95) shows that the level of influence of organizational culture in public service to the employees are verbally interpreted as "Influential" in terms of having open communication and exhibiting fairness and inclusivity in decision making. The highest mean score of 4.34 (*SD* = 0.73) for the statement "A strong commitment to client satisfaction is emphasized." suggests that employees were able to show strong commitment in doing their work and meeting client satisfaction. The lowest mean score of 3.98 (*SD* = 1.19) for the statement "Opportunities for professional growth and development are provided." suggests that employees may be less likely given focus on this matter.

Overall, the high mean score and verbal interpretation of "Influential" suggests that the employees in LGU display a strong level of influence to public service in terms of organizational culture which is very important in their day-to-day work.

This implies that employees have a strong commitment to client satisfaction. This is supported by the study of El-Rawas, A., & Yassein, S. (2017) Some aspects of organizational culture like acting sociable to customers are easy to monitor. Organizational culture in the modern era significantly impacts organizational performance by influencing innovation capabilities. Innovation, driven by individuals within organizations, can be either enhanced or hindered by the organizational culture in which they operate. This culture provides an environment for business activities and innovation, ultimately affecting organizational performance through indirect and mediated pathways such as knowledge management and job satisfaction. All organizations have unique methods of operation influenced by their organizational culture, which encompasses fundamental values, beliefs, and management practices. These practices endure over time as they have proven successful and are perceived to continue to be effective in the future.

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Table 4

Level of Influence of Identifying Factors to the Employees in the Public Service in terms of Training and Development

Indicative Statement	Mean	*SD*	Remark
1. Received sufficient training to perform job effectively.	4.00	1.00	Influential
2. Opportunities are provided to enhance skills and knowledge.	4.02	1.24	Influential
3. Professional development as a casual/ job order employee is supported.	4.09	0.90	Influential
4. The organization offers relevant and valuable training for casual/ job order employees.	4.04	0.98	Influential
5. Participation in training and development activities is encouraged.	4.13	0.92	Influential
6. The organization recognizes and rewards casual/job order employees who engage in training and development.	3.77	1.11	Influential
7. Training and development initiatives contribute to overall job satisfaction.	4.06	0.99	Influential
Overall Mean	**4.02**	**1.02**	**Influential**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Influential; 3.40 – 4.19 = Influential; 2.60 – 3.39 = Moderately Influential; 1.80 – 2.59 = Slightly Influential; 1.00 – 1.7 = Not Influential.			

Based on the results in Table 4, it shows that there is a high level of influence to public service in terms of training and development. The mean score of 4.02 (*SD* = 1.02) suggests that the employees were provided with opportunities to enhance their skills and knowledge and were recognized for participating in trainings and development. The highest mean score of 4.13 (*SD* = 0.92) was obtained from the statement "Participation in training and development activities is encouraged.", indicating that employees prioritize the participation in training and development activities which is important in enhancing their skills and knowledge.

At the same time, the lowest mean score of 3.77 (*SD* = 1.11) was obtained from the statement "The organization recognizes and rewards casual/job order employees who engage in training and development.", indicating that there is a room for improvement for the organization to give recognition to casual or job order employees who participate in trainings.

Generally, the level of influence to public service in terms of training and development can be verbally interpreted as "Influential".

This implies that employees are recognized and encouraged to participate, showing commitment to client satisfaction. This is supported by the study of Hoti, I., & Fejza, J. (2019) that training employees is very much needed to empower them. Training and Development is essential for enhancing employee skills and performance to meet current and future business needs. It is a valuable opportunity to increase knowledge among all employees, but cost can be a barrier for some employers. A structured program ensures consistent experiences and knowledge. Employees should be informed about company expectations, including safety, discrimination, and administrative procedures, to effectively perform their jobs.

Table 5

Level of Influence of Identifying Factors to the Employees in the Public Service in terms of Employee Motivation

Indicative Statement	Mean	*SD*	Remark
1. The organization provides recognition and rewards for a job well done.	3.72	1.30	Influential
2. I feel motivated to perform at my best as a casual/job order employee.	4.09	0.83	Influential
3. The organization fosters a positive work environment that encourages motivation.	3.89	1.01	Influential
4. I receive constructive feedback and support from my supervisor to enhance my performance.	3.94	1.22	Influential
5. The organization values and appreciates the contributions of casual employees.	3.96	1.00	Influential
6. I have clear goals and expectations that help drive my motivation.	4.15	0.91	Influential
7. The organization provides opportunities for growth and advancement as a casual/job order employee.	3.94	1.01	Influential
8. I feel a sense of purpose and fulfillment in my work as a casual/job order employee.	3.94	0.96	Influential

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9. The organization promotes a healthy work-life balance, which contributes to my motivation.	4.00	0.93	Influential
10. I believe that my efforts and hard work as a casual/job order employee are recognized and valued by the organization.	4.00	0.96	Influential
Overall Mean	**3.96**	**1.01**	**Influential**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Influential; 3.40 – 4.1 = Influential; 2.60 – 3.39 = Moderately Influential; 1.80 – 2.59 = Slightly Influential; 1.00 – 1.7 = Not Influential.			

Table 5 shows that there is a high level of influence to public service in terms of employee motivation. The mean score of 3.96 (*SD* = 1.01) suggests that the organization fosters a positive work environment that encourages motivation. The highest mean score of 4.15 (*SD* = 0.91) was obtained from the statement "I have clear goals and expectations that help drive my motivation." indicating that employees' motivation is aided by having expectations and goals that are clear to them.

At the same time, the lowest mean score of 3.72 (*SD* = 1.30) was obtained from the statement "The organization provides recognition and rewards for a job well done." indicating that there is a room for improvement for the organization to provide recognition and rewards to employees who performs well with their duties and responsibilities.

Generally, the level of influence to public service in terms of employee motivation can be verbally interpreted as "Influential".

This implies organization fosters positive work environment with clear goals. This study is supported by Ochola, G.O. (2019). States that organizations aim for goal achievement to boost productivity to motivate employees. Motivation is crucial for employee performance and job satisfaction. Different individuals are motivated by various factors such as money, recognition, and rewards. Employee motivation directly affects productivity, with motivated workers completing tasks efficiently and producing high-quality work. Overall, motivation levels in the workplace play a significant role in employee productivity and job satisfaction.

Table 6

Level of Influence of Identifying Factors to the Employees in the Public Service in terms of Job Satisfaction

Indicative Statement	**Mean**	***SD***	**Remark**
1. I am satisfied with my current role as a casual/job order employee.	4.00	1.00	Influential
2. The organization provides a supportive and inclusive work environment.	4.04	0.98	Influential
3. I feel valued and appreciated for the work I do.	4.02	1.03	Influential
4. The organization offers opportunities for growth and advancement.	3.87	1.03	Influential
5. I have a good work-life balance as a casual/ job order employee.	4.06	1.05	Influential
6. I am satisfied with the level of compensation and benefits as a casual/ job order employee.	3.79	1.18	Influential
7. The organization recognizes and rewards my contributions as a casual/ job order employee.	3.87	1.30	Influential
8. I have the necessary resources and tools to perform my job effectively.	4.02	0.94	Influential
9. I have a positive relationship with my colleagues and supervisors.	4.17	0.96	Influential
10. Overall, I am satisfied with my experience as a casual/job employee in this organization.	3.98	1.15	Influential
Overall Mean	**3.98**	**1.06**	**Influential**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Influential; 3.40 – 4.19 = Influential; 2.60 – 3.39 = Moderately Influential; 1.80 – 2.59 = Slightly Influential; 1.00 – 1.79 = Not Influential.			

Table 6 shows that there is a high level of influence to public service in terms of job satisfaction. The mean score of 3.98 (*SD* = 1.06) suggests that the organization provides a supportive and inclusive work environment, and employees were satisfied with their experience as an employee. The highest mean score of 4.17 (*SD* = 0.96) was obtained from the statement "I have a positive relationship with my colleagues and supervisors." indicating that employees have a favorable rapport with their

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managers and colleagues. At the same time, the lowest mean score of 3.79 (*SD* = 1.18) was obtained from the statement "I am satisfied with the level of compensation and benefits as a casual/ job order employee.", indicating that there is a room for improvement for the organization to provide increase in the salary of the employees as well as their benefits.

Generally, the level of influence to public service in terms of job satisfaction can be verbally interpreted as "Influential". This implies that employees go well with their colleagues and supervisors. This is supported by the study of Guruprasad, M. (2020) that job satisfaction is crucial for employees and organizations influencing productivity and over-all well-being in the workplace.

A happy worker is often more productive. Job satisfaction is crucial because people spend a significant amount of time at work. It also impacts employees' overall well-being, as satisfied workers are content and happy. Ultimately, satisfied employees tend to be more productive.

Moreover, Herzberg's Motivation-Hygiene Theory, also known as the Two-Factor Theory, distinguishes between motivation and hygiene factors affecting job satisfaction. Hygiene factors are less important, related to avoiding unpleasantness, while motivation factors satisfy the individual's need for self-growth. Widely used in job satisfaction research, this theory highlights the importance of both factors in understanding and improving workplace satisfaction.

Table 7
Composite Table on the Level of Influence of Identifying Factors to the Employees in the Public Service

Identifying Factors	Over All Mean	VI
1. Organizational Culture	4.11	Influential
2. Training and Development	4.02	Influential
3. Employee Motivation	3.96	Influential
4. Job Satisfaction	3.98	Influential
Total Mean	**4.02**	**Influential**

Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Influential; 3.40 – 4.19 = Influential; 2.60 – 3.39 = Moderately Influential; 1.80 – 2.59 = Slightly Influential; 1.00 – 1.79 = Not Influential.

Table 7 shows the composite results of the study on the level of influence of identifying factors to the employees in the public service assessed by the respondents with respect to organizational culture, training and development, employee motivation and job satisfaction.

Findings showed that among the four aspects composing the extent level of influence of identifying factors to the employees, organizational culture gets the highest mean. This reveals that the view of the employees in organizational culture of system values and beliefs that are shared by people who interact in an organization serves as an identity and as a reference behavior to achieve organizational goals. It implied that among the four aspects on the level of influence of identifying factors, though all have verbal interpretation of much influential, employee motivation is the lowest which means that employees should be given ample attention to that matter.

Table 8
Level of Performance of Employees in the Public Service as to Customer Service

Indicative Statement	Mean	*SD*	Remark
1. Provide excellent customer service.	4.65	0.51	Highly Performed
2. Work well with clients.	4.72	0.49	Highly Performed
3. Resolve customer issues and provide satisfactory solutions on time.	4.57	0.59	Highly Performed
4. Value feedback from clients to improve the quality of service.	4.48	0.67	Highly Performed
5. Access necessary tools and resources to deliver high-quality customer service.	4.53	0.69	Highly Performed
6. Emphatic and focused listener	4.48	0.63	Highly Performed

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7. Go above and beyond to ensure customer satisfaction.	4.33	0.74	Highly Performed
8. Deals with challenging clients without being aggressive.	4.53	0.74	Highly Performed
9. Skillfully overcomes client's objections.	4.61	0.55	Highly Performed
10. Redefine the customer service process to meet clients' changing needs.	4.48	0.56	Highly Performed
Overall Mean	**4.54**	**0.62**	**Highly Performed**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00; Highly Performed; 3.40 – 4.19 = Performed; 2.60 – 3.39 = Moderately Performed; 1.80 – 2.59 = Slightly Performed; 1.00 – 1.79 = Not Performed.			

Table 8 shows the level of performance of employees in the public service as to customer service. The statement "Work well with clients." obtained the highest mean score of 4.72 (*SD* = 0.79) indicating positive behavior of the employees towards the clients in providing excellent customer service. Lastly, statement "Go above and beyond to ensure customer satisfaction." obtained lowest mean score of 4.33 (*SD* = 0.74). The overall score of 4.54 (*SD* = 0.62) indicates that the level of performance of the employees in the public service as to customer is highly performed, suggesting that the respondents place a high importance on the providing excellent customer service and value feedback from clients to improve the quality of service.

It implies that clients are satisfied with the service given by the government employees of their municipality. It is supported by the study of Meel, P. (2020) that service quality can deliver a good measurement means to forecast customer satisfaction. There are (3) three key aspects of customer service are affect, customer mistreatment, and customer service behaviors. Affect involves emotional labor and contagion. Mistreatment is poor treatment from customers to employees. Service behaviors include customer orientation and service-oriented citizenship behaviors. Customers driven by needs expect excellent service, enhancing their quality of life. They demand faster, better service and are loyal to organizations with high service levels. Customer satisfaction and loyalty are crucial for business success. Similarly, individuals must meet customer needs to succeed. Organizations serve others to prosper through service.

Organizations, big and small, are prioritizing customer service as a key competitive edge. Providing excellent service not only benefits customers but also drives organizations success.

Table 9

Level of Performance of Employees in the Public Service as to Responsibilities Towards the Organization

Indicative Statement	Mean	*SD*	Remark
1. Understand their responsibilities and roles within the organization.	4.83	0.44	Highly Performed
2. Committed in fulfilling their responsibilities and meeting organizational expectations.	4.55	0.58	Highly Performed
3. Take ownership of their work and strive for excellence.	4.60	0.56	Highly Performed
4. Actively seek opportunities to contribute to the success of the organization.	4.67	0.52	Highly Performed
5. Prioritize the organization's goals and objectives through their words and actions.	4.78	0.48	Highly Performed
6. Communicate openly and honestly with colleagues and supervisors.	4.79	0.50	Highly Performed
7. Proactive in identifying and addressing challenges that may impact the organization.	4.59	0.65	Highly Performed
9. Committed to improve their service to achieve their goal.	4.68	0.55	Highly Performed
10. Actively seek professional growth and development to better serve the organization.	4.80	0.46	Highly Performed
Overall Mean	**4.70**	**0.53**	**Highly Performed**
Note. N – 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Performed; 3.40 – 4.19 = Performed; 2.60 – 3.39 = Moderately Performed; 1.80 – 2.59 = Slightly Performed; 1.00 – 1.79 = Not Performed.			

Table 9 shows the level of performance of employees in the public service as to responsibilities towards the organization. The statement "Understand their responsibilities and roles within the organization." obtained the highest mean score of 4.83 (*SD* = 0.44) indicating that the employees recognize their roles and duties and prioritize the organization's goals and

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objectives through their words and actions. Lastly, statement "Committed in fulfilling their responsibilities and meeting organizational expectations." obtained lowest mean score of 4.55 (*SD* = 0.58). The overall score of 4.70 (*SD* = 0.53) indicates that the level of performance of the employees in the public service as to responsibilities towards the organization is highly performed, suggesting that the respondents to actively seek opportunities to contribute to the success of the organization.

This is supported by the study of Syahril (2019) that people who have work commitments will always strive to carry out tasks that are their responsibility well in order to obtain satisfactory results or achievement.

Emphasizing accountability for public employees is crucial for improving work outcomes in public organizations. The management of interdependencies among agents' activities determines responsibilities within an organization, highlighting the need for clear decision-making and resource usage. Work commitment is the deep involvement both physically and psychologically in fulfilling one's responsibilities within an organization. It consists of affective, ongoing, and normative commitments, reflecting emotional attachment, the impact of work on one's life, and alignment of personal interests with work responsibilities. Providing incentives for employees who excel in their duties can help increase their work commitment. Those with strong work commitments strive to achieve satisfactory results and achievements in their tasks. Overall, promoting accountability, effective management of interdependencies, and nurturing work commitment are essential for enhancing performance in public organizations.

Table 10

Level of Performance of Employees in the Public Service as to Ethical Conduct

Indicative Statement	Mean	*SD*	Remark
1. Consistently uphold ethical standards and conduct in their role in public office.	4.70	0.51	Highly Performed
2. Prioritize the public interest and act in the best interest of the community.	4.55	0.53	Highly Performed
3. Handle office resources and supplies with transparency and accountability.	4.59	0.54	Highly Performed
4. Adhere to legal and regulatory requirements governing public office.	4.76	0.45	Highly Performed
5. Avoid conflicts of interest and act impartially in decision-making process.	4.67	0.52	Highly Performed
6. Maintain confidentiality and protect the privacy of individuals in accordance with the law.	4.68	0.52	Highly Performed
7. Engage in ethical decision-making and consider the potential impact on clients.	4.68	0.50	Highly Performed
8. Actively promote and contribute to a culture of ethical conduct within the public office.	4.65	0.59	Highly Performed
9. Report any unethical behavior or misconduct he/she can observe or become aware of.	4.52	0.55	Highly Performed
10. Believe that ethical conduct is essential for maintaining public trust and confidence in the office.	4.73	0.48	Highly Performed
11. Adhere to ethical standards and conduct self with integrity in all aspects of their work.	4.63	0.53	Highly Performed
Overall Mean	**4.65**	**0.52**	**Highly Performed**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Performed; 3.40 – 4.19 = Performed; 2.60 – 3.39 = Moderately Performed; 1.80 – 2.59 = Slightly Performed; 1.00 – 1.79 = Not Performed.			

Table 10 shows the level of performance of employees in the public service as to ethical conduct. The statement "Adhere to legal and regulatory requirements governing public office." obtained the highest mean score of 4.76 (*SD* = 0.45) indicating that the employees consistently uphold ethical standards and conduct in their role in public office. Lastly, statement "Report any unethical behavior or misconduct he/she can observe or become aware of." obtained lowest mean score of 4.52 (*SD* = 0.55). The overall score of 4.65 (*SD* = 0.52) indicates that the level of performance of the employees in the public service as to ethical conduct is highly performed, suggesting that the respondents to always engage in ethical decision-making and consider the potential impact on clients.

This implies that employee performance on ethics in public service has high adherence to legal requirements promoting ethical conduct. This is supported by the study of Khan, N.A., Salleh, A.M., Rahman, A.L., & Ahyat, M.M. (2018) that workplace ethics are one of the advantages in helping organizations to remain a good reputation and increase work productivity.

Ethics is essential in organizational culture. A strong ethical and spiritual culture leads to better performance. Organizational

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culture impacts human functioning, shaped by external and internal influences like values, attitudes, and beliefs. The workforce's behavior is influenced by these norms. Organizational behavior is linked to corporate culture, which should include ethics and spirituality. Workplace ethics help maintain a good reputation and increase productivity. Better performance and reputation is the importance of ethics in fostering a positive organizational culture.

Table 11
Level of Performance of Employees in the Public Service as to Compassion

Indicative Statement	Mean	*SD*	Remark
1. Demonstrate empathy and understanding towards their clients.	4.73	0.46	Highly Performed
2. Actively listen to the concerns and needs of the public and strive to address them compassionately.	4.81	0.42	Highly Performed
3. Treat all individuals with respect and dignity, regardless of their background or circumstances.	4.79	0.47	Highly Performed
4. Prioritize the well-being and welfare of those affected by the decisions and policies I am involved in.	4.73	0.51	Highly Performed
5. Sensitive to the unique challenges and circumstances faced by different individuals or groups within and outside his/her workplace.	4.68	0.61	Highly Performed
6. Actively seek opportunities to support and assist clients who require additional help or resources.	4.86	0.40	Highly Performed
7. Communicate in a compassionate and considerate manner, taking into account the emotions and feelings of others.	4.68	0.50	Highly Performed
8. Proactive in identifying ways to improve the quality of services and support provided to the public.	4.84	0.45	Highly Performed
9. Collaborate with colleagues and stakeholders to find compassionate and inclusive solutions to public issues.	4.92	0.31	Highly Performed
10. Believe that compassion plays a crucial role in enhancing the overall effectiveness and impact of public office.	4.81	0.44	Highly Performed
Overall Mean	**4.78**	**0.46**	**Highly Performed**
Note. N = 240. The mean is interpreted as follows: 4.20 – 5.00 = Highly Performed; 3.40 – 4.19 = Performed; 2.60 – 3.39 = Moderately Performed; 1.80 – 2.59 = Slightly Performed; 1.00 – 1.79 = Not Performed.			

Table 11 shows the level of performance of employees in the public service as to compassion. The statement “Collaborate with colleagues and stakeholders to find compassionate and inclusive solutions to public issues.” obtained the highest mean score of 4.92 (*SD* = 0.31) indicating that the employees Work together with coworkers and interested parties to resolve public concerns in a way that is inclusive and caring. Lastly, statement “Communicate in a compassionate and considerate manner, taking into account the emotions and feelings of others.” obtained lowest mean score of 4.68 (*SD* = 0.50). The overall score of 4.78 (*SD* = 0.46) indicates that the level of performance of the employees in the public service as to compassion is highly performed, suggesting that the respondents to actively listen to the concerns and needs of the public and strive to address them compassionately.

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This study is supported by Plitt Donaldson, L. (2017) states that compassion is a core virtue in social work.
Compassion is a social emotion that reveals the strength of our moral connections to others. It is a fundamental value in social work and can be linked to religion and macro practice. Compassion is triggered by recognizing our shared humanity and is a driving force for achieving sustainable goals and promoting sustainable environment.

Displaying compassion in the workplace not only leads to individual benefits but also results in overall advantages such as increased levels of shared positive emotions (e.g., pride and gratitude; Dutton et al. 2006) along with higher collective commitment and reduced turnover rates (Grant et al. 2008, Lilius et al. 2008).

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Table 12
Significance of Difference between the Identified Factors and Performance of Employees in the Public Service

Identified Factors	Performance			
	Customer Service	**Responsibilities Towards the Organization**	**Ethical Conduct**	**Compassion**
Organizational Culture	*r* = 0.214* *low* *p* = .019	*r* = 0.154ns *slight* *p* = .092	*r* = 0.237* *low* *p* = .009	*r* = 0.252* *low* *p* = .005
Training and Development	*r* = 0.241* *low* *p* = .008	*r* = 0.182* *slight* *p* = .046	*r* = 0.286* *low* *p* = .002	*r* = 0.277* *low* *p* = .002
Employee Motivation	*r* = 0.231* *low* *p* = .011	*r* = 0.195* *slight* *p* = .033	*r* = 0.261* *low* *p* = .004	*r* = 0.227* *low* *p* = .013
Job Satisfaction	*r* = 0.238* *low* *p* = .009	*r* = 0.174ns *slight* *p* = .058	*r* = 0.273* *low* *p* =.009	*r* = 0.283* *low* *p* = .002

Note: *p <.05, **p <.01, ***p< .001

Table 12 presents the significant relationship between the identified factors and performance of employees in public service wherein the computed r values and the p-values between Organizational Culture, Training and Development, and Performance variables obtained were less than the significance level of .05, indicating that there is a statistical significance among these variables except between Organizational Culture and Responsibility Towards Organization wherein p-value is higher than .05 level of significance. Furthermore, it shows that between Employee Motivation, Job Satisfaction and Performance variables obtained were less than the significance level of .05, indicating that there is a statistical significance among these variables except between Job Satisfaction and Responsibility Towards Organization wherein p-value is higher than .05 level of significance.

There is a statistically significant correlation between Organizational Culture and Performance wherein the obtained value of Customer Service is r_s = .214, p = .019, Ethical Conduct r_s = .237, p = .009, Compassion r_s = .252, p = .005. Same result between Training and Development and Customer Service, r_s = .241, p = .008, Responsibility Towards the Organization r_s = .182, p = .046, Ethical Conduct r_s = .286, p = .002, and Compassion r_s = .277, p = .013. However, there is no statistically significant correlation between Organizational Culture and Responsibility Towards the Organization based on the obtained value, r_s = .154, p = .092 which is greater than the 0.05 level of significance.

Moreover, there is a statistically significant correlation between Employee Motivation and Performance wherein the obtained value of Customer Service is r_s = .231, p = .011, Responsibility Towards the Organization r_s = .195, p = .033, Ethical Conduct r_s = .261, p = .004, Compassion r_s = .227, p = .013. Same result between job Satisfaction and Customer Service, r_s = .238, p = .009, Ethical Conduct r_s = .273, p = .009, and Compassion r_s = .283, p = .002. However, there is no statistically significant correlation between Job Satisfaction and Responsibility Towards the Organization based on the obtained value, r_s = .174, p = .058 which is greater than the 0.05 level of significance.

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Table 13
Significance of Difference in the Identified Factors When Respondents are Grouped According to Profile

Profile	Identifying Factors			
	Organizational Culture	**Training and Development**	**Employee Motivation**	**Job Satisfaction**
Age	*F* = 1.08 not significant *p* = .380	*F* = 1.13 not significant *p* = .363	*F* = 1.09 not significant *p* = .378	*F*=1.10 not significant *p*=.377
Sex	t = 2.55* *p*= .117	t = 1.79 not significant *p* = .187	t = 2.18 not significant *p* = .146	t=2.47 not significant *p* = .123
Educational Attainment	*F* = 0.10 not significant *p* = .957	*F* = 0.17 not significant *p* = .910	*F* = 0.05 not significant *p* = .983	*F* = 0.15 not significant *p* = .922
Years in Service	*F* = 3.92* *p* = .49	*F* = 2.57 not significant *p* = .124	*F* = 4.61* *p* = .034	*F* = 4.72* *p* = .032
Employment Status	*t* = 3.17 not significant *p* = .141	*t* = 1.92 not significant *p* = .230	*t* = 2.48 not significant *p* = .178	*t* = 3.08 not significant *p* = .144

Note: *p <.05, **p <.01, ***p< .001

Table 13 presents the significant difference in the identified factors when respondents are grouped according to profile wherein the computed F values and the p-values between Sex and Organizational Culture obtained were less than the significance level of .05, indicating that there is a statistical significance among these variables. However, there is no statistically significant difference between Sex, Training and Development, Employee Motivation and Job satisfaction based on the obtained values which were greater than the .05 level of significance. In addition to this, the computed F values and the p-values between Years in Service and Identifying Factors obtained were less than the significance level of .05, indicating that there is a statistical significance among these variables except between Years in Service and Training and Development wherein p-value is higher than .05 level of significance.

Furthermore, it shows that Age, Educational Attainment and Employment Status have no statistically significant difference with any of the identifying factors based on the computed F values and p-values which obtained greater than .05 level of significance.

Table 14
Significance of Difference in the Performance of Respondents When Grouped According to Profile

Profile	Performance			
	Customer Service	**Responsibilities Towards the Organization**	**Ethical Conduct**	**Compassion**
Age	*F* = 2.19 not significant *p* = .212	*F* = 1.88 not significant *p* = .226	*F* = 1.17 not significant *p* = .359	*F* = 1.92 not significant *p* = .199
Sex	*t* = -.82 not significant *p* = .414	*t* = -1.34 not significant *p* = .184	*t* = -.67 not significant *p* = .505	*t* = .81 not significant *p* = .420
Educational Attainment	*F* = .81 not significant *p* = .907	*F* = .1.17 not significant *p* = .811	*F* = 1.75 not significant *p* = .783	*F* = .915 not significant *p* = .922

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Years in Service	$F = 5.47^*$ $p = .017$	$F = 8.06^*$ $p < .001$	$F = 3.14^*$ $p = .036$	$F = 6.90^*$ $p = .001$
Employment Status	$t = 1.60$ not significant $p = .213$	$F = 2.83$ not significant $p = .078$	$F = 2.91$ not significant $p = .066$	$F = 2.02$ not significant $p = .082$

Table 14 presents the significant difference in the performance of respondents when grouped according to profile. It was observed that there is a **significant difference** between Years in Service and Performance variables since the obtained p-values were greater than .05 level of significance. However, the obtained p-values for Age, Sex, Educational Attainment, and Employment Status as compared to Performance were higher than .05 level of significance.

Table 15

Composite Table on the Level of Performance of the Employees in thePublic Service

Level of Employee Performance	Over All Mean	VI
1. Customer Service	4.54	Highly Performed
2. Responsibilities Towards the Organization	4.70	Highly Performed
3. Ethical Conduct	4.65	Highly Performed
4. Compassion	4.78	Highly Performed
Total Mean	**4.59**	**Highly Performed**

Table 15 shows the composite results of the study on the level of performance of the employees in the public service assessed by the respondents with respect to customer service, responsibilities towards the organization, ethical conduct and compassion.

Findings showed that among the four aspects composing the extent level of performance of the employees, compassion gets the highest mean. This reveals that the view of the clients in employee compassion is seen in the organization as it is the core virtue in public service. It implied that among the four aspects on the level of performance of the employees, though all have verbal interpretation of much highly performed, customer service is the lowest this suggest a gap between perception and reality.

CONCLUSIONS

In view of the summary of findings, the researcher therefore concluded the following:

1. Organizational Culture demonstrates high influence in employee performance in public service emphasizing client satisfaction but lacking in professional growth opportunities.
2. It reveals high influence on employee motivation in public service. The organization fosters a positive work environment with clear goals driving motivation.
3. The level of influence of identifying factors on employees' performance with respect to organizational culture, training, motivation, and satisfaction resulted that organizational culture was found most influential while employee motivation least impactful.
5. Employee customer service performance - "Work well with clients" scored highest while "Go above and beyond" scored lowest.
6. Employees perform well in understanding and prioritizing organizational goals but could improve in commitment towards meeting expectations.
7. It showcases how employees perform in terms of ethics in public service. Adhering to legal requirements results the highest score.
8. Displays employees' compassionate performance in public service, results show collaboration is highly rated, while proper communication or information dissemination within the organization needs to improve.

It displays the correlation between factors and employee performance in public service. Significant relationships were found between Organizational Culture, Training and Development, Employee Motivation, Job Satisfaction, and Performance variables. Results show statistical significance between most variables, except between Organizational Culture and Responsibility Towards Organization, and Job Satisfaction and Responsibility Towards Organization.

Recommendations

The following are the recommendations and implications of the study:

1. LGUs might consider focusing on further in-house professional development opportunities, such as mentorship programs, targeted training, and career path mapping that could be beneficial to the job order and casual employees.
2. Future studies can delve deeper into the specific aspects of

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organizational culture and motivation that have the most significant impact on employee performance.
3. Future researchers can conduct a comparative analysis to see if the factors affecting employee performance are consistent or vary depending on the specific context.

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INFLUENCE OF SOCIAL FACTORS ON ADOLESCENT LEARNERS OF SCHOOL EDUCATION IN INDIA

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ABSTRACT

'Human beings' and 'Society' are profoundly entangled. 'Society' is essentially a convoluted web of relationships, norms, institutions and cultures created by human beings. 'Human beings' as social creatures, depends on society for various aspects of their lives, including 'socialisation', cooperation and the accomplishment of their 'needs' and 'desires'. Through 'socialisation' process Human beings learn how to behave in society which begins in early childhood of life and continues throughout life, shaping individuals' beliefs, values, behaviours and their identities. This paper delves into the multifaceted relationship between social factors and school education development in India. Despite notable advancements, education in India continues to be influenced by various social dynamics, including socioeconomic status, caste, gender, and cultural beliefs. These factors have a significant impact on access to education, the quality of learning and educational outcomes. It is essential for policymakers, educators and stakeholders to comprehend these social factors in order to address the persistent disparities and ensure equal education opportunities for all. By analysing existing literature and empirical evidence, this paper aims to shed light on the comprehensive nature of social factors that affect school education in India and proposes strategies to mitigate their challenges consequences for promoting inclusive and fair educational opportunities.

KEYWORDS: *Society, Socialisation, Social factors, Norms, Values, Adolescence, School Education, Social change, Well-being*

INTRODUCTION

A 'society' is commonly defined as a group of individuals concerned in determined 'social interaction', or a large 'social group' sharing the same geographical location, typically subject to dominant cultural outlook. According to Giddens (2009), society can be understood as "a system of structured social relationships connecting people together according to a shared culture". Furthermore, 'Society' can be viewed as this interaction results in the development of social institutions approximating family, education, religion, and economy that influence behaviour and socialisation processes (Haralambos & Holborn, 2013).

Dr. APJ Abdul Kalam said, "Real education enhances the dignity of a human being and increases his or her self-respect. If only the real sense of education could be realised by each individual and carried forward in every field of human activity, the world will be so much a better place to live in." Education serves as most powerful tool for advancement and progress of humanity. It acts as a guiding light, illuminating the paths towards enlightenment, empowerment and societal growth. Education not only shapes one's character but also fosters critical thinking, instilling values that shape both individuals and societies while freeing minds from superstitious beliefs. The development of a nation's economic, political and social foundation heavily relies on its educated human resources. At its core, education acts as a catalyst for individual empowerment, liberating minds and equipping learners with the knowledge, skills. In India, a country known for its diverse population and rich cultural heritage, numerous social issues intersect with its educational landscape. From deep-rooted poverty and caste-based discrimination to gender disparities and regional diversities, family structure the nation grapples with complex challenges that hinder the achievement of universal education. Adolescence is a period of significant change, encompassing physical, cognitive, psychosocial growth and socio-emotional transformations in the phase of life between childhood and adulthood (WHO, 2023). This makes it a crucial time for educational growth and development. In India, however, the education of adolescents is impacted by various social factors, which create obstacles to equal opportunities and high-quality learning experiences. Education is profoundly influenced by various social issues that permeate our communities. This article delves into the intricate interplay between social issues and education, exploring how factors such as poverty, inequality, discrimination, and mental health impact learning outcomes and educational opportunities. This article delves into the complex nature of these social determinants and examines their consequences for adolescent students within the Indian context.

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EMERGENCE OF THE STUDY

The education system of any nation is always influenced by various factors that shape its formation and direction. In India, the learners' outcomes and achievements are dependent on societal approaches and interventions. Education and society have had a close association since the beginning of society itself. On one hand, education build up the individuals into different social roles; while on the other hand, 'society' and 'culture' determine the system of socialisation and the type of education to be imparted to its members. According to Berger and Luckmann (1966), 'socialisation' is the process, involves the internalisation of the values', 'behaviours, 'social skills' and norms of society, which helps individuals function effectively within it. Giddens (2009) emphasises the importance of socialisation in shaping individual identity and social roles or performances. Each society, regardless of its complexity, has its own way of educating the younger generation, leading to the development of specific institutions. Education serves multiple social functions by transmitting culture and knowledge, surroundings mankind on Earth. 'Society' plays a crucial role in the education process and in the end result 'social change' with 'mobility' occurs. Educational opportunities in India are greatly affected by socioeconomic disparities. Comfortable families have the means to send their children to private schools provide them with additional support in education and expose them to fortification activities. On the other hand, children from low-income households face obstacles like insufficient infrastructure and a lack of resources, which perpetuate the cycle of poverty and hinder their educational achievements. A study conducted by Jha and Gaiha (2017) exemplifies this issue, revealing that economically disadvantaged children are more likely to attend government schools that lack of facilities and adequate learning materials. Consequently, their educational outcomes are significantly impacted. Education is not solely about imparting knowledge; it also reflects societal values, norms and needs. In India, various social factors heavily influence the landscape of school education, shaping the experiences and outcomes of students from different demographic groups. Research by Desai and Kulkarni (2008) highlights the association between parental education and adolescents' educational outcomes, emphasising the role of socioeconomic factors in shaping educational trajectories. So, it is very much essential to understand the various issues and aspects of affecting social dimensions through revisit and reviewing the social factors, its present day relevance in Indian society to enhance school education considering all the learners in composite school structure. Social change encompasses shifts in societal norms, values, institutions, and structures, reflecting changes in cultural practices, economic activities, and political organisation. It often results from collective human actions and interactions that drive transformations in society's functioning and organisation (Harper & Leicht, 2011).

OBJECTIVES

i. To identify the various societal factors that influenced adolescent learners learning in India.
ii. To study the effects of various social factors on school education.
iii. To analyse critically the outcome of constraining socio-cultural factors on adolescents in education system.
iv. To revisit the aspect of socialisation and social change and its comprehend influence on adolescent learners' development at school level in India.

METHOD OF STUDY

A qualitative study was done based on the basis of review work. The previous studies results, reviewing and revisiting the documents, articles related to the problem i.e. social factors affecting among adolescent learners in school education. The data collected from the secondary sources which are available.

RESEARCH QUESTIONS

i. What are the different factors that affecting school education in India?
ii. Why does poverty hinder academic performance of adolescent learners?
iii. How does socioeconomic status affect the adolescents in their education?
iv. What are the different factors that adversely affect adolescent learners' education in India?
v. What is the impact of social change on school education in India?

MAJOR FINDINGS: Social Factors affecting School Education in India

After reviewing the previous study, articles and literature including empirical study of the previous, some insight and reasoning factors are indentified which are the major issues which influences the school education system and learners specially the adolescence learners learning outcome and socialisation process are depends.

Poverty, Marginalisation and Educational Access

Poverty continues to pose a major obstacle in the pursuit of quality education. In India, where millions of individuals reside below the poverty line, this issue remains deeply ingrained. Economic deprivation restricts people's ability to obtain a high standard of education (Bhitale & Bhagyashree, 2022). In spite of considerable economic growth in recent decades, India continues to struggle with wide spread poverty, particularly in rural areas (Choudhury, Joshi & Kumar, 2023). Impoverished families find it challenging to cover expenses like school fees, uniforms and textbooks, impeding their academic progress. Additionally, children belonging to marginalised communities encounter additional hurdles in school education including insufficient resources, infrastructure (Makwana & Elizabeth, 2022) and lack of transportation, trained teachers in school (Nadar, 2018) which further widen educational disparities.

Socioeconomic Disparities

Ongoing socioeconomic gaps persist within educational systems globally. Children from lower-income families and

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marginalized communities face numerous barriers, including limited financial resources and societal inequalities, which hinder their educational progress (Patel & Kleinman, 2003). These disparities perpetuate the cycle of poverty and limit opportunities for educational advancement. These discrepancies not only challenge the values of equality and equity but also sustain a pattern of academic underperformance and restricted prospects, further deepening the division between advantaged and disadvantaged students. A large number of families do not allow their children to receive formal education after completing primary and even before that. The child, who has not even reached the adolescence is entrusted family responsibilities and made to earn for the family (Thanky, 2013).

Regional Disparities and Access to Quality Education

India's extensive geographical and cultural diversity is reflected in its educational panorama, exhibiting notable disparities in infrastructure, teaching standards, and educational achievements across different states, regions and social development (Ghosh, 2011). Specifically, rural and remote areas encounter obstacles (Kumar, N. & Rani R. (2019) such as a scarcity of teachers, insufficient facilities, and language barriers, which impede educational accessibility and attainment. To address these regional discrepancies, focused investments in infrastructure, teacher training, and curriculum development are essential to pledge that every student, irrespective of their location, can avail themselves of a high-quality education.

Caste and Social Hierarchy

India's caste system remains a significant factor in determining educational opportunities and outcomes though the discrimination of caste system in India being legally prohibited still sometimes persists in social exclusion. Historically marginalised groups, including 'Dalits' and tribal or 'Adivasis', continue to experience discrimination and exclusion within educational institutions (Thorat & Newman, 2017). Caste and social hierarchy continue to pose significant barriers to accessing quality education in India, perpetuating inequalities and hindering social mobility (Soni, 2023). The caste system, deeply ingrained in Indian society, assigns individuals to social groups based on birth and traditionally determines one's social status including education, social mobility, cultural identity, areas of residence and so on (Jaipal, 2018). This hierarchical social structure has profound implications for educational opportunities. This has resulted in lower enrolment rates, higher dropout rates, and lower academic achievements (Nadar, 2018) compared to higher caste individuals. Despite efforts to promote inclusivity through legal measures and affirmative action policies, such as reservations in educational institutions, the disparities based on caste persist. These persistent disparities serve as a reminder of the deeply ingrained social hierarchies within Indian society.

Gender Disparities in Education

Gender disparities in education keep on as a global challenge, with significant implications for social, economic, and personal development (UNESCO, 2020). Despite progress in recent decades, disparities in educational access, enrolment, and outcomes persist between males and females in many parts of the world. Despite the strides made in promoting gender equality in education, gender disparities persist in many parts of India. Girls often encounter cultural biases, early marriage, and household responsibilities that hinder their access to schooling and limit their educational opportunities. It is also revealed that in India gender, poverty and education are intricately connected, highlighting the importance of implementing policies and community interventions that are sensitive to gender issues specially for girls' education development (Bandyopadhyay & Subrahmanian, 2008). Initiatives by the government like 'Beti Bachao', 'Beti Padhao' (Save Daughter, Educate Daughter) have aimed to address these disparities, and ensure equal access to education for all children, regardless of gender.

Cultural Beliefs, Norms and Practices

Cultural beliefs, identity and practices play a significant role in shaping attitudes towards education and impacting educational outcomes in India (Jaipal, 2018). The traditional understanding of gender roles, specific occupations deemed suitable for each gender, and societal expectations related to marriage and family responsibilities all have an influence on educational choices and aspirations. Moreover, cultural attitudes towards education differ across regions and communities, which in turn affect parental involvement, support for education, and attitudes towards learning. Cultural norms and practices can influence educational access, values, and ways of life and participation in the society (Maji & Das, 2023). In some regions, societal beliefs may prioritise certain types of education or restrict access based on gender, caste, or ethnicity, exacerbating disparities in educational opportunities. Positive cultural atmosphere for addressing the cultural obstacles to adolescent education and fostering inclusive learning environments among school learners are highly expected.

Well-being and Mental Health

The high occurrence of mental health problems among students presents a considerable impediment for educational establishments. By stress, anxiety, depression and other mental health disorders learning capabilities can be impaired, social interactions can be affected and academic performance hindered. Social support networks, including family, friends, and community ties, play a vital role in promoting mental well-being (Raman &Thomas, 2023). Active social interactions with learners provide emotional support, diminish feelings of loneliness & isolation, create happiness (NCERT, 2022) and buffer against the negative impacts of stressors, which is also crucial process for socialisation.

Domestic violence

Domestic violence can result in significant and enduring consequences on the education of adolescents, affecting their academic performance, mental well-being, and overall growth. Domestic violence is a pervasive social issue in India, with profound implications for the health, well-being, and rights of individuals, particularly women and children (Kishor & Johnson, 2004). Despite legal and social reforms, domestic

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violence remains prevalent, fuelled by entrenched patriarchal attitudes, economic disparities, and cultural norms. Young individuals who are exposed to domestic violence within their homes may frequently be absent from school due to physical harm, fear, or the responsibility of taking care of themselves or other family members. Even when they do attend school, their ability to concentrate and actively participate in class may be compromised by emotional distress or preoccupation with the violence occurring at home. Witnessing or experiencing domestic violence can trigger a variety of emotional challenges such as 'anxiety', 'depression', low self-esteem, and post-traumatic stress can further obstruct their educational and socio-economic prospects. An adolescent who is exposed to violence may be at higher risk of substance misuse or either becoming a victim of dating violence. (Carolin & Xavier, 2020)

Substance Abuse

Adolescents who engage in substance abuse face numerous adverse consequences that can profoundly impact their physical health, mental well-being, academic performance, relationships, and future prospects. Poverty and economic marginalization increase susceptibility to substance abuse, as individuals may turn to drugs and alcohol as a coping mechanism for stress, trauma, and social deprivation (Ambekar et al., 2020). Substance abuse encompasses the misuse of alcohol, illicit drugs, tobacco, prescription medication, and other substances. This harmful behaviour can result in addiction, physical health complications, mental health disorders, academic under achievement, behavioural challenges, legal troubles, and sometimes tragically, fatal overdoses. Such kind of learners often stops social interactions which affect their socialisation process and actively affect their educational life. Tackling substance abuse among teenagers necessitates a holistic strategy encompassing prevention, timely intervention, accessible treatment and support services, educational initiatives, and community engagement to foster healthy behaviours and foster positive academic achievements.

Homelessness

Homeless children face numerous barriers to accessing formal education, including lack of documentation, transportation, and stable housing (UNICEF India, 2020). Enrolment processes that require proof of residence or identification documents may exclude homeless children from school, perpetuating their marginalisation. Homeless children experience psychosocial stressors, including stigma, discrimination and precedes mental illnesses, which impact their emotional well-being and social integration (Radhakrishnan et al., 2021). The experience of homelessness can lead to feelings of shame, insecurity, and low self-esteem, further hindering children's educational success.

Technological Access and Digital Divide

The potential for transforming education in India lies within the digital revolution, yet the existence of a digital divide poses a major obstacle to fully realizing this potential. The digital divide, characterised by unequal access to information and communication technologies (ICTs), is a significant social factor impacting various aspects of life, including education, employment, and social participation. In India, despite rapid progression in technology, disparities in digital access persevered, exacerbating existing social inequalities (Ranjan, 2023). Numerous students, particularly those hailing from rural and underserved areas, face challenges in accessing dependable internet connectivity, computers, and digital educational materials.

Disability and exclusion

Various physical and mental disabilities could act as a barrier for education. Marginalisation of education due to improper implementation of inclusion hampers adolescent education. Discrimination and stigma surrounding disability contribute to the exclusion and marginalisation of children with disabilities within the education system (Kalyanpur, 2008). Negative attitudes, misconceptions and lack of awareness among educators, peers, and communities perpetuate social isolation and limit opportunities for meaningful participation and learning. Social stigma around disability causes inadequate utilisation of inclusive education policies.

DISCUSSION

Poverty is the most significant obstacle that India's education system faces, impacting individuals, groups, and society as a whole. Psychologists believe that a person's development is influenced by their life experiences. Therefore, the key to helping individuals is to provide them with the necessary support and training in cognitive, motivational, and behavioural skills. This guidance will enhance their competence and enable them to function effectively in society. Psychological interventions have proven to be beneficial for the deprived and disadvantaged. However, we must consider a few important factors. Firstly, providing continuous assistance may result in psychological dependence and reliance on others, preventing individuals from taking responsibility for their actions and becoming self-sufficient. Secondly, psychological interventions may be implemented at individual, community, and societal level for school learners' inclusion towards socialisation limiting the exclusion. The introduction of modern technology as computers and the Internet have become integral parts of young people's lives. While these tools can be used for academic and social engagement, they also contribute to societal problems. Within a society, learners in adolescent level should take proper care to inculcate values, prompting them to advocate for a solution from any kind of confusion or barrier in the society. Since, society comprises individuals; any condition that affects certain members of the population like factors, such as family, health or financial concerns, indifferent school environment, substance abuse, transportation issues and differing community attitudes towards education, can contribute to negative social mobility for school student and that should be minimise.

SUGGESTIONS & POLICY IMPLICATIONS

Resolving the social issues impacting school education in India necessitates a comprehensive strategy involving policy changes, specific interventions, and involvement from the

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community. It is imperative for policymakers to focus on ensuring fair access to high-quality education, tackling systemic disparities and encouraging inclusive educational methods. These goals can be accomplished by actions like increasing educational opportunities for marginalised groups, improving the standards of government schools, reinforcing affirmative action measures, advocating for gender-inclusive education, and establishing partnerships with communities to bolster educational programs. Training teachers and educational staff to recognise and address caste-based biases in the classroom is essential (Nambissan & Rao, 2021). Sensitization programmes can promote inclusive teaching practices and create supportive learning environments for all students. Local communities in education initiatives can help promote a sense of possession and support for schools may be engaged. Parents, community leaders and other stakeholders should be involved in decision-making processes to ensure that educational interventions meet the specific needs of the community. Raising awareness among the common people as well as in the society is very much essential for sustain quality education and proper socialisation among learners. Time to time curriculum reformation based on the modern societal needs is an essential parameter for providing quality education to the learners for sustaining inclusivity.

Taking into account the social aspects in education requires a comprehensive strategy that includes policy changes, specific interventions, and involvement from the community. It is crucial for policymakers to give importance to fair access to high-quality education, address systemic inequalities, and encourage inclusive approaches. For instance, initiatives like the Sarva Shiksha Abhiyan (SSA) and other Govt. Schemes for school education strive to make elementary education accessible to all and reduce socioeconomic disparities by implementing targeted interventions in marginalised communities and National Education Policy, 2020 (NEP, 2020) also suggests so many provisions for development of School Education in India.

SIGNIFICANCE & CONCLUSION

The implication of the study is to create awareness among people about the existing issues that are adversely affecting adolescent education in India. This will help policymakers, researchers, educators, readers analyse the underlying causes that act as hindrances in the education system. The study will also give insights into the solutions towards reducing the various constraints social factors that challenges adolescent learners' education. 'Social factors' which influence social change and mobility play a pivotal role in shaping the landscape of school education in India, influencing access, equity, and outcomes. Addressing these factors is essential for building a more inclusive and equitable education system that empowers all children to fulfill their potential. 'Value Education' at school level should be incorporated for sustain peace and propagate quality education in the present society in India which also suggest by the study of Nadar, 2018. By recognising the complex interplay between social dynamics and education, stakeholders can work towards creating a more just and even-handed society where each child has the prospect to receive a quality education. By adopting policies based on evidence, encouraging community involvement and nurturing cultural sensitivity, India can strive towards achieving the goal of providing education to all, ensuring that each child has the chance to flourish and make valuable contributions to society. Addressing the complex nexus of social issues affecting education requires a multifaceted approach that prioritises equity, inclusion and holistic support for all students. By addressing poverty, dismantling systemic inequalities, promoting gender equity, prioritising mental health support and bridging the digital divide, societies can create more equitable educational systems that empower every individual to reach their full potential. Civil society with all stakeholders to work collaboratively towards this shared vision of a brighter and more inclusive future for Indian education.

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LOCAL ECONOMIC DEVELOPMENT AND INVESTMENT PROMOTION OFFICE (LEDIPO) IN THE PROMOTION OF MICRO SMALL AND MEDIUM ENTERPRISES IN THE PROVINCE OF LAGUNA

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ABSTRACT

This study assessed the extent of Performance and the Level of Ability of LEDIPO in promoting Micro, Small, and Medium Enterprises in the Province of Laguna during the fiscal year 2023, as perceived by the two groups of respondents, the LEDIPO Heads, Employees and selected MSMEs from the 3rd and 4th districts, was surveyed using a self-administered questionnaire. Utilization of a descriptive-quantitative correlational research design and statistical tools such as mean, standard deviation, and Pearson's correlation coefficient and T-test to analyze the data gathered.

Results showed that the extent of performance and the level of Ability of LEDIPO in the promotion of MSMEs in the province of Laguna was verbally interpreted as "Excellent and Very Good" leading to a highly effective performance of LEDIPO. Moreover, the relationship between the extent of performance and the level of ability of LEDIPO suggests strong positive relationship in various aspects related to MSMEs promotion, this indicate significant relationships between LEDIPO performance and LEDIPO ability.

Furthermore, the study revealed that in the two group of respondents, the perception of MSMEs towards the implementer is Excellent, which means that LEDIPO should further sustain their work to meet the expectations of stakeholders.

The study recommends continuous monitoring of LEDIPO's interventions to assess the impact and align with MSME needs. Prioritize training programs and workshops to enhance MSME skills for sustainability and Strengthen collaboration with stakeholders and leverage the technology.

KEYWORDS: *Local Economic Development and Investment Promotion Office, Micro Small and Medium Enterprises, Promotion of MSMEs, Performance of LEDIPO, Level of Ability.*

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are pivotal to fostering economic growth on a global scale. These enterprises significantly contribute to job creation, poverty alleviation, and overall economic advancement. Often regarded as the backbone of many economies, MSMEs play a crucial role in providing employment opportunities, particularly in developing countries. In the Philippines, MSMEs hold a special place in the economic landscape, notably contributing to poverty reduction and economic regeneration by generating employment opportunities for the growing workforce.

Recognizing the importance of MSMEs, the Philippine Congress enacted the Magna Carta for MSMEs, Republic Act No. 9501, in 1991. This law mandates the government to support MSMEs and promote their development by creating a conducive business environment. Despite the critical role of MSMEs, various obstacles hinder their full growth potential. Government agencies, such as the Local Economic Development and Investment Promotion Office (LEDIPO), implement programs and activities in collaboration with the Department of Trade and Industry (DTI) to support MSMEs, particularly through marketing promotion and business environment enhancement.

The LEDIPO in the Province of Laguna plays a vital role in fostering local economic growth by promoting and supporting the development of MSMEs within the province. Established in 2021 through Executive Order No. 17 and reinforced by Provincial Ordinance No. 03 in 2022, which amended the Local Investment and Incentive Code of 2022, LEDIPO's primary mission is to nurture the growth of MSMEs. One of its main functions, as stated in EO No. 17 Series of 2021 Section 2, is to assist in the promotion and development of MSMEs in the locality.

Understanding LEDIPO's role in promoting MSMEs in Laguna is significant for gaining insights into local economic development. By examining its contribution to MSME growth, this study aims to identify factors driving local economic growth, fostering entrepreneurship, and income generation. Assessing LEDIPO's support for MSMEs is crucial for evaluating the effectiveness of local governance. The findings can inform policies for promoting

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economic development and supporting MSMEs in the Province of Laguna.

This research focuses on the promotion and development of MSMEs in the Province of Laguna, with a particular emphasis on supporting local crafts and products, especially considering the economic challenges posed by the COVID-19 pandemic. The project aims to provide a platform for these businesses to recover and thrive, addressing key challenges and suggesting ways to enhance collaboration between LEDIPO and MSMEs to foster economic growth in the province.

Despite its commendable objectives, LEDIPO faces several challenges and gaps that impede its effective promotion of MSMEs. This study endeavors to comprehensively identify and address the key issues and concerns confronting LEDIPO in its pursuit of promoting MSMEs in Laguna. It aims to assess the efficacy of current strategies and initiatives employed by LEDIPO and analyze their impact on the growth and sustainability of MSMEs in the province. By delving into the various facets of LEDIPO's role and scrutinizing the challenges it encounters, the research aims to uncover potential areas of improvement and offer recommendations to enhance LEDIPO's support for the MSME sector.

Through an in-depth examination of LEDIPO's functions, this study aspires to provide valuable insights that can contribute to local economic development and foster the growth of MSMEs in the Province of Laguna. The ultimate goal is to offer a comprehensive understanding of the current state of affairs, facilitate strategic improvements, and recommend initiatives that can bolster LEDIPO's effectiveness in supporting and promoting flourishing MSMEs in the province.

MATERIALS AND METHOD

This study utilized a descriptive quantitative research design to assess the performance and the level of ability of the Local Economic Development and Investment Promotion Office (LEDIPO) in promoting Micro, Small, and Medium Enterprises (MSMEs) in the Province of Laguna. The study included 120 Heads and Personnel of LEDIPOs and 150 MSMEs from selected municipalities in the 3rd and 4th districts of Laguna.

The probability sampling technique was employed for MSMEs, in which they were randomly selected to take part in a survey. Data and information were collected through the use of structured questionnaires which is the most frequently used instrument to collect data and were distributed among the Heads and Personnel of LEDIPOs in different cities and municipalities and selected MSMEs in the 3rd and 4th district of Laguna.

This primarily a three parts questionnaire wherein the first part covers the socioeconomic profile of the respondents, the second part focuses on the extent of Performance of LEDIPO in the Promotion of MSMEs in terms of Advisory group; Business Enabling Environment; Promote Policies and Practices that will encourage Local Investment; Public Private Partnership; Provide Support and facilitation assistance for new investors; Local Economic Database; Promotion and Marketing; Economic Development and Promotion and Development of Micro Small and Medium Enterprises (MSMEs). The last part of the questionnaire concerns the level of Ability of LEDIPO in terms of Development, Sustainability, and Partnership. The second and third parts of the questionnaire are being measured using a 5-point Likert Scale rating. A self-administered questionnaire was created and submitted to the expert for judgment and content validation. After the questionnaire was validated, the gathering of data was conducted. Permissions were obtained from relevant agencies and MSMEs before distributing the questionnaire. Data collection involved using Google Forms for LEDIPO Heads and personnel and selected MSMEs in the 3rd and 4th Districts. The data collected was tallied, tabulated, analyzed and interpreted using Frequency and Percentage Distribution to determine the respondents' demographic profiles, including age, marital status, sex, employment status, length of service (LEDIPOs), and years in business (MSMEs). Mean and Standard Deviation to Assessed the extent of LEDIPO's performance and ability to promote MSMEs, T-test to measure the significant differences between LEDIPO's performance and ability in MSME promotion, and Pearson r correlation coefficient to check the relationships among study variables. The correlation strength was interpreted using Guildford's (1973) Rule of Thumb. This methodological approach provides a structured and comprehensive analysis, ensuring the study's reliability and validity in assessing LEDIPO's role in promoting MSMEs in Laguna..

RESULTS AND DISCUSSION

The study comprised two distinct respondent groups: 150 individuals representing Micro, Small, and Medium Enterprises (MSMEs) located in the selected municipalities within the 3rd and 4th districts of Laguna, and 120 participants comprising the Heads and Personnel of LEDIPO across various cities and municipalities within the province of Laguna, specifically including those affiliated with the Provincial Government of Laguna. These totaled 270 respondents for the study. The analysis revealed that the predominant demographic among MSME respondents fell within the 31-40 age bracket. Conversely, among the Heads and Personnel of LEDIPO, individuals aged 20-30 were most prevalent. Furthermore, within the LEDIPO group, a majority were identified as married, female, holding permanent positions, and possessing between 1 to 10 years of experience in both public service and business sectors.

According to the composite table assessing LEDIPO's performance across nine indicators, the Advisory Group exhibits the highest score, indicating its superior performance. Conversely, the Economic Development of MSMEs shows the lowest score, suggesting areas for improvement within this aspect. Additionally, within the Heads and Personnel category, the Advisory Group again demonstrates the highest indicator, highlighting its effectiveness. Conversely, the Public Private Partnership aspect registers the lowest indicator, indicating

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potential shortcomings in this area. These findings provide valuable insights for enhancing LEDIPO's overall performance and strategic planning.

In assessing the extent of the level of ability of LEDIPO in promoting MSMEs in Laguna Province, three indicators were evaluated: Development, Sustainability and Partnership. Both groups of respondents consistently rated Partnership the highest among the three indicators, while Development received the lowest scores across both groups. This suggests that the collaborative efforts and alliances formed by LEDIPO garnered the most favorable responses from respondents, indicating a strong belief in the value and impact of partnerships in facilitating MSME growth.

Conversely, the aspect of Development, which likely pertains to initiatives aimed at enhancing MSME capabilities and infrastructure, received comparatively lower ratings. This could imply a perceived need for improvement or emphasis on developmental activities within LEDIPO's promotion strategies to better support MSMEs in Laguna Province. The municipalities involved in the study as regards to the extent of Performance of LEDIPO in the promotion of MSMEs, with respect to the six dimensions in terms of their profile showed the following findings:

The relationship between the respondents' profile and the extent of performance of LEDIPO in the promotion of MSMEs in the age, employment status, length of service, and certain aspects of LEDIPO's activities showed significant correlations with LEDIPO performance in promoting MSMEs. Factors such as advisory group, promoting policies and practices, public-private partnerships, support and facilitation assistance, and promotion and development of MSMEs were positively associated with perceived LEDIPO effectiveness. Each indicator shows significant positive correlations between LEDIPO's performance and ability, indicating that higher performance in LEDIPO corresponds with higher perceived ability in MSME promotion.

The table provides a detailed insight into how different aspects of LEDIPO performance and ability are correlated with specific factors important for the promotion of MSMEs, The high correlation coefficients and low p-values indicate statistically significant relationships between LEDIPO performance and LEDIPO ability, Each factor is associated with a correlation coefficient (r-value) and a p-value, with asterisks denoting significance, The data in the table suggests strong positive relationships between LEDIPO performance and ability with various aspects related to MSME promotion, highlighting the significance of these relationships in fostering the growth and development of micro, small, and medium enterprises.

Overall, the table seems to provide a detailed analysis of how well the LEDIPO program is functioning across various key performance indicators, offering insights into its strengths and areas that may require improvement in supporting the growth of micro, small, and medium enterprises.

Table 1. Frequency and Percentage Distribution of Respondents Profile

Profile	Selected MSMEs		LEDIPOs Heads and Personnel	
	f	*%*	*f*	*%*
Age				
o 20 – 30	31	20.7	36	30.0
o 31 – 40	69	46.0	29	24.2
o 41 – 50	29	19.3	31	25.8
o 51 – 60	21	14.0	24	20.0
Total	150	100.00	120	100.00
Marital Status				
o Single	58	38.6	45	37.5
o Married	85	56.7	70	58.3
o Separated	1	0.7	1	0.9
o Widowed	6	4.0	4	3.3
Total	150	100.00	120	100.00
Sex				
o Male	53	35.3	40	33.3
o Female	97	64.7	80	66.7
Total	150	100.00	120	100.00
Employment Status				
o Job Order	-	-	25	20.8
o Casual	-	-	9	7.5
o Permanent	-	-	79	65.8
o Co-Terminus	-	-	7	5.9
Total			120	100.00

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Length of Service				
o Below I year	-	-	38	31.7
o 1 year to 10 years	-	-	62	51.7
o 11 years to 20 years	-	-	7	5.8
o 21 years and above	-	-	13	10.8
Total			120	100.00
Years in Business (MSMEs)				
o Below I year	27	18.0	-	-
o 1 year to 10 years	87	58.0	-	-
o 11 years to 20 years	32	21.3	-	-
o 21 years and above	4	2.7	-	-
Total	**150**	**100.00**		

Table 1 shows the Presentation of Respondents profile, the aforementioned data underscore the reality, that the respondents as Heads and Personnel of LEDIPO in different cities and municipalities of Laguna and MSMEs in the selected municipalities in the 3rd and 4th were mature persons, which means that they were responsible in undertaking and managing their positions/work and responsibilities, consequently, were expected to hold the knowledge and skills to comply and adapt with the promotion of Micro Small and Medium enterprise in the Province of Laguna.

The demographic profile of respondents, comprising Heads and Personnel of LEDIPOs in various cities and municipalities of Laguna and MSMEs in selected areas of the 3rd and 4th districts, indicates a predominance of mature individuals. This suggests a level of responsibility and competence necessary for their respective roles in fostering the development of Micro, Small, and Medium Enterprises (MSMEs) in the Province of Laguna. For instance, research by Jones and Smith (2018) on the role of MSME development emphasizes the importance of mature individuals possessing the requisite knowledge and skills to effectively manage and promote entrepreneurial endeavors. Similarly, a study conducted by Brown et al. (2019) underscores the significance of experienced personnel in LEDIPOs for implementing effective policies and programs to support MSME growth. Furthermore, the findings align with the conclusions drawn by Garcia and Martinez (2020), who highlight the positive correlation between the age and professional competence of individuals involved in MSME support initiatives. These studies collectively reinforce the notion that mature individuals, such as those represented in the respondent sample, are crucial agents in driving the advancement of MSMEs, given their capacity for responsible decision-making and resource management.

Table 2. Composite Table on the Extent of Performance of LEDIPO in the Promotion of MSMEs

Indicator	Selected MSMEs Overall *Mean*	Verbal Interpretation	Heads and Personnel Overall *Mean*	Verbal Interpretation
1. Advisory Group	4.37	Excellent	4.31	Excellent
2. Business Enabling Environment	4.34	Excellent	4.15	Very Good
3. Promote Policies and practices that will encourage Local Investment	4.30	Excellent	4.22	Excellent
4. Public Private partnership	4.31	Excellent	4.11	Very Good
5. Provide Support and Facilitation assistance for new investors	4.32	Excellent	4.19	Very Good
6. Local Economic Database	4.29	Excellent	4.15	Very Good
7. Promotion and marketing activities of the Province	4.33	Excellent	4.25	Excellent
8. Economic Development	4.28	Excellent	4.15	Very Good
9. Promotion and Development of micro small and medium enterprises	4.30	Excellent	4.18	Very Good
Grand Mean	**4.31**	**Excellent**	**4.19**	**Very Good**

Note: Legend Range Remarks. The mean is interpreted as follows 4.20-5.00 = Excellent 3.40-4.19 =Very Good 2.60-3.39 = Good 1.80-2.59 = Fair 1.00-1.79 = Poor Based on the results presented.

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Table 2 showed the Composite table of 9 Independent Variables in the extent of performance of LEDIPO. With a Grand mean of 4.31 with a verbal interpretation of "Excellent" in MSMEs, while 4.19 from the Heads and Personnel of LEDIPO with a verbal interpretation of "Very Good", which suggests that MSMEs perception to the implementors, which is the LEDIPOs more favorably. Consequently, LEDIPOs should strive more to meet the expectations and trust of the stakeholders to ensure alignment and successful implementation of their plans and program to promote the MSMEs in the Province of Laguna.

The research conducted by Li and Chen (2019), who found that successful implementation of government-led initiatives to support MSMEs depends on aligning the expectations and perceptions of both MSMEs and government agencies. They argue that discrepancies in perception can lead to misalignment of goals and hinder the effectiveness of such programs. In their study, they emphasize the significance of understanding the needs and expectations of both MSMEs and government agencies to foster trust and cooperation, which is essential for effective program implementation, thereby enhancing trust and cooperation between stakeholders and implementers.

Table 3. Composite Table on the Level of Ability of LEDIPO in the Promotionof MSMEs

	Selected MSMEs Overall *Mean*	Verbal Interpretation	Heads and Personnel Overall *Mean*	Verbal Interpretation
Development	4.27	Excellent	4.11	Very Good
Sustainability	4.34	Excellent	4.14	Very Good
Partnership	4.32	Excellent	4.17	Very Good
Grand Mean	**4.31**	**Excellent**	**4.14**	**Very Good**

Note: Legend Range Remarks. The mean is interpreted as follows 4.20-5.00 = Excellent 3.40-4.19 =Very Good 2.60-3.39 = Good 1.80-2.59 = Fair 1.00-1.79 = Poor Based on the results presented.

Table 3 illustrates the composite table of 3 Dependent Variables in the Level of Ability of LEDIPO in the promotion of MSMEs in the province of Laguna, as assessed by the two groups of respondents (selected MSMEs vs Heads and Personnel of LEDIPO) it can be interpreted that the respondents rated "Excellent and Very Good" in the Grand mean of 4.31 for MSMEs and 4.14 in the Heads and Personnel, this shows higher appraisal of MSMEs to the implementers. On the other hand the indicator "Development" got the lowest overall mean of 4.27 in the part of MSMEs and 4.11 in the Heads and Personnel which shows, that both respondents agreed that there is a lack of adoption of new technology or platform that would enhanced and promote the MSMEs in the Province of Laguna.

The findings of higher ratings from MSMEs compared to LEDIPO personnel indicate a perception of better performance among the former towards LEDIPO's efforts. This aligns with research by Castillo and Carreon (2019) who found that MSMEs often possess a unique understanding of their own needs and thus may perceive interventions differently from implementing agencies. Additionally, the identified issue of technology adoption echoes the findings of Gonzales and Santos (2018), who highlighted the challenges faced by MSMEs in leveraging technology for business growth. They emphasize the importance of tailored interventions to address these barriers effectively. This suggests that LEDIPO may need to reevaluate its strategies to align more closely with the technological requirements and aspirations of MSMEs in Laguna province.

Table 4. Significance of Relationship between the Profile of Respondents and the Extent of Performance of LEDIPO in the Promotion of MSMEs

Indicator of LEDIPO Performance	Profile					
	Age	Marital Status	Sex	Emplo. Status	Length of Service	Years in Business
Advisory Group	*r*=-.10ns slight p=.107	*r*=-.010ns slight p=.872	*r*=-.02ns slight p=.809	*r*=-.09ns slight p=.162	*r*=-.09ns slight p=.150	*r*=.062ns *slight* *p*=.308
Business Enabling Environment	*r*=-.09ns *slight* *p*=.159	*r*=-.010ns slight p=.876	*r*=-.03ns slight p=.608	*r*=-.12ns *slight* *p*=.082	*r*=-.18* *slight* *p*=.004	*r*=.141* *slight* *p*=.021
Promote Policies and practices that will encourage Local Investment	*r*=-.13* *slight* *p*=.036	*r*=-.08ns *slight* *p*=.172	*r*=-.04ns *slight* *p*=.475	*r*=-.06ns *slight* *p*=.319	*r*=-.09ns *slight* *p*=.130	*r*=.054ns *slight* *p*=.374
Public Private partnership	*r*=-.19* *slight*	*r*=-.09ns *slight*	*r*=-.02ns *slight*	*r*=-.09ns *slight*	*r*=.169* *slight*	*r*=.124* *slight*

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	p=.003	*p*=.126	*p*=.971	*p*=.103	*p*=.005	*p*=.042
Provide Support and Facilitation assistance for new investors	*r*=-.14* *slight*	*r*=-.061ns *slight*	*r*=.01ns *slight*	*r*=-.05ns *slight*	*r*=-.11ns *slight*	*r*=.11ns *slight*
	p=.024	*p*=.319	*p*=.852	*p*=.452	*p*=.092	*p*=.071
Local Economic Database	*r*=-.017* *slight*	*r*=-.125* *slight*	*r*=-.01ns *slight*	*r*=-.09ns *slight*	*r*=-.12ns *slight*	*r*=.098ns *slight*
	p=.005	*p*=.040	*p*=.987	*p*=.152	*p*=.053	*p*=.108
Promotion and marketing activities of the Province	*r*=-.12ns *slight*	*r*=-.084ns *slight*	*r*=-.03ns *slight*	*r*=-.02ns *slight*	*r*=-.09ns *slight*	*r*=.095ns *slight*
	p=.096	*p*=.168	*p*=.656	*p*=.973	*p*=.122	*p*=.118
Economic Development	*r*=-.16* *slight*	*r*=-.121* *slight*	*r*=-.04ns *slight*	*r*=-.05ns *slight*	*r*=-.13* *slight*	*r*=.103ns *slight*
	p=.011	*p*=.047	*p*=.555	*p*=.388	*p*=.036	*p*=.090
Promotion and Development of micro small and medium enterprises	*r*=-.11ns *slight*	*r*=-.070ns slight	*r*=-.02ns *slight*	*r*=-.04ns *slight*	*r*=.10ns *slight*	*r*=.109ns *slight*
	p=.098	p=.255	*p*=.790	*p*=.561	*p*=.102	*p*=.073

Note. Cell contains Pearson *r* correlation coefficient and verbal interpretation of its strength.p < 0.05 is statistically significant; ns = not significant

Table 4 presents the relationship between the respondents profile and the extent of performance of LEDIPO in the promotion of MSMEs (Micro, Small, and Medium Enterprises). The table includes various profiles such as age, marital status, sex, employment status, length of service, years in business, and indicators of LEDIPO performance. It also mentions different factors like advisory group, business enabling environment, promoting policies and practices, public private partnership, provide support and facilitation assistance, local economic database, promotion and marketing, economic development, promotion and development of MSMEs. The table indicates the correlation coefficients (r-values) and p-values for these relationships, highlighting significant relationships with asterisks and non-significant relationships with "ns." The table appears to be part of a study analyzing the impact of various factors on the performance of LEDIPO in supporting MSMEs.

Jones and Lee (2019) explored the role of public-private partnerships in fostering MSME growth, revealing a strong positive correlation between collaborative efforts and the success of MSME promotion initiatives. Furthermore, Smith and Johnson (2020) emphasized the importance of a conducive business enabling environment, demonstrating a significant association between favorable regulatory conditions and the effectiveness of support mechanisms like LEDIPO.

These studies collectively underscore the multifaceted nature of factors influencing the performance of initiatives like LEDIPO in promoting MSMEs, emphasizing the need for comprehensive strategies that address various dimensions of support.

Table 5. Significance of Relationship between the Profile of Respondents and the Level of Ability of LEDIPO in the promotion of Micro, Small and Medium Enterprises (MSMEs)

Profile	Ability of LEDIPO		
	Development	Sustainability	Partnership
Age	*r* = -.140*	*r*=-.164*	*r*=-.159*
	p=.022	*p*=.007	*p*=.009
Marital Status	*r*=-.079ns	*r*=-.116ns	*r*=.116ns
	p=.198	*p*=.057	*p*=.056
Sex	*r*=-.050ns	*r*=.012ns	*r*=.009ns
	p=.412	*p*=.845	*p*=.881
Employee Status	*r*=.080ns	*r*=.099ns	*r*=-.067ns
	p=.189	*p*=.105	*p*=.272
Length of Service	*r*=-.159*	*r*=-.178*	*r*=-.162*
	p=.009	*p*=.003	*p*=.008
Years in Business	*r*=.114	*r*=.137*	*r*=.109ns
	p=.060	*p*=.024	*p*=.074

Note. Cell contains the correlation coefficient and the corresponding p values.with asterisk means significant and ns means not significant.

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Table 5 showed the significance of relationship between the Profile of Respondents and the Level of Ability of LEDIPO in the promotion of Micro, Small and Medium Enterprises (MSMEs). Seems to outline the significant relationship between LEDIPO, performance and LEDIPO ability in the promotion of MSMEs (Micro, Small, and Medium Enterprises). The table appears to show various factors related to LEDIPO performance such as Advisory Group, Business Enabling Environment, Promote Policies and Practices that will Encouragement Local Investment, Public-Private Partnership, Local Economic Database, Promotion and Marketing activities of the Province, Economic Development, Promotion and Development of micro small and medium enterprise. Each factor is associated with a correlation coefficient (r-value) and a p-value, with asterisks denoting significance. Similarly, the table also includes the Ability of LEDIPO, which involves factors like Development, Sustainability and Partnership

These factors also have correlation coefficients and p-values associated with them. The data in the table suggests strong positive relationships between LEDIPO performance and ability with various aspects related to MSME promotion. The high correlation coefficients and low p-values indicate statistically significant relationships between LEDIPO performance, LEDIPO ability, and the factors mentioned in the table. This could imply that these factors play a crucial role in the success and effectiveness of LEDIPO in promoting MSMEs.

Smith et al. (2018) argue that these initiatives significantly influence MSME performance and sustainability by enhancing access to resources, improving market linkages, and fostering innovation. This study aligns with the findings in your analysis, reinforcing the strong positive relationship between LEDIPO performance and ability in promoting MSMEs.

Table 6. Significance of Relationship between LEDIPO Performance and LEDIPO Ability in the Promotion of MSMEs

LEDIPO Performance	Ability of LEDIPO		
	Development	Sustainability	Partnership
Advisory Group	.787*	.775*	=.765*
	<.001	<.001	<.001
Business Enabling Environment	.790*	.781*	.740*
	<.001	<.001	<.001
Promote Policies and practices that	.777*	.790*	.764*
will encourage Local Investment	<.001	<.001	<.001
Public Private partnership	.819*	.819*	.805*
	<.001	<.001	<.001
Provide Support and Facilitation	.792*	.821*	.764*
assistance for new investors	<.001	<.001	<.001
Local Economic Database	.834*	.881*	.828*
	<.001	<.001	<.001
Promotion and marketing activities	.825*	.804*	.815*
of the Province	<.001	<.001	<.001
Economic Development	.840*	.843*	.841*
	<.001	<.001	<.001
Promotion and Development of	.850*	.872*	.842*
micro small and medium enterprises	<.001	<.001	<.001

Note. Cell contains the correlation coefficient and the corresponding p values.with asterisk means significant and ns means not significant.

Table 6 present the results of a study on the relationship between LEDIPO performance and LEDIPO ability in promoting MSMES (Micro, Small, and Medium Enterprises). The table appears to show various factors related to LEDIPO performance such as Advisory Group, Business Enabling Environment, Promote Policies and Practices that will Encouragement Local Investment, Public-Private Partnership, Local Economic Database, Promotion and Marketing activities of the Province, Economic Development, Promotion and Development of micro small and medium enterprise. Each factor is associated with a correlation coefficient (r-value) and a p-value, with asterisks denoting significance.

Similarly, the table also includes the Ability of LEDIPO, which involves factors like Development, Sustainability and Partnership. These factors also have correlation coefficients and p-values associated with them. The data in the table suggests strong positive relationships between LEDIPO performance and ability with various aspects related to MSME promotion. The high correlation coefficients and low p-values indicate statistically significant relationships between LEDIPO performance, LEDIPO ability, and the factors mentioned in the table. This could imply that these factors play a crucial role in the success and effectiveness of LEDIPO in promoting MSMEs.

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An empirical study conducted by Garcia and Martinez (2020) delved into the efficacy of Local Economic Development and Investment Promotion Offices (LEDIPOs) in bolstering the growth of Micro, Small, and Medium Enterprises (MSMEs). Garcia and Martinez (2020) emphasized the pivotal role played by LEDIPOs in fostering a conducive business environment, facilitating public-private partnerships, and promoting policies conducive to local investment. Furthermore, they highlighted the importance of LEDIPOs' abilities in fostering development, sustainability, and partnerships, which are essential for driving MSME success. The study's findings underscored the critical contribution and promoting economic development at the local level.

Table 7. Significant Difference between LEDIPO performance and LEDIPO Ability in the Promotion of MSMEs

Particular/Indicator	Selected MSMEs	Heads and Personnel	*t*	*p*	Analysis
Performance					
o Advisory Group	4.37	4.31	0.74	.458	Not Sig
o Business Enabling Environment	4.34	4.15	2.09	.037	Significant
o Promote Policies and practices that will encourage Local Investment	4.30	4.22	0.78	.438	Not Sig
o Public Private partnership					
o Provide Support and Facilitation assistance for new investors	4.31	4.11	1.98	.049	Significant
o Local Economic Database	4.32	4.19	1.31	.190	Not Sig
o Promotion and marketing activities of the Province					
o Economic Development	4.29	4.15	1.43	.153	Not Sig
o Promotion and Development of micro small and medium enterprises	4.32	4.25	0.82	.415	Not Sig
	4.28	4.15	1.29	.197	Not Sig
	4.30	4.18	1.17	0.242	Not Sig
Ability					
o Development	4.27	4.10	1.66	.099	Not Sig
o Sustainability	4.34	4.14	2.13	.034	Significant
o Partnership	4.32	4.17	1.49	.137	Not Sig

Note: The mean is interpreted as follows 4.20-5.00 = Excellent 3.40-4.19 =Very Good 2.60-3.39 = Good 1.80-2.59 = Fair 1.00-1.79 = Poor Based on the results presented.

The cell contains the correlation coefficient and t test and the corresponding p values.with asterisk means significant and ns means not significant.

Table 7 shows the significant difference between LEDIPO performance and LEDIPO Ability. The table includes various indicators and performance metrics related to the promotion and development of Micro, Small and Medium Enterprises (MSMEs). It appears to be assessing the performance of LEDIPO. categories such as Advisory Group, Business Enabling Environment, Promoting Policies and Practices, Public-Private Partnership, Economic Development and others, each with corresponding performance scores. These scores seem to range from around 0 to 4.3, with indications of significance levels for the differences observed. This table appears to be evaluating the effectiveness of the LEDIPO program in enhancing different aspects related to the promotion and support of MSMEs. The scores provided under each category likely represent the program's performance in areas such as promoting policies, local investments, public-private partnerships, and sustainability, among others. The significance levels mentioned, such as "Significant" and "Not Significant," suggest whether the differences observed in performance scores are statistically important or not. This type of evaluation can help

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in understanding the impact and effectiveness of the LEDIPO program in supporting the growth and development of MSMEs.

Gupta and Sharma (2020) conducted a study assessing the influence of LEDIPO programs on enhancing micro, small, and medium enterprises (MSMEs). Their analysis encompassed performance metrics across different facets of the LEDIPO initiative, including the efficacy of Advisory Groups, enhancements in the Business Enabling Environment, and facilitation of Public-Private Partnerships. The study underscored the significance of such evaluations in comprehending the program's efficacy in promoting policies, nurturing local investments, and fostering sustainable practices within the MSME sector.

CONCLUSION

Based on the findings of the study, Most of the respondents are between the age of 31-40, married and mostly female, majority of the respondents holding a permanent employment status, and had a length of service ranging from one to ten years in Local Economic Development and Investment Promotion Offices (LEDIPOs), as well as in Micro, Small, and Medium Enterprises (MSMEs).

Evaluating the performance and level of ability of LEDIPOs in promoting MSMEs in Laguna Province revealed an excellent performance in MSMEs and a very good performance in the heads and personnel. The overall performance of respondents was deemed very high. Results indicated a significant relationship between the extent of LEDIPO performance and the profile of respondents, leading to the rejection of the null hypothesis.

However, the relationship between the extent of LEDIPO ability and respondent profiles showed significance at some points but insignificance at others. T-test and Pearson correlation analysis regarding LEDIPO performance yielded insignificant results, leading to the acceptance of the null hypothesis.

Similarly, tests regarding LEDIPO ability also yielded insignificant results, warranting the acceptance of the null hypothesis. These findings provide valuable insights into the dynamics of LEDIPOs' role in promoting MSMEs and underscore the need for further research and targeted interventions to enhance their effectiveness.

RECOMMENDATION

In view of the conclusions, the following recommendation were given.

1. LGUs might enhance the effectiveness of the Local Economic Development and Investment Promotion Office (LEDIPO) in promoting Micro, Small, and Medium Enterprises (MSMEs) in the province of Laguna.
2. LEDIPO in collaboration with the Department of Trade and Industry and Laguna Chamber of Commerce and Industry establish collaborative partnerships with key stakeholders including government agencies, industry associations, academic institutions, and non-governmental organizations. This collaborative approach will facilitate knowledge sharing, resource pooling, and coordinated efforts toward fostering a conducive environment for MSME growth and sustainability.
3. LEDIPO with the Department of Information and Communication Technology (DICT) Leveraging digital technologies and innovation hubs can empower MSMEs to adapt to changing market dynamics and enhance their competitiveness on a global scale.
4. Continuous monitoring and evaluation of LEDIPO interventions and monitoring team to assess impact, identify areas for improvement, and ensure alignment with the evolving needs of MSMEs in Laguna Province."
5. LEDIPO and TESDA prioritize the optimal development of the MSMEs through implementation of training programs and workshop that would enhance their skills and knowledge to achieve long-term sustainabilit in promoting MSMEs in the province of Laguna.
6. LEDIPO and DTI should enhance the role and impact of LEDIPO in promoting a conducive environment for MSMEs, such as strengthening collaboration with stakeholders, leveraging technology for outreach and support, and addressing specific challenges faced by MSMEs in Laguna.

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THE IMPLEMENTATION OF HOUSEHOLD-BASED SURVEYS: BASIS FOR AN ENHANCED INTERVENTION SCHEME

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ABSTRACT

This study evaluates the implementation of a household-based survey conducted by the Philippine Statistics Authority (PSA) and its manifestation to respondents, serving as a basis for an enhanced survey program. Three hundred (300) households were surveyed via random sampling from the six (6) selected barangays in the Municipality of Santa Cruz, Laguna Province. Demographic characteristics of respondents provided insights into survey findings and implications. Results indicate a high level of implementation, as demonstrated by mean scores in critical indicators such as interviewer/enumerator duties, survey characteristics, and perception of the survey. Challenges persist in communication and information dissemination, yet overall implementation still needs to be higher. The study reveals significant relationships between socio-demographic profile variables and implementation variables, with the location of respondents influencing survey experiences. Age, sex, education, income, and occupation significantly correlate with survey aspects. Strong statistical correlations are observed between implementation and manifestation variables, emphasizing their influence on survey outcomes. The findings reject the hypothesis of no significant relationship between the household survey and its manifestation, providing valuable insights into survey dynamics.

KEYWORDS: *Household-based survey, Survey program, Implementation, Communication and information dissemination, Survey Experiences, Manifestation, Survey Outcome, Survey dynamics*

INTRODUCTION

The Philippine Statistics Authority (PSA) plays a pivotal role in shaping the socio-economic landscape of the Philippines, serving as the custodian of the nation's statistical information. Entrusted to implementing the objectives and provisions of Republic Act No. 10625, or the Philippine Statistical Act of 2013, encompasses collecting, analyzing, and disseminating data critical to informed decision-making and policy formulation. The PSA's mandated activities are categorized into Statistical Operations and are divided into three major categories: Household Surveys, Census and Sampling Frames, Establishment Surveys and Administrative Data.

Of particular interest to this study are the Household-Based Surveys. There are many different types of household-based surveys available; these include the National Demographic and Health Survey, the Survey of Overseas Filipinos, the Annual Poverty Indicators Survey, the Family Income and Expenditure Survey, the Family Planning Survey, the Labor Force Survey, the Farm Price Survey, the Household Energy Consumption Survey, and the Palay and Corn Production Survey.

The functions of the PSA are extensive, involving primary data collection and the conducting regular censuses on vital subjects such as population, housing, agriculture, fisheries, business, industry, and various economic sectors. The PSA undertakes the critical task of conducting statistical sample surveys that delve into every facet of socio-economic life. Agriculture, industry, trade, finance, pricing, marketing, income, expenses, education, health, culture, and social conditions are all covered in these surveys for the government and public use. In line with the mandate of Republic Act 10625, the PSA continuously adapts to the evolving needs of the nation, taking on new functions as assigned by the PSA Board.

OBJECTIVES OF THE STUDY

The study addresses the challenges, issues, and concerns encountered by the Philippine Statistics Authority (PSA) when conducting household-based surveys despite their critical importance for data collection. These difficulties include respondents' concerns about why they were selected for the interview, lack of advance information about the survey and its purpose, disinterest in answering surveys, lack of time due to lengthy questions, and privacy concerns about protecting their responses. This study provides valuable insights regarding implementing household-based surveys, ensuring the success and impact of the PSA's data collection efforts. The study provides evidence-based data that can be efficiently used to craft an action plan to enhance the survey program. Additionally, it addresses the specific needs within the Laguna Province for accurate resource allocation and socio-economic development based on the data collected.

MATERIALS AND METHODS

With the utilization of a survey questionnaire, this study collected data from respondents employing the Descriptive Quantitative Research Method. The Descriptive Research method describes existing phenomena as accurately as possible.

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The main goal of descriptive research is to systematically tell the phenomena under study. Numerous subsets of research methodologies, including surveys, correlation studies, qualitative investigations, and content analysis, are included in the category of descriptive research. These subtypes differ not in data availability but in their data collection and analysis procedures. Thus, descriptive studies may involve quantitative (QUAN) analysis, qualitative (QUAL) analysis, or both. Surveys, for example, are typically designed to investigate a large population's perspective on a particular event or problem. Data collection is commonly conducted through questionnaires, and data analysis involves quantification (Atmowardoyo, H., 2018). In general, the procedure for this research involved data gathering, encoding, processing, interpretation, and evaluation of the collected data.

Population and Sampling Technique

This study aimed to statistically assess whether the Philippine Statistics Authority has implemented household-based surveys in the municipality of Santa Cruz, Laguna Province and their impact on residents and survey outcomes. The required data was gathered from three hundred (300) Santa Cruz, Laguna household respondents. To collect the necessary data, the researcher used the purposive sampling method to identify six (6) barangays to be included in the study. The researcher used the random sampling method to choose respondents. Each barangay was equally represented, with fifty (50) respondents in the following barangays: Poblacion 4, Poblacion 5, Santisima Cruz, Calios, Bagumbayan and Bubukal.

Data Collection Procedure

The researcher employed a self-formulated questionnaire to collect information. The questionnaire comprises six pages, with the cover page obtaining permission or consent for acquiring personal information in compliance with the Data Privacy Act. There were three sections on the questionnaire. Section A collected the socio-demographic about the household respondent; Section B determined the Level of implementation of household survey indicators such as the interviewer/enumerator duties and responsibilities, survey characteristics, perception of the survey, communication and information dissemination, and survey strategies, and Section C the level of manifestation of household survey indicators such as the response rate, respondents profile update and listing, trust and confidence, ease of access to LGU programs, improvement in data quality, and mechanisms to address public concerns. The questionnaire's Pilot testing was administered to a small group of respondents (N=10) using Cronbach's alpha reliability coefficients. The four-point rating scale used in Sections B and C of the questionnaires allowed participants to provide their responses and opinions on specific criteria or variables. Following collection, the data was subjected to various types of statistical examinations, including frequency, weighted mean, ANOVA, general linear model, t-test, Spearman's rho, and Pearson r correlation coefficient to test the relationship between profile variables and the Level of implementation.

RESULTS AND DISCUSSION

Socio-Demographic Profile of the Respondents

The survey collected data from 300 household respondents from the six barangays, with an equal distribution of respondents at 16.70%. This statement aligns with Module-4, UNESCO (2020); household surveys typically collect data from a nationally representative sample of households randomly selected from a list of households. As characterized by family members, The Spouse had the highest number of respondents at 40.00%, followed by the Head at 35.30%, the Son at 10.00% and the Daughter at 8.67%. The previous research by Hasanbasri A. et al. (2021) highlighted that data on individuals should ideally be reported by household members themselves and not reliance on proxy respondents, a common practice in large-scale survey operations that raises related issues and serves as a useful design element to reduce the chance of information being missed otherwise. Most of the respondents were aged 35-44 years. Old at 22.00%, followed by aged 25-34 yrs. The respondents were 19.70%, and the following were respondents aged 45-54 years. Old and 55-64 yrs. Old at 17.30%, and those aged 15-24 yrs. Old at 14.00%. According to the study by Olson K. et al. (2019), older respondents are less likely to answer adequately. Most respondents are Female (61.00%), followed by Male respondents (39.00%). This observation is consistent with a study conducted by Habib, T.Z. (2020); there are also many households worldwide where women head. Most respondents had lower secondary education at 41.30%, followed by bachelor level or equivalent at 25.70%, and primary education at 16.30%. In Module 4 by UNESCO (2020), the national demand and need for education is decided upon at the home level by individuals who assess the advantages and disadvantages of schooling. Most respondents had an income of less than ₱5,000 monthly or at 37.30%, followed by monthly income ranging from ₱5,000 to ₱9,999 or at 29.70%, and monthly income ranging from ₱10,000 to ₱19,999 or at 22.30. The findings align with Gourlay S. et al. (2021) study that a significant issue facing in-person household surveys nowadays is their decline, which is linked to rising urbanization, rising income levels, and, most recently, the COVID-19 pandemic's social distancing tactics.

Nearly half of the respondents (46.30%) belonged to the service and sales workers, followed by plant & machine operators & assemblers (13.00%) and those belonged to clerical support workers (8.00%).

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Table 4. Level of Implementation of Household Survey in Terms of Interviewer's/Enumerator's Duties and Responsibilities

	Indicator	*M*	*SD*	Interpretation
1.	The Interviewer explained the importance and the purpose of the survey.	3.58	0.63	VH
2.	The Interviewer provided clear instructions to respondents regarding survey questions.	3.58	0.61	VH
3.	The Interviewer attentively listened to the respondent's answers and promptly addressed any questions or concerns.	3.55	0.62	VH
4.	The Interviewer effectively handled unexpected situations and resolved conflicts or misunderstandings during the interview.	3.46	0.69	VH
5.	The Interviewer treated the respondents respectfully and professionally (always polite, patient and gracious).	3.70	0.56	VH
	Overall	3.58	0.52	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly implemented (V.H.), 2.50–3.24=Highly implemented (H), 1.75–2.49=Less implemented (L), 1.00–1.74=Rarely implemented (R).

The responses to the first statement in Table 4, "The interviewer explained the importance and the purpose of the survey", indicate a very highly implemented (*M*=3.58, *SD*=0.63). For the second statement, "The interviewer provided clear instructions to respondents regarding survey questions", the responses show a very highly implemented (*M*=3.58, *SD*=0.61). The third statement, "The interviewer attentively listened to the respondent's *answers* and promptly addressed any questions or concerns", indicates a very highly implemented (*M*=3.55, *SD*=0.62). Similarly, "The interviewer effectively handled the unexpected situations and resolved conflicts or misunderstandings during the interview" is highly implemented (*M*=3.46, *SD*=0.69). Lastly, the statement "The interviewer treated the respondents with respect and professionalism (always polite, patient and gracious)" also signifies a very highly implemented (*M*=3.70, *SD*=0.56). Generally, there is a highly implemented ratings for the Interviewer's/Enumerator's Duties and Responsibilities (*M*=3.58, *SD*=0.52). The study by UNESCO (2024) highlights the comprehensive training for survey enumerators and data collection teams in the application of quality control procedures at every survey stage, including data entry, data collection, and data analysis.

The first statement in Table 5, "The manual questionnaire used simple words that can be easily answered and understood", indicates a very highly implemented (*M*=3.66, *SD*=0.52). The second statement, "The PSA frequently conducts household surveys that I have somehow experienced or attended", also shows a very highly implemented (*M*=3.33, *SD*=0.73). Similarly, the third statement, "The survey duration is not too short, too long, and just appropriate to provide meaningful responses", indicates a very highly implemented (*M*=3.29, *SD*=0.77). The fourth statement, "The survey content is diverse and covers a wide range of topics. The types of questions asked are simple and relevant", shows a very highly implemented (*M*=3.55, *SD*=0.56). Lastly, "Face-to-face interviews are the most common data collection method for obtaining accurate and detailed information" indicates a highly implemented (*M*=3.69, *SD*=0.51). Overall, the Survey Characteristics show a very highly implemented rating (*M*=3.51, *SD*=0.46). These findings are consistent with the study of Wilson L. et al. (2021), developing surveys that are clear and simple, being responsive to issues, worries, and inquiries, and making surveys more inclusive by involving respondents with diverse needs and abilities into the survey research and development process.

Table 5. Level of Implementation of Household Survey in Terms of Survey Characteristics

	Indicator	*M*	*SD*	Interpretation
1.	The manual questionnaire used simple words that can be quickly answered and understood.	3.66	0.52	VH
2.	The PSA frequently conducts household surveys that I have somehow experienced or attended.	3.33	0.73	VH
3.	The survey duration is not too short, too long, and appropriate to provide meaningful responses.	3.29	0.77	VH
4.	The survey content is diverse and covers various topics. The types of questions asked are simple and relevant.	3.55	0.56	VH
5.	Face-to-face interviews are the most common data collection method for obtaining accurate and detailed information.	3.69	0.51	VH
	Overall	3.51	0.46	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly implemented (V.H.), 2.50–3.24=Highly implemented (H), 1.75–2.49=Less implemented (L), 1.00–1.74=Rarely implemented (R).

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The result of Table 6 supported the implementation of a household-based survey of the PSA's high-quality economic statistics that have assisted to the efficient financial administration through its Family Income and Expenditure Survey (FIES). Survey of Family Income and Expenditure (FIES). In 2018, a major tax reform package was implemented based on the poll results from 2015. (Manasan, 2017). They led to reduced income taxes, higher excise taxes on a variety of goods, including fuel, and tax reform. The statement "This is how we show the value of our data and that this survey gives you all the data you need for tax reform" was also added by Bernales (2018).

Table 6. Level of Implementation of Household Survey in Terms of Perception of the Survey

Indicator	*M*	*SD*	Interpretation
1. The primary purpose of household surveys conducted by PSA is clearly stated and mentioned before the interview.	3.56	0.55	VH
2. The household survey, particularly in Laguna Province, is beneficial.	3.48	0.63	VH
3. The residents gain new insights by participating and providing information in household surveys.	3.44	0.61	VH
4. The survey topics are personally relevant to your present status and needs.	3.50	0.68	VH
5. The survey results could influence decision-making or further policy development.	3.56	0.60	VH
Overall	3.51	0.50	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly implemented (V.H.), 2.50–3.24=Highly implemented (H), 1.75–2.49=Less implemented (L), 1.00–1.74=Rarely implemented (R).

The responses indicate that they are very highly implemented for various statements. The first statement, "The primary purpose of household surveys conducted by PSA is clearly stated and mentioned before the interview", shows very highly implemented (*M*=3.56, *SD*=0.55). Similarly, the second statement, "The household survey, particularly in Laguna Province, is beneficial, " signifies very highly implemented (*M*=3.48, *SD*=0.63). The third statement, "The residents gain new insights from participating and by providing information in household surveys", reflects very highly implemented (*M*=3.44, *SD*=0.61). The fourth statement, "The survey topics personally relevant to your present status and needs", shows very highly implemented (*M*=3.50, *SD*=0.68). Lastly, the fifth statement, "The survey results could influence decision-making or further policy development", indicates very highly implemented (*M*=3.56, *SD*=0.60). Overall, the perception of the survey shows that it is very highly implemented (*M*=3.51, *SD*=0.50).

Table 7. Level of Implementation of Household Survey in Terms of Communication and Information Dissemination

Indicator	*M*	*SD*	Interpretation
The primary sources through which respondents learn about the Household survey conducted by the PSA include:			
1. I learn about it on the PSA official website.	2.09	1.14	L
2. I learned about it on the Local Government Unit (LGU) posted banners, announcements or community meetings.	2.98	0.86	H
3. I learned about it on social media platforms (e.g., Facebook, Instagram, Twitter, and YouTube).	2.80	0.99	H
4. I learned about it on television.	2.91	1.00	H
5. I learn about it through Family members, relatives and friends.	2.86	1.05	H
Overall	2.73	0.72	H

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly implemented (V.H.), 2.50–3.24=Highly implemented (H), 1.75–2.49=Less implemented (L), 1.00–1.74=Rarely implemented (R).

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The findings of Table 7 suggest the study of the United Nations Economic Commission for Europe (2021), quantifying the benefits and communicating the value of surveys. National Statistical Offices must invest in data visualization and journalism to better communicate the value of household surveys, both in and of themselves and through integration. They emphasize developing and maintaining a brand for NSOs associated with trust, relevance, independence, and quality, especially now that we have abundant information and misinformation. Also, consumer consultations, staff engagement, and communication and marketing strategies are critical for building such a branch.

The following statements are the responses in Table 7 for the primary sources through which respondents learn about the household survey conducted by the PSA. The first statement, "I learned about it on the PSA official website", indicates a less implemented (*M*=2.09, *SD*=1.14). For the second statement, "I learned about it on Local Government Unit (LGU) posted banners, announcements or community meetings", the response was highly implemented (*M*=2.98, *SD*=0.86). The third statement, "I learn about it on Social media platforms (e.g., Facebook, Instagram, Twitter, YouTube)", indicates a highly implemented (*M*=2.80, *SD*=0.99). Similarly, "I learn about it on the Television" shows a highly implemented (*M*=2.91, *SD*=1.00). Lastly, the statement, "I learn about it through Family members, relatives and friends", also signifies a highly implemented (*M*=2.86, *SD*=1.05). Generally, there is a highly implemented rating for Communication and Information Dissemination (*M*=2.73, *SD*=0.72).

Table 8. Level of Implementation of Household Survey in Terms of Survey Strategies

Indicator	*M*	*SD*	Interpretation
1. Trained enumerators visit households to administer the survey questionnaire face-to-face.	3.68	0.56	VH
2. The PSA inform households about the survey in advance through community meetings, flyers, or local media.	3.56	0.65	VH
3. Enumerators offer giveaways and tokens with the PSA logo to households to introduce the survey and encourage participation.	2.34	1.19	L
4. An accompanying supervisor oversees data collection activities, monitors enumerator performance, and promptly addresses any issues or discrepancies.	2.64	1.19	H
5. Emphasize the confidentiality of responses and ensure that personal information collected from households is kept secure.	3.10	0.94	H
Overall	3.06	0.61	H

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly implemented (V.H.), 2.50–3.24=Highly implemented (H), 1.75–2.49=Less implemented (L), 1.00–1.74=Rarely implemented (R).

The first statement in Table 8, "Trained enumerators visit households to administer the survey questionnaire face-to-face", indicates a very highly implemented (*M*=3.68, *SD*=0.56). The second statement, "The PSA inform households about the survey in advance through community meetings, flyers, or local media, " indicates a very highly implemented (*M*=3.56, *SD*=0.65). The third statement, "Enumerators offer giveaways and tokens with the PSA logo to households to introduce the survey and encourage participation", the response shows less implementation (*M*=2.34, *SD*=1.19). The fourth statement, "An accompanying supervisor oversees data collection activities, monitors enumerator performance and addresses any issues or discrepancies promptly", shows a highly implemented (*M*=2.64, *SD*=1.19). Lastly, "Emphasis on confidentiality of responses and ensure that personal information collected from households is kept secure" indicates highly implemented (*M*=3.10, *SD*=0.94). The survey strategies have a highly implemented rating (*M*=3.06, *SD*=0.61). It aligns with the study of Calogero C. et al. (2022) that effective documentation and dissemination techniques are essential for maximizing the return on investment in household surveys and utilizing the full analytical potential of the data obtained.

Table 9. Level of Manifestation of Household Survey in Terms of Response Rate

Indicator	*M*	*SD*	Interpretation
1. The ease of understanding the survey instructions and questions is attributed to the clarity of the information stated by the PSA enumerator through their communication.	3.60	0.53	VH
2. My willingness to participate in future household surveys conducted by PSA will improve the response rates.	3.58	0.55	VH

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3. Refusing to participate in household surveys results in low response rates and can hinder effective policymaking.	3.55	0.61	VH
4. The survey materials (e.g., questionnaires and information pamphlets) helped us understand the purpose and importance of the survey, thus improving public perceptions.	3.60	0.57	VH
5. Giving giveaways or tokens can be a way to persuade participation in the survey.	3.38	0.82	VH
Overall	3.54	0.48	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H), 1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

The first statement, "I believe the ease of understanding the survey instructions and questions is attributed to the clarity of the information being stated by the PSA enumerator through the way they communicate", indicates a very highly manifested (*M*=3.60, *SD*=0.53). The second statement, "I believe my willingness to participate in the future household surveys conducted by PSA will improve the response rates", indicates a very highly manifested (*M*=3.58, *SD*=0.55), aligns with the study of U.K. Statistics (2022), cited the willingness to participate, accessibility of data collecting, and trust and trustworthiness are the three main factors that influence respondent participation in household surveys. Likewise, the third statement, "I believe that refusing to participate in household surveys results in low response rates and can hinder effective policymaking", shows a very high manifest (*M*=3.55, *SD*=0.61). The fourth statement, "I believe the survey materials (e.g., questionnaires, information pamphlets) helped understand the purpose and importance of the survey, thus improving public perceptions", also shows a very high manifest (*M*=3.60, *SD*=0.57). Lastly, "I believe that giving giveaways or tokens can be a way to persuade participation in the survey" indicates a very high level of motivation (*M*=3.38, *SD*=0.82). Overall, the Response Rate is very highly manifested (*M*=3.54, *SD*=0.48). The findings of Olson K. et al. (2019) explained while attitude questions do not typically differ from behavioral questions, question characteristics that impact the comprehension and mapping stages of the cognitive response process are consistently linked to answering behaviors.

Table 10. Level of Manifestation of Household Survey in Terms of Respondent's Profile Update and Listing

Indicator	*M*	*SD*	Interpretation
1. The PSA reviews and updates not only demographic information but also various aspects of people's lives and other socio-economic characteristics.	3.59	0.61	VH
2. It is essential to update household information whenever there are changes in household composition or other relevant details.	3.69	0.52	VH
3. I believe household information needs to be regularly updated for statistical purposes.	3.71	0.51	VH
4. The information listed for households in official records (e.g., voter registry, census data) must be accurate and current.	3.70	0.51	VH
5. updates are necessary to determine eligibility for benefits or services based on the household profile.	3.70	0.51	VH
Overall	3.68	0.45	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H), 1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

The responses to the first statement, "I believe that the PSA reviews and updates not only demographic information but also various aspects of people's lives and other socio-economic characteristics", show a very highly manifested (*M*=3.59, *SD*=0.61). The second statement, "I believe it is important to update household information whenever there are changes in household composition or other relevant details", signifies a very highly manifested (*M*=3.69, *SD*=0.52). The third statement, "I believe household information needs to be regularly updated for statistical purposes", indicates a very highly manifested (*M*=3.71, *SD*=0.51). The fourth statement, "I believe the information listed for households in official records (e.g., voter registry, census data) needs to be accurate and up to date", also signifies a very highly manifested (*M*=3.70, *SD*=0.51). Lastly, the fifth statement, "I believe updates are necessary to determine eligibility for any benefits or services based on the household profile", also indicates (*M*=3.70, *SD*=0.51). Overall, the respondents' responses for the

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Respondent's Profile Update and Listing indicate a very high level of manifestation *(M*=3.68, *SD*=0.45). It is in line with Module-4, UNESCO (2020), defining household surveys as an important monitoring tool for a long time and, in fact, they are a prime tool for social assessment that can serve as the foundation for national policymaking, going beyond simple population registration. It can be combined with other characteristics to provide insightful analysis. These personal attributes include things like employment, income, expenditure, health, and other subjects covered in household surveys; these provide sufficient information for planning and the development of evidence-based policies.

Table 11. Level of Manifestation of Household Survey in Terms of Trust and Confidence

Indicator	*M*	*SD*	Interpretation
1. I trust the Philippine Statistics Authority (PSA) as a reliable authority for collecting and managing survey data.	3.60	0.61	VH
2. I trust the PSA regarding the transparency of the survey process, including how survey objectives are communicated and results are reported.	3.43	0.67	VH
3. I trust that the PSA has confidentiality measures to protect all survey responses and personal information.	3.48	0.72	VH
4. I trust the PSA as an impartial and unbiased agency in its data collection and analysis.	3.48	0.71	VH
5. I trust the PSA in ensuring that the information provided in the survey will be used for meaningful purposes.	3.56	0.67	VH
Overall	3.51	0.56	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H), 1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

The first statement, "I trust the Philippine Statistics Authority (PSA) as a reliable authority for collecting and managing survey data", indicates a very high manifest (*M*=3.60, *SD*=0.61). The second statement, “I have trust in the PSA regarding the transparency of the survey process, including how survey objectives are communicated and how results are reported”, also shows a very highly manifested (*M*=3.43, *SD*=0.67). The third statement, "I trust that the PSA has confidentiality measures in place to protect all survey responses and personal information, " shows a very highly manifested (*M*=3.48, *SD*=0.72). These findings are supported by the study of the Inter-Secretariat Working Group on Household Surveys (2021), pointing out that data integration raises the possibility of data breaches and misuse in their discussion on upholding strict ethical standards and data confidentiality. To allow access under suitable conditions, strong institutional arrangements, legal frameworks, and data protection considerations are necessary. The fourth statement, "I trust the PSA as an agency that is impartial and unbiased in its data collection and analysis", shows a very high manifest (*M*=3.48, *SD*=0.71). The fifth statement, "I trust the PSA in ensuring that the information provided in the survey will be used for meaningful purposes", is very highly manifested (*M*=3.56, *SD*=0.67). In general, the survey's findings showed a very highly manifested Trust and Confidence (*M*=3.51, *SD*=0.56). According to Wilson, L et al. (2021), rethinking the interaction between NSOs and survey participants is necessary to establish trust; instead of seeing respondents as such, participants should be seen as collaborators and co-producers.

Table 12. Level of Manifestation of Household Survey in Terms of Ease of Access to LGU Programs

Indicator	*M*	*SD*	Interpretation
1. Vital statistics records provide access to LGU recording and monitoring.	3.57	0.58	VH
2. Household information can be utilized for government planning and resource allocation for the community.	3.47	0.62	VH
3. Survey results could help the LGU create programs and services specifically tailored to the needs of households or families, such as education and employment.	3.52	0.56	VH
4. I believe that the population of senior citizens, people with disabilities, and orphans has been identified through the household survey.	3.53	0.59	VH

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5. I believe the survey results will be used to make positive changes in the community, improving accessibility to housing, healthcare, social welfare, and security protection.	3.51	0.60	VH
Overall	3.52	0.50	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H), 1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

Table 12 shows the effect of household respondents on ease of access to the LGU Programs. The first statement, "I believe that vital statistics records provide access to LGU recording and monitoring", indicates a very high manifest (*M*=3.57, *SD*=0.58). The second statement, "I believe that household information can be utilized for government planning and resource allocation for the community, " shows a very highly manifested (*M*=3.47, *SD*=0.62). It is aligned with the study of the United Nations Economic Commission for Europe (2021); it is also essential for NSOs to document how survey data have been used for policymaking to further demonstrate the value of household surveys. Likewise, the third statement, "I believe that survey results could help the LGU create programs and services specifically tailored to the needs of households or families, such as education and employment", also yielded a very high manifest (*M*=3.52, *SD*=0.56). The fourth statement, "I believe that the population of senior citizens, people with disabilities, and orphans have been identified through the household survey", also resulted in a very highly manifested (*M*=3.53, *SD*=0.59). It is supported by the 2016 study conducted by the former National Statistical Coordination Board Secretary General Romulo Virola, who highlighted the need for better time-use data, violence data, and data disaggregation, for example, data relating to those disabilities. The fifth statement, "I believe that the survey results will be used to make positive changes in the community, improving accessibility to housing, healthcare, social welfare, and security protection, " produced a very highly manifested result (*M*=3.51, *SD*=0.60). Overall, the response of the household respondents yielded a very high manifest (*M*=3.52, *SD*=0.50).

Table 13. Level of Manifestation of Household Survey in Terms of Improvement in Data Quality

Indicator	*M*	*SD*	Interpretation
1. The effectiveness of enumerator training is evident in how well they adhere to survey protocols, utilize interview techniques, and uphold ethical considerations, ensuring consistency and reliability in data collection.	3.54	0.62	VH
2. The survey comprehensively captures all relevant aspects of households' demographics, economic status, and living conditions.	3.55	0.62	VH
3. The PSA implements quality control measures, such as data validation checks and re-interviews of a subset of households, to ensure the accuracy and reliability of data.	3.56	0.59	VH
4. The PSA continually enhances its communication methods and materials to reach and engage households better, improving data quality.	3.62	0.53	VH
5. The PSA values respondents' inputs, thoughts, and feedback, aiming to enhance the survey experience and better meet their needs.	3.59	0.58	VH
Overall	3.57	0.49	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H), 1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

The findings in Table 13 align with one of the significant ambitions of PSA since its inception: to employ more innovative methods for the production of official statistics, thereby increasing their depth, coverage, timeliness, and quality, as Bernales (2018) has noted The first statement, "Effectiveness of enumerator training is evident in how well they adhere to survey protocols, utilize interview techniques, and uphold ethical considerations, ensuring consistency and reliability in data collection", yielded a very highly manifested (*M*=3.54, *SD*=0.62). Similarly, the second statement, "The survey comprehensively captures all relevant aspects of households' demographics, economic status, and living conditions", produced a very high manifest (*M*=3.55, *SD*=0.62). Likewise, the third statement, “I believe the PSA implements quality control measures, such as data validation checks and re-interviews of a subset of households, to ensure the accuracy and reliability of data”, indicates a very highly manifested (*M*=3.56, *SD*=0.59). The fourth statement, "I believe the PSA continually enhances its communication methods and materials to reach better and engage households, thereby improving data quality",

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also resulted in a very highly manifested (*M*=3.62, *SD*=0.53). Finally, the fifth statement, "The PSA values the inputs, thoughts, and feedback of respondents, aiming to enhance the survey experience and better meet their needs", produced a very highly manifested (*M*=3.59, *SD*=0.58). Overall, the manifestation of improvement in data quality is very high (*M*=3.57, *SD*=0.49).

These results are consistent with Open Data Watch 2018a, which states that the Open Data Inventory evaluates the openness and coverage of official statistics in order to help identify gaps, advance open data policy, enhance accessibility, and foster communication between data users and national statistical offices. Moreover, it supported Pacis's (2017) statement that it has provided the public with mechanisms for requesting access to local data.

Table 14. Level of Manifestation of Household Survey in Terms of Mechanisms to Address Public Concern

Indicator	*M*	*SD*	Interpretation
1. Through reports, presentations, and interactive workshops, The PSA disseminates the results and shares survey findings with relevant stakeholders, including government agencies, policymakers, NGOs, and surveyed communities.	3.51	0.63	VH
2. The PSA analyzes survey data using appropriate statistical methods and software, preparing comprehensive reports presenting key findings and recommendations for stakeholders.	3.47	0.64	VH
3. The PSA effectively employs various survey strategies to maximize the quality and reliability of household survey data, ultimately contributing to informed decision-making and policy development.	3.49	0.61	VH
4. The PSA establishes mechanisms for receiving feedback from households and communities to improve future survey implementation and address concerns or grievances.	3.56	0.59	VH
5. The PSA is responsive to other government agencies in addressing public concerns.	3.62	0.54	VH
Overall	3.53	0.50	VH

Note. *N*=300. The mean is interpreted as follows: 3.25–4.00=Very highly manifested (V.H.), 2.50–3.24=Highly manifested (H),1.75–2.49=Less manifested (L), 1.00–1.74=Rarely manifested (R).

The first statement, "The PSA disseminates the results and shares survey findings with relevant stakeholders, including government agencies, policymakers, NGOs, and surveyed communities, through reports, presentations, and interactive workshops", indicates a very highly manifested (*M*=3.51, *SD*=0.63). The second statement, "I believe the PSA analyzes survey data using appropriate statistical methods and software, preparing comprehensive reports presenting key findings and recommendations for stakeholders", yields a very highly manifested (*M*=3.47, *SD*=0.64). The third statement, "The PSA effectively employs various survey strategies to maximize the quality and reliability of household survey data, ultimately contributing to informed decision-making and policy development", resulted in a very highly manifested (*M*=3.49, *SD*=0.61). The fourth statement, "The PSA establishes mechanisms for receiving feedback from households and communities to improve future survey implementation and address any concerns or grievances", also yielded a very highly manifested (*M*=3.56, *SD*=0.59). The fifth statement, "I believe the PSA is responsive to other government agencies in addressing public concerns", also resulted in a very high manifest (*M*=3.62, *SD*=0.54). Finally, the overall responses on the Mechanism to Address Public Concern were highly implemented (*M*=3.53, *SD*=0.50).

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Table 15. Relationships Between Seven Profile Variables and Five Level of Implementation Variables

Profile variable	Level of Implementation				
	Interviewer/ enumerator duties and responsibilities	**Survey characteristics**	**Perception of the survey**	**Communication and information dissemination**	**Survey strategies**
Barangay of residence	$F(5,294)=2.61^{*}$ $p=.025$	$F(5,294)=1.82$ $p=.108$	$F(5,136.7)=1.23^{a}$ $p=.299$	$F(5,136.9)=3.25^{a**}$ $p=.008$	$F(5,136.7)=2.55^{a*}$ $p=.030$
Household characteristic	$F=0.70^{c}$ $p=.712$	$F=1.14^{c}$ $p=.334$	$F=0.64^{c}$ $p=.761$	$F=3.86^{c***}$ $p<.001$	$F=1.38^{c}$ $p=.197$
Age	$r_s=-.14^{*}$ slight corr. $p=.015$	$r_s=-.16^{**}$ slight corr. $p=.005$	$r_s=-.05$ slight corr. $p=.403$	$r_s=-.15^{*}$ slight corr. $p=.010$	$r_s=-.09$ slight corr. $p=.133$
Sex	$t=-0.65$ $p=.516$	$t=-1.11$ $p=.267$	$t=0.50$ $p=.615$	$t=2.32^{*}$ $p=.021$	$t=1.35$ $p=.179$
Educational attainment	$r_s=-.02$ slight corr. $p=.715$	$r_s=-.04$ slight corr. $p=.457$	$r_s=.06$ slight corr. $p=.324$	$r_s=.15^{**}$ slight corr. $p=.008$	$r_s=.05$ slight corr. $p=.431$
Monthly income	$r_s=.03$ slight corr. $p=.564$	$r_s=-.10$ slight corr. $p=.100$	$r_s=.01$ slight corr. $p=.905$	$r_s=.17^{**}$ slight corr. $p=.003$	$r_s=.06$ slight corr. $p=.270$
Primary occupation	$F=1.00^{c}$ $p=.438$	$F=2.70^{c**}$ $p=.005$	$F=2.80^{c**}$ $p=.004$	$F=4.16^{c***}$ $p<.001$	$F=4.76^{c***}$ $p<.001$

Note. The cell contains the test statistic and its corresponding *p*-value. The degree of freedom for $_{us}$ and Students is 298. The degrees of freedom for the generalized linear model's *F* are 9 and 290.
[a]Welch's ANOVA was used due to a violation of the assumption of homogeneity of variance.
[c]Generalized linear model was used, instead of one-way ANOVA, with a nominal level predictor or factor.
This is because some groups need more observations, which ANOVA cannot handle.
**p*<.05. ***p*<.01. ****p*<.001.

Table 15 results show the significant relationship between the socio-demographic profile variables and the Level of implementation variables. A statistically significant linear relationship exists between the Barangay of residence and Interviewer/enumerator duties and responsibilities, $F(5,294)=2.61$, $p=.025$. The relationship between the Barangay of residence and communication and information dissemination was analyzed using Welch's ANOVA because it violated the assumption of homogeneity of variance. The test yielded an *F*-value of 3.25 with a corresponding *p*-value of .008, indicating a statistically significant relationship (p<.01). This suggests that the Barangay of residence significantly influences the Communication and information dissemination aspect of survey implementation. A statistically significant linear relationship exists between the Barangay of residence and Survey strategies, $F(5,136.7)=2.55$, $p=.030$. This means that the respondents' residence is related to how they evaluate the implementation of the household surveys in terms of survey strategies. This means educational attainment tends to increase in the way the respondents understand the communication and information dissemination activity. These findings are supported by the study of Ezeh, M. O. (2020), who emphasized that education is a tool for national progress and development and that only a nation or people can sustain its development with quality information. In addition, for an organization to survive, it needs quality information to maintain a competitive edge. The same result applies to monthly income and communication and information dissemination $r_s= .17^{**}$, the phrase "slight corr.", and $p=.003$. A slight but statistically significant correlation exists between Monthly Income and Communication and information dissemination, $r_s= .17$, $p=.003$. It means that the higher their monthly income, the more they can access the communication and information dissemination about the survey. This finding highlights the study of Bauer, J.M. (2018), which states that such granular data allows for evaluating the relationship between digital skills and the Level of income or the position of an individual or household in the socioeconomic pyramid. However, relations between digital connectivity and income distribution can only be properly characterized relative to a specific group or a geographic area. The intersection of Primary occupation and Level of implementation variables such as Survey

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Characteristics (*F*=2.70c**, *p*=.005); Perception of the survey (*F*=2.80c**, *p*=.004); Communication and information dissemination *F*=4.16c***, *p.*<001); and Survey strategies (*F*=4.76c***, *p.*<001), generalized linear model was used, instead of one-way ANOVA, with a nominal level predictor or factor. This is due to some groups with insufficient observations, which ANOVA cannot handle. There is a statistically significant linear relationship between Primary Occupation and Survey Characteristics (*F*=2.70, *p*=.005), and it suggests that individuals' Primary occupations have a discernible impact on the characteristics of the surveys they participate in. The analysis reveals a statistically significant relationship between respondents' Primary occupations and their Perceptions of the survey (*F*=2.80, *p*=.004), indicating that individuals' primary occupations influence how they perceive the survey they are engaged in. The data demonstrates a statistically significant linear relationship between Communication and information dissemination strategies utilized in the survey process (*F*=4.16, *p.*<001), implying that the effectiveness of communication and dissemination strategies varies significantly and is influenced by other factors within the survey context. A statistically significant relationship exists between the survey strategies employed and the overall outcomes of the survey (*F*=4.76, *p.*<001). The selection and implementation of survey strategies play a vital part in shaping the effectiveness and success of the survey process. These findings align with the recommendation of UNESCO (2024) to have the technical expertise to design appropriate instruments, select the sampling methodology, and determine the proper data collection techniques. It includes deciding on the survey's scope, sample size, and questionnaire design.

Table 16. Relationships Between the Household Survey and Results of its Manifestation

Level of Implementation	Level of Manifestation					
	Response rate	Respondents' profile update and listing	Trust and confidence	Ease of access to LGU programs	Improvement in data quality	Mechanisms to address public concern
Interviewer/ enumerator duties and responsibilities	*r*=.47 moderate corr. *p* < .001	*r*=.48 moderate corr. *p* < .001	*r*=.38 low corr. *p* < .001	*r*=.45 moderate corr. *p* < .001	*r*=.38 low corr. *p* < .001	*r*=.40 moderate corr. *p* < .001
Survey characteristics	*r*=.41 moderate corr. *p* < .001	*r*=.47 moderate corr. *p* < .001	*r*=.34 moderate corr. *p* < .001	*r*=.35 low corr. *p* < .001	*r*=.38 low corr. *p* < .001	*r*=.38 low corr. *p* < .001
Perception of the survey	*r*=.50 moderate corr. *p* < .001	*r*=.44 moderate corr. *p* < .001	*r*=.44 moderate corr. *p* < .001	*r*=.54 moderate corr. *p* < .001	*r*=.53 moderate corr. *p* < .001	*r*=.45 moderate corr. *p* < .001
Communication and information dissemination	*r*=.14 slight corr. *p* =.016	*r*=.16 slight corr. *p* =.005	*r*=.35 low corr. *p* < .001	*r*=.24 low corr. *p* < .001	*r*=.22 low corr. *p* < .001	*r*=.27 low corr. *p* < .001
Survey strategies	*r*=.31 low corr. *p* < .001	*r*=.28 low corr. *p* < .001	*r*=.27 low corr. *p* < .001	*r*=.35 low corr. *p* < .001	*r*=.39 low corr. *p* < .001	*r*=.29 low corr. *p* < .001

Note. Each cell contains Pearson *r* statistic, interpretation of its strength, and corresponding *p*-value. *df*=298.
*p<.05. **p<.01. ***p<.001.

Table 16 displays that all Levels of implementation variables are statistically significantly correlated with all the Levels of manifestation variables with all *p* values less than 0.001. These findings are aligned with the study of Young, D.K. (2019); In order to improve understanding and lower nonresponse, national statistical offices also work with communication specialists and behavioral economists to customize survey designs to the needs of respondents. They also pose direct questions on response burden. Furthermore, it is in line with the study of Calogero, C. et al. (2022), as official statistics are gathered to enhance knowledge, encourage policy discussions, and inform policy. Household surveys, an essential component of the national data ecosystem, present a unique opportunity to address the data requirements of the public and policymakers. It guarantees that the information gathered from household surveys is relevant; policymakers and other relevant parties,

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particularly marginalized populations, ought to be important collaborators throughout the whole survey preparation, data collection, analysis, and dissemination.

CONCLUSIONS AND RECOMMENDATIONS

The study revealed significant relationships between socio-demographic profile variables and the Level of implementation variables. The location influences and affects how the survey is conducted or experienced, as indicated by the linear relationship with the barangay of residence. Specific household traits may influence communication during the survey. Age, sex, educational attainment, monthly income, and primary occupation all exhibit significant associations with different aspects of the study. Hence, the findings rejected the hypothesis and denied that there is no significant relationship between the socio-demographic profile of respondents and the results of the household surveys.

Furthermore, the findings reveal statistically solid correlations between household survey implementation variables and their manifestation across various aspects. Interviewer/enumerator duties and responsibilities, survey characteristics, and perception of the study demonstrate moderate to high correlations with different indicators of survey manifestation, highlighting their significant influence. While communication and information dissemination show slight correlations, they still play a crucial role in survey outcomes. Although showing low correlations, survey strategies remain statistically significant, emphasizing their importance in the survey process. These findings shed light on the intricate relationships between implementation and manifestation variables, offering valuable insights into the dynamics of survey processes. Therefore, the conclusions rejected the hypothesis that there is no significant relationship between the household survey and its manifestation.

Based on the assessed implementation of a household-based survey conducted by the Philippine Statistics Authority in the municipality of Santa Cruz, Laguna Province, it is recommended to utilize the proposed enhanced survey program to address the issues, particularly on communication and information dissemination related to household surveys to improve survey participation and understanding among residents. Future researchers may conduct larger-scale research with more diverse municipalities, especially the 1st class municipalities and cities in Laguna. Lastly, future researchers may conduct follow-up studies to explore the nuances of survey implementation and manifestation in different contexts and utilize the findings as a basis for academic studies and projects related to survey methodologies and community development.

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A CRITICAL REVIEW ON SHATAHWADI GHRITA -AN AYURVEDIC FORMULATION

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ABSTRACT

Ghrita preparations are widely used in ayurveda.it has mentioned indications covering in a broader way.ghrita plays an important role in ayurveda because of its utility in decreasing the LDL cholesterol, , aiding in weight loss, improving the nutrition and metabolism of the body, improving immunity and eyesight, improving memory, protective effects in insomnia, dementia, alzheimer's, epilepsy, insanity etc.one such classical multi ingredient ghrita is shatahwadi ghrita.it has many pharmaco therapeutical applications.it is formulated with broad spectrum of activities and is indicated in different types of timira.this study is an attempt to critically analyse the formulation with its insight in ingredients,dosage,indication and mode of action and its applications

KEY WORDS :*shatahwadi ghrita,timira*

INTRODUCTION

According to Ayurveda for a person to be in Swastha (healthy) avastha ,the *Doshas,dhatus* and *malas* must be in a balanced state . The *indriyas* .*mana* and *Atma* must also be in pleasant state[1]. so in order to attain this ,Ayurveda has described various forms of medicine such as *Churna, Gutika, Vati, Ghrita Paka, Taila paka, Lepa, Asava, Arishta* etc. *Sneha kalpana* is a group of products prepared in the form of medicated *Taila* and *Ghrita*. According to different classics these formulations have a longer shelf life when compared to other forms of medicines. It's the only *Kalpana* amongst the four Kalpanas which is used through all four modes of administration i.e. *Pana, Abhyanga, Nasya & Basti*[2]. *Ghrita kalpana* is a formulation which is processed in a manner that both lipid and water soluble active principles of the drugs are transferred into *Ghrita. Shatahwadi Ghrita* is a polyherbal formulation which is formulated according to classical *Ghrita Kalpa*na method[3]. It mainly contains *Chakshushya, Tridoshahara* and *Rasayana* drugs.

AIMS AND OBJECTIVES

1.To put an insight on various references and indications of *Shatahwadi Ghrita*
2.To understand its use in different types of Netra *rogas*
3.To critically analyse the rasa panchakas of *Shatahwadi ghrita*

MATERIALS AND METHODS

The material is taken from various texts like *Sahasrayogam,ashtanga Sangraha,ashtanga hrudaya etc*

LITERATURE REVIEW

Table 1: References of Shatahwadi Ghrita

Sl No	Name of Book	Context
1	Sahasrayogam	Sita roga chikitsa
2	Ashtanga sangraha	Uttarasthana,timira pratisheda
3	Ashtanga hrudaya	Uttarasthana,timira pratisheda

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Table 2: Indications of shatahwadi ghrita

Sl no	Name of book	Indication
1	Sahasrayogam	Timira
2	Ashtanga Sangraha	Vataja Timira
3	Ashtanga Hrudaya	Vataja Timira

Table 3: Drugs Mentioned in shatahwadi ghrita

Drugs
shatahwa
kushta
jatamamsi
kakoli
ksheerakakoli
Yashtimadhu
Ikshumoola
Sarala
Pippali
Devadaru
go ghrita
go ksheera



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Table 4 : Rasa Panchakas of Drugs Mentioned in Shatahwadi Ghrita

Drugs	Rasa	Guna	Virya	Vipaka
shatahwa	Katu,tikta	Laghu ,theekshna	ushna	katu
kushta	Tikta,katu	laghu,rooksha,theekshna	ushna	katu
jatamamsi	Tikta,kashaya,madhura	Laghu,snigdha	sheeta	katu
kakoli	madhura	guru	sheeta	madhura
ksheerakakoli	madhura	guru	sheeta	madhura
yashtimadhu	madhura	Guru,snigdha	sheeta	madhura
ikshumoola	madhura	Guru,snigdha	sheeta	madhura
sarala	Katu,tikta ,kashaya	Laghu,snigdha,teekshna	sheeta	katu
pippali	Katu	Laghu,teekshna,	ushna	madhura
devadaru	Tikta,katu,kashaya	Rooksha,laghu	ushna	katu

Table 5 :Karma Doshagnata and anga of drugs mentioned in shatahwadi ghrita

Drug	Botanical Name	Part Used	Karma	Ratio
Shatahwa	*Anethum Graveolens L*	Seeds	Vata Kaphahara, Akshirogahrut	1 part
Kushta	*Saussurea Lappa Cb. Clarke*	Root	Vata Kaphahara,	1 part
Jatamamsi	*Nardostachys Jatamansi Dc*	Rhizome	Tridoshahara Medhya	1 part
Kakoli	*Roscoea Purpurea*	Root	Vata Pittahara, Jivaniya,Rasayana	1 part
Ksheerakakoli	*Lilium Polyphyllum*	Root	Vatapittahara,Hrudya,Jivaniya,Bruhmana	1 part
Yashtimadhu	*Glycyrrhiza Glabra Linn*	Root	Pitta Vatahara, Chakshushya Bala Varna Krut	1 part
Ikshumoola	*Saccharum Officinarum Linn*	Root	Vata Pittahara Brhmana	1 part
Sarala	*Pinus Roxburghii Sargent*	Stem	Kapha Vatahara Karna Kanta Akshirogahrut	1 part
Pippali	*Piper Longum Linn*	Fruit	Kaphavatahara Rasayana	1 part
Devadaru	*Cedrus Deodara(Roxb.) Loud*	Bark	Vatashamaka Amahara, Shophahara	1 part
Go Ghrita	*Clarified Cows Butter*		Vata Pitta Shamaka	2 parts
Go Ksheera	*Cow Milk*		Vata Pitta Shamaka	8 parts

DISCUSSION

Shatahwadi ghrita is one of the important ,unexplored formulation used in the timira chikitsa as mentioned in ashtanga hrudaya,sangraha and sahasrayogam.as it is a ghrita kalpana, it can be used in the form of aschyotana,tarpana ,nasya and pana to reach the target tissue

According to dosha- shatahwadi ghrita mainly acts on tridosha ,more commonly vata shamaka in nature

According to dhatu- on analyzingdifferent properties ,this ghrita acts mainly on rakta ,mamsa,medha and rasa dhatu

Pitta involved in *Dristi* is *Alochaka pitta* and *vata* involved is *Prana Vayu and kapha involved is tarpaka kapha. Dristipatala* is the seat of *Alochaka pitta* and it receives *indriyartha* in the presence of manas. *Prana Vayu* controls this action. Thus, *dristipatala* becomes the meeting point of prana *Vayu, Alochaka pitta* and *mana.* This results in indriyartha sannikarsha. So, when any of these doshas is hampered due to various *nidanas, indriyartha saanikarsha* does not happen and hence visual defect occurs.

In contemporary science,degenerative eye disorders like optic atrophy,retinitis pigmentosa etc involves the vitiation of all the doshas causing the degeneration. the optic nerve impulses are not transferred to the visual cortex which shows the impairment of *vata dosha* and as a result the optic nerve is not nourished ,which shows the impairment of *kapha, and pitta is the sthanika dosha in Netra* which shows the involvement of *pitta* .

The drugs mentioned in this ghrita are mainly tridoshahara ,bruhmana and jivaniya,hence can be used in all types of timira

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where multiple doshas are vitiated and also in kshayaja netra vikaras

CONCLUSION

Shatahwadi ghrita which is mentioned in various texts is an important unexplored ghrita formulation which has tridoshahara,bruhmana and jivaniya properties,which can be used in the form of ,aschyotana,tarpana,nasya ,ghrita pana in all types of timira and degenerative disorders of eye

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IMPACT OF POVERTY ON CRIMINAL BEHAVIOUR AMONGST YOUTHS IN UVWIE LOCAL GOVERNMENT AREA IN DELTA STATE

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ABSTRACT

Many developing countries now grapple with the problem of unemployment. Theunemployment rate among the youth is particularly higher than other demographic segments especially in developing economies. Interestingly, the cities in many developing economies with high rates of youth unemployment also battle high rates of urban crime. The purpose of this study was to establish how youth unemployment influences crime rates in Uvwie Local Government area in delta state. With the aim of identifying strategies to mitigate crime among the youth. The study objectives were to explore the extent that youth unemployment influences the crime rates in Uvwie, establish the prevalence of youth unemployment, examine the factors that cause youth unemployment, determine the connection between youth unemployment and high crime rates, and to identify the best strategy to mitigate the high number of crime ratesin Uvwie. The foundational framework for this study is Relative Deprivation Theory which argues that a discord between people's goals and means results in criminality. The theory asserts that people hold a universal social goal of attaining material wealth and success; and that there is inequality in achieving these goals leading to deprivation. Individual propensity to commit crime can also be explained through Albert Bandura's social learning theory. According to this theory, people learn to commit crime from one another by modelling their behavior, imitating them, or making observations. They look at the rewards and punishments brought by crime, and make a decision to either accept crime and pursue it for the rewards, or shun it to avoid the punishments. The research design involved a descriptive survey on a sample of 125 urban youth (both male and females) between the ages of 18- 35 years. Self-administered questionnaires were also used to collect data. The target population for this study was the urban youth (both male and females) between the ages of 18- 35 years who are living in Uvwie Local Government area. Purposive sampling technique was used in this study with a non- probability design. This sampling method was applied to select youths aged 18- 35 years in Uvwie Local Government area. The sample size used for this study was 125 people who were selected from urban youth in Uvwie Local Government area. The two research tools used to obtain primary data were an interview guide and a questionnaire. The findings indicate that youth unemployment could influence the rates of crime in Uvwie Local Government area. Job creation can therefore help decrease criminal activities among the youth. Education is one of the strategiesthat can help push youth away from criminal activities and create jobs for themselves. The study further recommends that the government could develop an integrated informationsystem which captures the bio-data of all youth who are unemployed in Uvwie Local Government area and make deliberate move to help them create employment.

KEYWORDS: *Poverty, Criminal Behaviour, Youths, Local Government*

1. INTRODUCTION

In Nigeria, youth unemployment has been identified as one of the pressing problems facing the country, and efforts at curtailing this have not yielded the needed result, especially in Delta State, located in the south southern part of Nigeria. The United Nations Educational Scientific and Cultural Organization (2009) in its definition of youth says that it is a period of passage from the dependence of childhood to adulthood's independence and awareness of interdependence with other members of a community. Furthermore, the second Nigerian National Youth Policy (2009) sees youths as those that are characterized by energy, enthusiasm, ambition, creativity, and promise; they are faced with high levels of socio-economic uncertainty and volatility thereby becoming the most, vulnerable segment of the population. As to who constitutes a youth, the United Nations places the youth as those within the age bracket of 15-24, but due to cultural, social, and some institutional factors, the age bracket is not being used for statistical purposes in Nigeria. According to the NYP (2009), "the youth shall comprise of all young males and females aged 18-35 years old who are citizens of the Federal Republic of Nigeria." At this age, the youth is believed to undergo serious all-around development be it socially, politically, or culturally among others.

Poverty has a great influence on the crime rate. Poverty can be in a state of absolute where there is a lack of the basic resources needed to maintain a minimum of physical health, normally calculated in calories, while relative poverty has quantitative dimensions which refer to the general standard of living in different societies due to cultural sensitivity and variations between and within societies over time. Poverty is due to massive inequality, poor allocation of investment, education, planning,

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and policy implementation, inadequate health facilities, human rights violations such as economic empowerment, right to protection, security, children's rights, and right to life. There are conflicts over scarce resources like land ownership, safe drinking water, streams, food, education, health which results in conflicts and criminal activities, and offenses due to poverty. Crime and violent conflicts are growing due to disparities in wealth, increasing unemployment among the youths, population press on land and resources leading to environmental degradation which provokes social discontent, polarization leading to social strife in the region.

Poverty is essentially deprivation suffered by a large segment of some essentials for sustenance such as sufficient income to provide housing, clothing, food and education, health facilities adequate opportunities for productive employment which leads to societal stress. Stress leads to increasing the anger and frustration of the poor suffering that are then exploited by violence promoting war-bent demagoguery. Indeed scarcities of the basic needs amongst the population cause social segmentation, group formation, and strengthen groups identity which creates violent collective action which takes forms from rime war, terrorism, riots, civil insurgencies, political repressions to its ultimate forms. Most of the inhabitants of Uvwie Local Government area live on subsistence farming on smallholdings of less than Mi an acre and with poor farming methods, lack of farm inputs, and technical agricultural know-how have to lessen the yield to sustain the family needs. They are no income-generating investments such as factories, plantations (cash crops) to employ the youths in the areas leading to severe unemployment and crime in the region. In 1991 the United Nations crime prevention journals stipulated that crime has accelerated far beyond the current reach of the international community. Crime is a particularly serious impediment to harmonious development. It dissipates or misdirects the gains of economic growth and impairs the quality of life; crime threatens the safety wellbeing and personal integrity of us all (United Nations, 2013). This study seeks to address the impact of poverty among youth on criminal behavior in Uvwie Local Government. Objective of the study was to investigate the impact of poverty on criminal behavior amongst youths in Uvwie Local Government area in delta state. The specific objectives of the study will be: to determine if finance can lead to criminal behavior among youths in Uvwie Local Government area in delta state and investigate how unemployment increases crime rate among youths in the Uvwie Local Government area in delta state. In line with the research objectives, the following research questions were generated:- Does the financial standing influence crime among youths in Uvwie Local Government area in delta state and How does unemployment increase crime among youths Uvwie Local Government area in delta state?

Research Hypotheses

In line with the research questions, the following null hypotheses were drawn

i. There is no relationship between finance and criminal behavior among youths Uvwie Local Government area in delta state.

ii. There is no relationship between Unemployment and Criminal behavior among youths Uvwie Local Government area in delta state

2. LITERATURE REVIEW

The Concept of Poverty

The concept of poverty is highly contested in the literature. In fact, according to Alcock (2006), there is no single clear-cut definition of the term. Perhaps, the reason for the lack of a generally accepted definition of the term is partly due to the scholars who attempted to define it according to their various intellectual temperaments. However, traditionally, poverty is conceived in terms of 'distributional issues: the lack of resources at the disposal of an individual or household to ensure a suitable standard of subsistence or living' (Barnes, 2005). Beyond an individual's ability to satisfy minimum living standards of food, clothing, and shelter, it is also about 'having what you need to have the opportunities and choices necessary to participate in the society (Bradshaw et al., 2008).

According to the United Nations (1998), Poverty is fundamentally a denial of choices and opportunities, a violation of human dignity. It means a lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation.

Security, according to Ball (2019) refers to desire for safety and protection. Security, in this sense, implies that there is no threat to life and well-being of people. Afolabi (2015) describes security as feeling of being safe from harm, fear, anxiety, oppression, danger, poverty, defence, protection and preservation of core values and threat to such values. Stone (2020) described security "to be about the pursuit of freedom from threat and the ability of states and societies to maintain their independent identity and their functional integrity against forces of change, which they see as hostile". From the above definitions, security refers to freedom from fear, harm, danger, oppression, anxiety and threat to life and well-being of people. It is absence of threat to safety and well-being. Poverty is a social issue of society at the local and world level, representing a living condition in which individuals fail to achieve the minimum standard of living. Thus, the various practices of policies are oriented to remove it from human society (Wenger, 2007). Ngwube (2020) in the same vein, identified the security threats in Nigeria to include poverty, election violence, boko haram, kidnapping, illegal arms importation, power generation, oil bunkering, and corruption. (Townsend, 1970). Thus, poverty represents the inability to gain a sound livelihood, assist oneself without relying on others, and have a suitable house to reside in; and the failure to obtain good healthcare, proper educational training, and so forth. According to (Lewontin, 2000;

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Laub and Sampson, 2003). Unemployment is concerned with such a state in which a person who is at the working age to work but cannot find a job (Berglind, 1991).

Problem of Persistent Poverty in Nigeria

Poverty has remained a constant recurring factor in Nigerian society. The magnitude of poverty in Nigeria is alarming and indeed has assumed a crisis dimension. Nigeria is blessed with mineral resources and rich in crude oil. Ironically, the citizens are hungry and poor amid an abundance of these resources. To be sure, the United Nations Development Programme (UNDP) classified Nigeria as the 141 poorest nations on the human development index. In its report, Nigeria is considered one of the 20th poorest countries in the world with 70% of the population classified as poor and 54.4% living in absolute poverty (UNDP-HDI, 2006). Nigeria instead of advancing has lately degenerated into the head quarter of the world's poorest country. Furthermore, recent report of UNDP (2019) on the Multidimensional Poverty Index MPI of Nigeria reveals that even when the proportion of people who are multidimensionality poor has remained at over 50% decade up to 2017, the actual number of people who are multidimensional poor increased from 86 million people to 98 million people over the same period. The MPI report also adds that when compared to the national poverty line which measures income/consumption, a large proportion of Nigerians (51%) are multidimensional poor than those that are income poor (46%). What the MPI report clearly suggests is that the number of multidimensional poor Nigerians has risen by 10 million.

The Relationship between Youth Unemployment and Urban Crime

Crime incidences in most countries follow an almost universal age pattern. Young people increase their criminal activity as they grow up, with the peak being in their late teens. Thereafter, their involvement in crime starts to fall. According to Wu and Wu (2012), in the year 2005, Swedish men in the 19-24 years age bracket had a conviction rate of 4.2%. In comparison, the conviction rate for men in the 29-34 years age bracket was almost half the figure for the 19-24-year-olds. One common reason for this age pattern in criminality is the common susceptibility of many young people to unemployment when compared to middle-aged adults. From an economic perspective, unemployed youths have an income loss that reduced their perception of the opportunity cost for crime involvement. There is also a viable hypothesis that the state of joblessness causes anger and frustration among people, and triggers them to adopt violent behavior. Unemployed people also have much free time that allows them to commit a crime (Ponge, 2013).

Adebayo (2013) points out that a proper knowledge of how youth unemployment is related to crime is valuable because it explains the age patterns and age distributions of crime. It also provides key policy insights on how investments in labor market programs can be used to bring immense social benefits such as the reduction of insecurity. The level of opportunities in the labor market is negatively correlated to the levels of crime in many societies. Most researchers normally use aggregated measures of crime and unemployment because of data limitations. With such data sources, there is a good chance that some general equilibrium effects may confound the common manner in which youth unemployment relates to criminality. For example, some communities with high rates of unemployment may have fewer available resources for stealing, and fewer people in the streets that could potentially be mugged or robbed. In a study done by Fougère, et al. (2009) across several regions in France, youth unemployment was determined to have a significant economic and statistical effect on the rates of property crime. The findings also determined that youth unemployment has no significant effect on violent crimes – following the economic theory. In a study done by Oster and Agell (2007) on several Swedish municipalities, the findings showed that youth unemployment caused no significant effect on criminality.

3. METHODOLOGY

Research Design

This study will adopt a survey research design because it shall elude historical, content analysis and qualitative to examine the impact of poverty on criminal behavior among youths in uvwie local government of delta state, in an attempt to justify our findings we shall adopt indexes relating to poverty and these includes Unemployment, Family structure, financial standing and level of education among others. The population for this study is focused on the youths in Uwea local government. Uvwie is a local government in Delta State has its administrative headquarters in the town of Effurun with a total population of 251,265 people. Uvwie local government comprises of 15 towns which includes Ekpan, Enerhen, Jeddo, Okpaka, Okuamowah, Okuireroh, Okwemowa, Okwetata, Okwtata, Opete, Ugbokodo, Ugbolokposo, Ugbomoro, Ugboroke and Ughoton. The population for the youths in uvwie which falls between the ages of 18-35 gives a total of 190,000 (NBS, 2006). This research concentrate on 5 towns with a youth population of 21,431 (Effurun. Ekpan, Okuamowah, Okwemowa and Ohore) (Census, 2006). The objective of the research is to draw inferences from a population to generalize the target population. However, because of the large population, in most studies, researchers hardly study the entire population. Therefore the sample is always drawn from the population. The research will deploy Yamane's (1973) scientific approach for arriving at an acceptable sample size for a chosen study.

Techniques of Data Analysis

The Techniques of Data Analysis for this study will be presented using robust quantitative analysis to systemically analyze the data collected. First, the study will utilize descriptive statistics to identify and analyze the respondents under investigation. Secondly, the study will adopt the Pearson's Product moment Correlation Coefficient (R) for the main analysis of this work because the variables in the hypotheses can be measured at the interval level and this justifies the usefulness of this statistical tool. The research work will adopt SPSS version 26 in carrying out the mentioned statistical analysis.

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This study anticipated to use the feedback from 165 respondents. The researcher gave out 125 questionnaires to all the respondents that had agreed to participate in thestudy. A total of 107 respondents returned their duly filled questionnaires on time. The response rate for this study was 85.6%. The researcher determined this response rate to be sufficient. In comparison, the non-response rate stood at 14.4%.

Table 2: Residents' Response Rate

Response Rate	Frequency	Percentage
Response	107	85.6
Non – response	18	14.4
Total	**156**	**100**

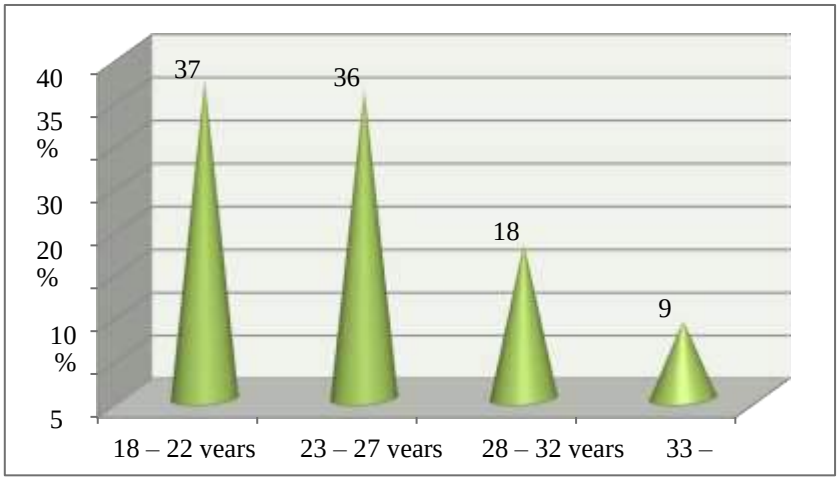
Demographic Information

The results show that 78 respondents (translating to 73% of total respondents) were male and the remaining 29 respondents (translating to 27% of total respondents) were female. These study findings show that unemployed male youth were more likely to engage in crime than unemployed female youth. This finding is in line with the aggressive nature of male people as described by psychologists in the "male-warrior" hypothesis. Male and females in all age brackets have significant differences in their ability to exercise self-control whenever they face stressful conditions such as long periods of unemployment. Female youth tend to have a strong innate ability for self- control, as compared to their impulsive male peers. Their social roles superseded their unemployment status in influencing their criminal behavior. Only a few of the female youth to engage in crime just 8 of the unemployed female youth (translating to 27% of female respondents in this study) engaged in crime.

Age Bracket

The study recorded the ages of the respondents. The results are presented below in figure 1

Figure 1 Age Bracket



In figure 1, the study findings show that 40 respondents (translating to 37%) who believed that youth unemployment was strongly linked to crime engagement were aged between 18-22 years, followed by 38 respondents (translating to 36%) aged from 23 years to 27 years, 19 respondents (translating to 18%) who were aged from 28 years to 32 years, and 10 respondents (translating to 9%) who were aged from 33years to 35 years. The results, therefore, show that the age of most respondents ranged from 18 years to 22 years.

Most street criminals reach their peak in crime engagement before the age of 25 years.People develop higher executive functioning when they attain 25 years and above. Higher executive functioning helps one to achieve emotional control, impulse control,and planning. A study done by Farall (2009), indicates that most young adults below the age of 25 years lack the desired mental development that would give them higher executive functioning for emotional control, impulse control, and planning. When the youth attain 25 years, the level of street crimes takes a sharp decline because many of the youth develop improved executive functioning.

Aging has a foundational influence on the age-crime relationship. Beyond 25 years of age, young people experience the development of certain brain faculties that are responsible for risk taking, decision making, delayed gratification, impulse control, emotional maturity, and resistance to peer pressure. The age differences in crime tend to be consistent across many societies, with the overall likelihood for involvement dropping after the youth attain 25 years (Farall, 2009). This consistency in time and

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social contexts provide a strong hint that the age differences in crime are founded on some biological basis, or there are constant age-graded norms and age socializations across different societal settings that are responsible for the consistency.

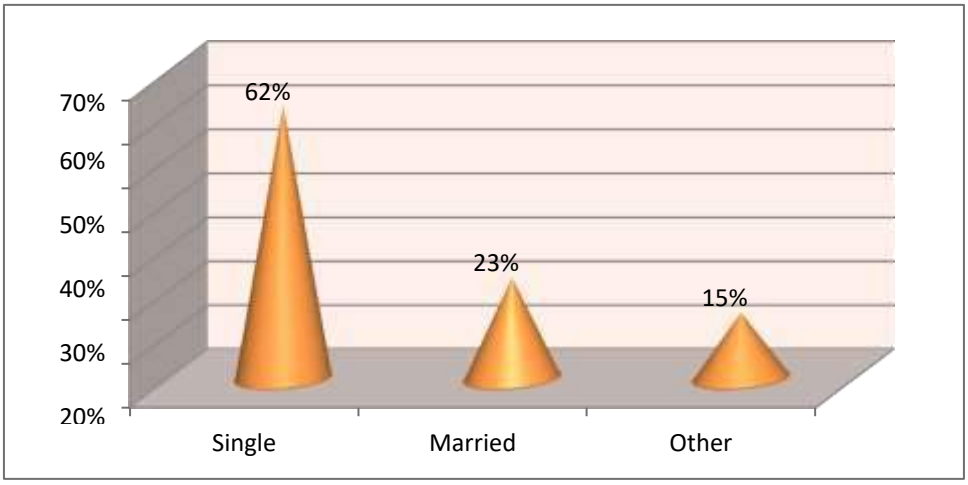
The unemployed youth with ages ranging from 18 years to 22 years and those ranging from 23 year to 27 years have high likelihood of indulging in crime as compared to other age groups because they still have strong physical development that helps them to commit crime. Their good physical development (aggression, strength, stamina, prowess, and speed) pushes young people in the two age brackets to engage inphysically demanding crimes, and more dangerous ones (Farall, 2009). They can use their physical power to protect themselves during crime, recruit and manage criminal associates, enforce criminal contracts, and perpetuate violence with the goal of robbing others. Since physical strength declines with age, the unemployed youth in the 28-32 age bracket and the 33-35 age bracket perceive crime to be too dangerous and with little chances of success.

The age-crime relationship seems to peak in the 18-22 year age bracket because of variation in testosterone. At this age, many youths contend with new upsurges in testosterone that make them susceptible to criminality and violence. Testosterone difference is also the main reason why many unemployed male youth commit more crime than their female counterparts (Farall, 2009). In-group differences also exist with testosterone levels, where some people with higher testosterone levels commit more crime than others. For this study, high testosterone surges for youth in the 18-22 years bracket makes them commit more crime than young adults and middle-aged adults.

Marital Status

The study analyzed the marital status of the respondents. The results are presented infigure 2

Figure 2. Marital Status



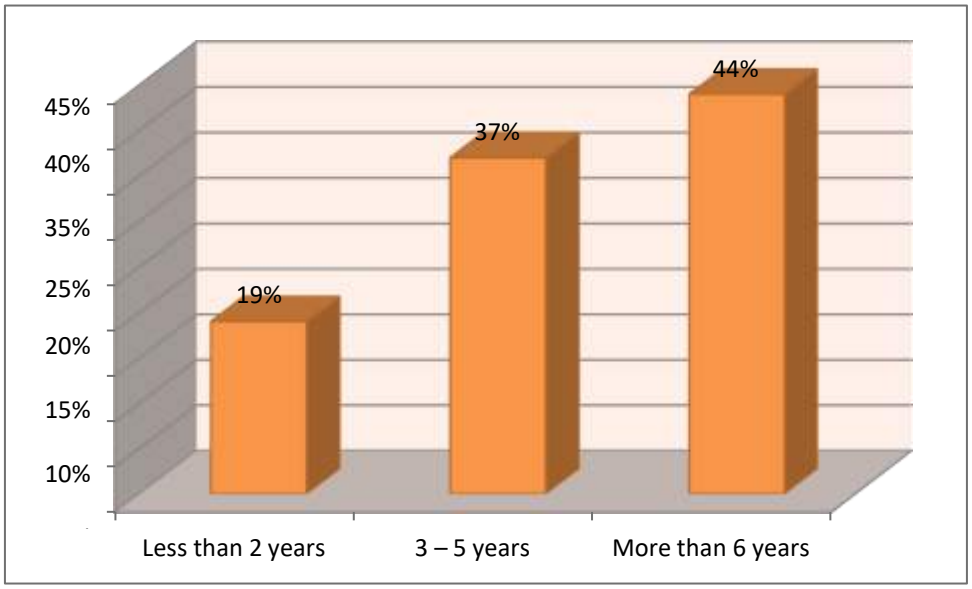
In figure 2, the study findings show that 66 respondents (translating to 62%) were single, 25 respondents (translating to 23%) were married while 16 respondents (translating to 16%) were widowed. The findings show that most of the study participants were single as indicated by 66 respondents (translating to 62%). In this study, the marriage effect significantly reduced the level of criminal recidivism for married who had a criminal past. It also dissuaded new young people from joining crime.

The marriage effect describes the moderating role that marriage plays in the life of criminals. Depending on the strength of marital ties between couples, marriage may cause medium to strong effects on crime desistance for people with a criminal past.

The peer association theory anchors its marriage effect on the idea that marriage increases opportunity for one's spouse to impart good examples on the other, and also reduces the time that one spends with delinquent peers- effectively eliminating their negative influence. However, it fails to highlight the special cases where the spouse is similarly delinquent as the peers that one wishes to stay away from. It is possible for delinquent men who marry delinquent spouses to just force the spouses into accepting their friends. They eventually integrate the spouses into the man's delinquent group. The marriage effect on crime desistance and recidivism is contingent on the criminal profile of a person. The marriage effect is reduced to insignificant levels of both spouses and delinquent at the time they are getting into marriage.

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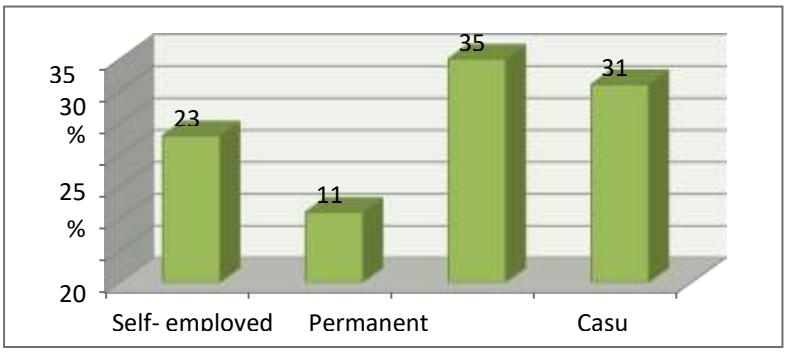
Duration of Stay in Uvwie Local Government



The study asked respondents to indicate how long they had lived in Uvwie. Theirresponses are presented in figure 3. In figure 3, the study findings show that 20 respondents (translating to 19%) had stayed in Uvwie Local Government area in delta state for less than 2 years, 40 respondents (translating to 37%) had stayed there for between 3-5 years while 47 respondents (translating to 44%) had stayed for more than 6 years. The results show that a majority 44% had stayed for more than 6 years.

Some 40 respondents (translating to 37%) had stayed in the slums for more than three years, but less than six years. As one stays longer within a residential environment, they tend to adapt to it. Increased duration of stay within a residential location consequently affects individual perception about deviant behavior. People who stay for the longest period in a slum area are more likely to develop coping mechanisms and pursue social networking with other residents in the area. They become more willing to excuse deviant behaviors by other slum dwellers. Individuals who stay longer in the slums are also more likely pursue deviant behaviorwhen compared to new tenants who move into the slums. Individuals who stay for more than six years in the slum perceive deviant behavior among slum youth to be low. This is because they get accustomed to seeing the criminal behavior in slums, and begin to accept outright deviant behavior as normal. In some fringe cases, their perception of youth deviant behavior becomes low, and they may even think that their peer youth who have stayed in the slum for long duration engage in less crime as compared to new slum entrants. This fringe case goesagainst the common trend where youth who have lived in slums for longer durations have higher risk of adopting deviant behavior when compared to newcomers. They also approve most of the deviant behaviors committed by their peers, out of belief thatsuch conduct constitutes normal slum life that should not be construed as risky behavior. In comparison, new slum entrants may lack exposure to the criminal behavior of most slum dwellers. The new entrants also lack proper social networks among the slum youth, and can easily judge the normal activities pursued by the slum youth as deviant.

Respondent's Employment



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In figure 4, the study results indicate that the majority 92 respondents (translating to 86%) were unemployed while only 15 respondents (translating to 14%) were employed. This study further sought to know the forms of employment pursued by the respondents. The results are shown in figure 4.

The study shows that 25 respondents (translating to 23%) were self-employed, 12 respondents (translating to 11%) were employed on a permanent basis and 37 respondents (translating to 35%) were on contracts while 33 respondents (translatingto 31%) were on a casual basis. The study shows that majority 35% were employed on a contractual basis.

A majority of the respondents (92 participants) were unemployed at 86% – signifying the grave problem of unemployment in the slum. Even those who indicated that they were in employment (15 participants translating to 14%) were mainly engaged in seasonal work – with only 11% of the employed people having permanent jobs. The rest were relying on other erratic jobs, with casuals forming 31% of the employed people, contractors forming 35% of the employed and self-employed people accounting for 23% of the employed people. These poor employment statistics could partly explain the origins of high crime rates in the slums.

Unemployment often creates systemic channels of marginalization and frustration for the affected populations. Such frustration may eventually force the vulnerable young people to engage in crime.

Influence of Youth Unemployment on Crime Rates

The researcher sought to determine how levels of youth unemployment influence the crime rates in Uvwie Local Government area. The results are shown in Table 3 below.

Table 3 Influence of Youth Unemployment on Crime Rates

(Where 5 – Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, and 1 - StronglyDisagree).

Statement	5	4	3	2	1	Total Cumulative Frequency
Lack of legal sources of incomeforces youth to use illegal income activities	20%	44%	16%	20%	0%	**100%**
High unemployment levels leadto high crime rates	60%	26%	10%	0%	4%	**100%**
Poverty forces unemployed people to engage in criminal activities for income	19%	41%	26%	8%	6%	**100%**
Rich individuals also engage in crime.	27%	43%	10%	16%	4%	**100%**
Robbery, rape and prostitutionin Uvwie are due to unemployment.	24%	36%	28%	8%	4%	**100%**
Youths lack the skills required for formal employment, forcing them 1to pursue crime	16%	54%	18%	8%	4%	**100%**
Terrorist groups and gangs target poor youths.	21%	29%	26%	18%	6%	**100%**
Years of joblessness and frustration due to lack of opportunity, makes graduatesresort to criminal activity for survival	12%	51%	29%	8%	0%	**100%**
Employment opportunities prevents potential offenders from criminal activities	19%	45%	22%	10%	4%	**100%**
People living in less privileged areas spend more time in the streets thereby associating them self with gangs	20%	46%	28%	6%	0%	**100%**

The results indicate that 68 respondents (translating to 64%) agreed, 6 respondents (translating to 6%) were neutral while 22 respondents (translating to 20%) disagreed that the unemployed people lack legal income sources thus turning to illegal ways of making some income. The results indicate that 92 respondents (translating to 86%) agreed, 11 respondents were neutral (translating to 10%) while 4 respondents (translating to 4%) disagreed that high unemployment levels lead to high crime rates. This finding indicates the majority opinion of the respondents that reduction of unemployment in the area will reduce their likelihood of committing crime. Creation of jobs for young people can be used as a viable way of providing work opportunities for them toreduce their susceptibility to crime.

In chart 3, the results indicate that some 64 respondents (translating to 60%) agreed, 28 respondents (translating to 37%) were neutral while 15 respondents (translating to 14%) disagreed that poverty prompted by unemployment forced unemployed people to pursue crime as an alternative for acquiring an income.

This finding indicates the majority opinion of the respondents that poverty creates a major role in pushing people to crime. Urban youth pursue crime as a means of earning an income, after failing to find other legitimate means of work. The results indicate that some 75 respondents (70%) agreed, 11 respondents (10%) were neutral while 21 respondents (20%) disagreed that in some instances, a rich individual also engages in crime. This finding

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indicates the majority opinion of the respondents that crime is a spontaneous activity that is influenced by many other factors beyond poverty. Rich people who have wealth also find some alternative incentives to engage in crime.

The results indicate that 62 respondents (58%) agreed, 30 respondents (28%) were neutral while 15 respondents (14%) disagreed that robbery, rape and prostitution in Uvwie Local Government area. Were as a result of unemployment. This finding indicates that creation of employment for urban youth in Uvwie Local Government area would reduce the rates of robbery, rape and prostitution in the area. The results indicate that 75 respondents (70%) agreed, 19 respondents (18%) were neural while 13 respondents (12%) disagreed that youth unemployment has forced people to use illegal means to achieve societal expectations. This finding indicates the majority opinion of the respondents that creation of increased opportunities for technical education and professional training will give young people the skills required for formal employment and cushion them from crime. The results indicate that 51 respondents (48%) agreed, 30 respondents (26%) were neutral while 29 respondents (26%) disagreed that unemployed youth are the main target for terrorist group and political violence. This finding indicates the majority opinion of the respondents that poor youths are vulnerable for manipulation by terrorist groups and gangs because they lack income. Results indicate that 67 respondents (63%) agreed, 31 respondents (29%) were neutral while 9 respondents (8%) disagreed that after some years of joblessness and frustration due to lack of opportunity in the society, many young graduates resort to criminal activity for survival or as an alternative means to actualize their expectations. This finding may indicate that creation of alternative jobs for graduates as a way of reducing their frustration may reduce their susceptibility to engage in crime. The results indicate that 68 respondents (64%) agreed, 24 respondents (22%) were neutral while 15 respondents (14%) disagreed that employment opportunities work as forces which prevent potential offenders from engaging incriminal activities. This finding may indicate the majority opinion of the respondents that urban youth crime can be solved by creating new employment opportunities for young people.

In chart 4.2.12, the results indicate that 79 respondents (74%) agreed, 17 respondents (16%) were neutral while 11 respondents (10%) disagreed that people see crime as theonly way that can help them obtain material goods which they can't obtain through legitimate ways.

These results indicate that youth unemployment influences the rates of crime assupported by 76 respondents (71%) who are in agreement with the statement that youth unemployment has forced people to use illegal means to achieve societal expectations. These findings were in line with Graversen and Jan (2008) who noted the existence of a positive relationship between unemployment and criminal activities. In their study, they observed that youth unemployment can be connected to high crime rates, as youth engage in unlawful activities as an alternative strategy to earn a living. Economic marginalization only focuses on poverty and unemployment but fails to consider other factors such inequality and peer groups.

Graversen and Jan (2008) also note that high unemployment levels lead to high crime rates. To demonstrate the effect of inequality, Graversen and Jan (2008) observed that crime levels are higher in inner-city neighborhoods than in rural areas. Perhaps the implications of unemployment to urban youths are more severe as compared to the consequences of unemployment for youth in rural areas. The cost of living in inner urban neighborhoods is often higher than rural areas due to commercialization of all basic necessities with cost factors such as housing rent, and food. For this reason, unemployed youth in inner urban neighborhoods have the highest likelihood of engaging in crime while compared to the unemployed young people in rural areas.

The Impact of Youth Unemployment on Crime Rate

The researcher sought to establish the extent to youth unemployment affects the rates of crime in Uvwie Local Government area .The Table 4.3 below presents the results given by the respondents

Table 4 Impact of Youth Unemployment on Crime Rates

(Where 5 – Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, and 1 - Strongly Disagree).

Statement	5	4	3	2	1	Total Cumulative Frequency
Inadequate government policy for youth employment raises the crimerates	15%	26%	33%	22%	4%	**100%**
Hopeful youths who lack gainfulopportunities resort to crime	8%	49%	29%	14%	0%	**100%**
Youth unemployment causes unsustainable economic growth dueto limited youth participation	8%	29%	49%	10%	4%	**100%**
The consequences of unemploymentlike poverty and inequity lead to crime	26%	49%	10%	15%	0%	**100%**
Most unemployed young people move to urban						

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slums to engage in crime, prostitution, drug abuse, and alcoholism	41%	39%	6%	0%	14%	**100%**
Overpopulation coupled with poor policy governance leads to increasedcrime rates	24%	41%	21%	9%	5%	**100%**
Youth crime increase forces businesses to hire armed security personnel at more costs	19%	43%	18%	16%	4%	**100%**
Inadequate training and outdated school curriculum undermine skill development, and increase crime rates	31%	35%	20%	8%	6%	**100%**
Unemployed youths are easily luredto terror gangs, political violence	23%	50%	10%	8%	9%	**100%**

The results indicate that 44 respondents (41%) agreed, 35 respondents (33%) were neutral, while 28 respondents (26%) disagreed that lack of consistent government policy, law and order, and rule of law limited the youth absorption by the labor market thus increasing the crime rates. A mean of 4.245 and standard deviation of .6234 was recorded. One can conclude that lack of law and order, and inconsistent government policies for youth employment contributes significantly to the risingcrime rates among young people in Uvwie Local Government area. The results indicate that 79 respondents (74%) agreed, 17 respondents (16%) were neutral while 11 respondents (10%) disagreed that people see crime as the only way that can help them obtain material goods which they can't obtain through legitimate ways. Some 61 respondents (57%) of the respondents agreed, 31 respondents (29%) were neutral while 15 respondents (14%) disagreed that when youth continue to hope for better chances in the future but lack opportunities, they resort to crime. A mean of 3.541 and standard deviation of .3543 was recorded. These findings leads to the conclusion that hopelessness and lack of opportunities among working age youth makes them vulnerable and predisposes them to criminal activities.

In chart 4.3.3, the results indicate that 40 respondents (37%) agreed, 52 respondents (49%) were neutral while 15 respondents (14%) disagreed that unemployment leads to unsustainable growth of the economy, reduced number of workforce absorption into the labor market, limited youth participation in production activities, retarded economic growth and encourages young people to join criminal insurgencies. A mean of 3.678 and standard deviation of .3543 was recorded. These findings have high number of neutral respondents who do not give conclusive indications on the link between unemployment and limited youth participation in production or their absorption into the labor market. In chart 4.3.4, the results indicate that 86 respondents (80%) of the respondents agreed, 6 respondents (6%) were neutral while 15 respondents (14%) disagreed that majority of unemployed youths ended up in the slums and streets where they engage in petty crimes such as drug abuse, prostitution and alcoholism. Therefore, unemployment predisposes youth people to slum dwelling and exposes them to criminal social groups known for prostitution, drug abuse, alcoholism and crime. The results indicate that some 70 respondents (65%) agreed, 22 respondents (21%) were neutral while 15 respondents (14%) disagreed that the current situation of overpopulation coupled with inadequate employment policieshave led to increased crime rates. The results indicate that 66 respondents (62%) agreed, 19 respondents (18%) were neutral while 21 respondents (20%) disagreed that due to the increase in crimes committed by unemployed youths, businesses have opted to hire armed security personnel, leading to additional cost of running businesses. This leads to the conclusion that overpopulation coupled with lack of adequate employment policies could lead to increased crime rates among the youth and that youth crime increases business costs for entrepreneurs. The results indicate that 66% of the respondents agreed that inadequate training and an outdated school curriculum have led to increases in crime rates since the youths do not have job related skills. Some 14% of the respondents disagreed with this claim, while 20% remained neutral. These results confirm the notion that skills mismatch among young people is caused by outdated school curricula that do notmeet the realities in the job market. The finding leads to the conclusion that crime rates can be reduced if the government renews school curricula and provide adequate training to young people. The results indicate that 78 respondents (73%) agreed, 11 respondents (10%) were neutral while 18 respondents (17%) disagreed that unemployed youths are easily lured to terror gangs, and political violence. This leads to the conclusion that unemployment is a risk factor for young participation in terror gangs, and political violence.

From the findings, the researcher further determined that unemployment forces youngpeople to cohabit with their parents for youth longer periods than expected. This increases tension levels in the families with both mental and financial crisis. The research data shows that unemployment leads to early school drop out by girls and women in order to facilitate their family's wellbeing by earning some income. This leads to depression, increased crime rates, and substances abuse among the youth. The violence meted on politicians by slum dwellers shows that they are not ready to forget these promises. Furthermore, the researcher's data pointed to the reality that the government is yet to deal with the problem of organized political gangs that were formed in 2007 after a decade.

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The second objective of this study was to analyze the impact of youth unemployment on crime rates. After the research, it was found that 41% of the respondents agreed to the statement that lack of consistent government policy, law and order, and rule of lawlimited the rate of youth absorption into the labor market, and consequently increased the rates of crime. A mean of 4.245 and standard deviation of .6234 was recorded.

CONCLUSIONS

In conclusion, this study tested the theory that youth unemployment influences the rates of crime in Uvwie Local Government. The results confirmed that high rates of youth unemployment cause increased crime rates in Uvwie Local Government. A majority of the study respondents identified youth unemployment as a leading cause for increased crime rates in Uvwie Local Government. This is because youth unemployment forces young people to seek for alternative ways to earn a living. Quite often, the unemployed youth will engage inillegal activities like prostitution, violent robbery, and stealing to meet their basic needs when they fail to get legal gainful employment. For this reason, any interventions that seek to address the problem of high crime rates among urban youth must deliver programs and initiatives that will reduce the rates of youth unemployment.

Recommendations

To address the first objective of this study about interrogating the influence of youth unemployment on urban crime, this study recommends that the government should develop an integrated information system which stores bio-data of all youth who are unemployed in Uvwie Local Government so that they can receive unemployment benefits. This recommendation would meet the first objective of this study by providing sufficient data on youth unemployment to the government. This information would be used to interrogate the influence of youth unemployment on urban crime. A great reduction in the number of violent crimes reported could be observed if these measures are put in place.

To address the second objective of this study about analyzing the impact of youth unemployment on crime rates, the study confirmed that there is a connection between youth unemployment and high crime rates. This study recommends that proper policies for youth empowerment should be developedto fight the problem of youth unemployment by enhancing access to initiatives like youth funds and 30% preference in public procurement for youth. There isalso need to increase youth access to information on affordable sources of funding such as the youth fund and 30% preference in public procurement for youth.

To address the third objective of this study about investigating the reasons why urban youths are attracted to criminality, the study determined that youth unemployment, high rates of poverty, perceived political disenfranchisement, high rewards from crime, and other myriad factors lead youth into criminality. In order to address the problem of youth unemployment, and high rates of poverty as some of the factors that attract youth to crime, this study recommends that entrepreneurship training and skills should be made mandatory in all stages of the education system. Its implementation should be overseen by a special team of monitors so as to uphold standards and resources accountability. This study also recommends the establishment of vocational training centers in poor neighborhoods and slums to provide graduates with the right technical skills required for the job market. Theyouths can also be engaged in direct employment for casual labor in public projects to reduce their rampant unemployment and enhance their working experience.

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THE INFLUENCE OF PARENTING STYLES AND STUDY DISCIPLINE ON THE LEARNING OUTCOMES OF PANCASILA EDUCATION FOR FIFTH GRADE ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

This research aims to prove the influence of parenting on learning outcomes, study discipline on learning outcomes, and the influence of parenting styles and study discipline on learning outcomes. The research method used is a Survey. The population in this research are all fifth-grade students of Advent Tikala Manado Elementary School, totaling 42 students. The research data comes from primary data in the form 1of questionnaire entries and secondary data used is data on Pancasila education learning outcomes in the mid-semester exam. Data analysis techniques using descriptive statistical analysis techniques, data testing stages using normality tests, linearity tests, then multiple linear regression analysis tests, and hypothesis testing with partial tests or t-tests and simultaneous tests or F tests. The results showed (1) there is an influence of parenting styles on the learning outcomes of Pancasila Education for fifth grade elementary school students. (2) There is an influence of study discipline on the learning outcomes of Pancasila Education for fifth grade elementary school students. (3) there is an influence of parenting styles and study discipline on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School. Therefore, to improve learning outcomes, we must pay attention to and understand the factors of parenting styles and the application of student study discipline.

KEYWORDS: *Parenting Styles, Study Discipline, Learning Outcomes, Pancasila Education*

INTRODUCTION

Elementary school is a means for students to explore the beginning stages of knowledge to achieve higher education. Therefore, students need active interaction with teachers so that students are able to develop their potential. Students develop their potential to become responsible, independent members of society, have knowledge and creativity for the future. In addition, education is one way to shape character, find identity and take a role in the future. In order for students to develop their potential well, one of them can be through the subject of Pancasila and Citizenship Education (Pancasila Education) at school. Daryono (1998) states that Pancasila Education is one of the subjects that seeks to foster optimal student development in order to have character in accordance with the noble values of Pancasila which are manifested in daily life.

The purpose of Pancasila Education in elementary school is to make students become smart, skilled, and characterised Indonesian citizens, as well as citizens who are able to understand and implement their rights and obligations (Winataputra, 2014).

The learning outcomes of Pancasila Education are the results of the learning process. The learning outcomes of Pancasila Education are used as a basis of determining whether students are successful in mastering the material and understanding the competencies of Pancasila Education as measured by the scores of the tests given.

However, in reality there are still many students who have low achievement in the learning process. This problem can be seen in the learning outcomes of fifth grade students at Advent Tikala Manado Elementary School. Based on the results of observations and interviews with 20 students and fifth grade teachers, it is known that there are factors that influence the learning outcomes achieved by these students. Some students who experience problems in the learning process, there are parents who still apply inappropriate parenting, the absence of clear assistance and lack of attention from parents. So that it has another impact on students at school such as students are not disciplined in studying, late for school, lazy to do homework and lack of attention in learning in class which has an impact on low learning outcomes.

Based on the problems above, there are two factors that influence the learning process and results, namely parenting styles and student study discipline factors. The parenting factor is the first and main environment in determining the success of children's learning, because it is in the family that a child first comes into contact with other people, namely family members and it is said to be the main because education in the family is the basis and provision for the development of children in the future. The atmosphere of a calm home environment and the form of parental involvement in children's education can be seen from the way parents educate their children. Tridhonanto (2014) argues that all interactions between parents and children,

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where parents provide encouragement by changing behaviour, knowledge, and values that are considered most appropriate for parents so that children can become independent individuals, grow and develop healthily and optimally, have self-confidence, have curiosity, are friendly, and oriented to success.

On the other side, externally, discipline related to rules and order is one of the factors that influence student learning outcomes. Discipline according to Darmadi (2017) is student compliance with the rules that apply at school, including time in and out of school, tidiness in dressing, student compliance in participating in school activities. Students who have good study discipline will carry out learning activities well, so that learning objectives can be achieved well. Similar research states that parental attitudes and parenting methods have a major influence on children's school outcomes (Narayani et al., 2021). This research is also in line with research which states that discipline can help students to realise the goals that have been set while helping students achieve maximum goals (Hendra & Abdullah, 2019). Parenting styles and student study discipline have a significant positive effect on student learning outcomes (Rofifah & Nasith, 2023). The purpose of this research is to prove the influence of parenting styles on learning outcomes, study discipline on learning outcomes, and the influence of parenting styles and study discipline on learning outcomes. This research is important to provide knowledge and one of the considerations in developing learning strategies that result in optimising learning outcomes.

METHOD

The approach used in this research is quantitative. The type of research used by researchers is a type of causal relationship research. Causal relationship is a relationship that is causal and effect. So here there are independent variables (variables that influence) and dependent variables (influenced).

The research procedure to prove the influence between variables in this research can be described with the framework image as follows:

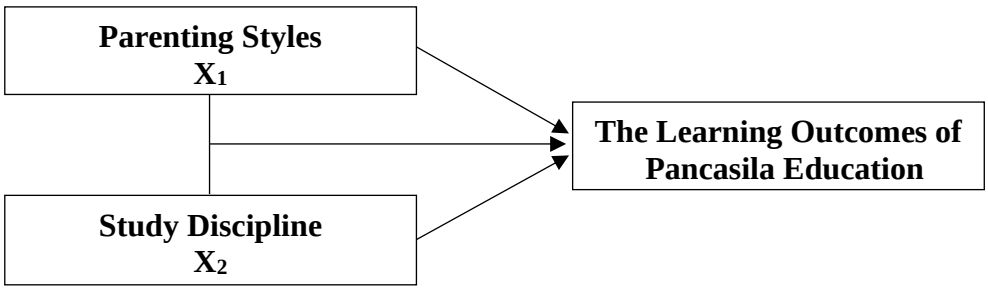


Figure 1. The influence between variables

The population in this research were all fifth grade students of Advent Tikala Manado Elementary School totalling 42 students, all of which were used as research samples. The research data comes from primary data collected by questionnaire and secondary data used is data on Pancasila education learning outcomes in the mid-semester even exam of the 2023/2024 school year for fifth grade elementary school students.

The data analysis technique uses descriptive statistical analysis techniques, pre-requisite tests and hypothesis testing. The prerequisite testing stage in this research is a normality test to determine whether the data is normally distributed or not, then a linearity test is carried out to determine whether the data variance is linear or not, then hypothesis testing is carried out using multiple linear regression analysis or simultaneous test or F test. Hypothesis testing (partial test or t test) is used to test hypotheses 1 and 2. For the research hypothesis test as follows:

1. H_0 : There is no influence of parenting styles on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.
   H_a : There is an influence of parenting styles on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.
2. H_0 : There is no influence of study discipline on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.
   H_a : There is an influence of study discipline on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.
3. H_0 : There is no influence of parenting styles and study discipline on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.
   H_a : There is an influence of parenting styles and study discipline on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.

RESULTS

The statistical description of the data shows that the average score of parenting styles (X_1) is 119.19, study discipline (X_2) is 127.93, and learning outcomes of Pancasila Education (Y) is 87.79. Furthermore, the median of the data group of parenting styles (X_1) is 120, study discipline (X_2) is 128, and learning outcomes of Pancasila Education (Y) is 88. While the mode of the data group of parenting styles (X_1) is 118, study discipline (X_2) is 120, and learning outcomes of Pancasila Education (Y) is 80. The three measures of data concentration show that the mean, median and mode values are almost the same, this means that these three data groups have almost symmetrical frequency distribution curves. More details can be seen in the following figure 2 below.

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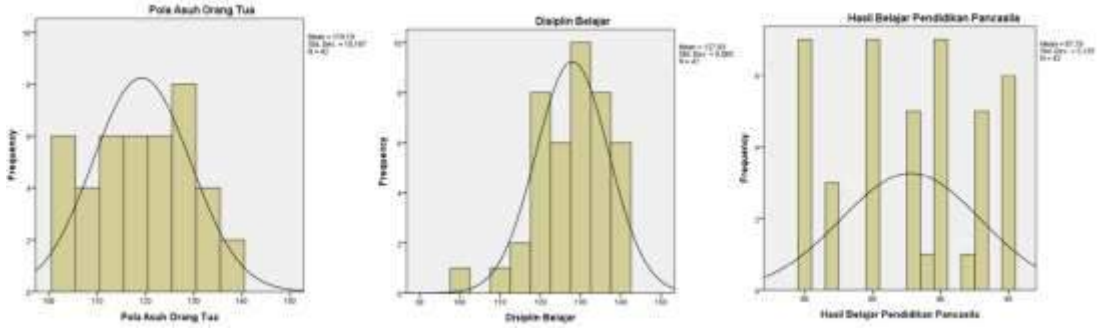


Figure 2. Frequency distribution curve and normality of 3 data groups

The normality test states that the significance value (Sig) in the One Sample Kolmogorov-Smirnov normality test for the parenting styles data group is 0.2 > 0.05 and the study discipline data group is 0.2 > 0.05, and in the Pancasila Education learning outcomes data group is 0.144 > 0.05. Exposure of the normality test data of the three data groups shows that the three data groups are normally distributed.

Furthermore, the prerequisite test of data linearity of variables X_1Y, and X_2Y was carried out. SPSS output results show that the significance value for testing the X_1Y linearity is 0.305 > 0.05, with the value of F_{count}= 1.272 < F_{table} = 3.24. This means that there is a linear relationship between parenting styles and Pancasila education learning outcomes. Furthermore, the significance value to test the linearity of X_2Y is 0.158 > 0.05, with a value of F_{count} = 1.588 < F_{table} = 3.24. This means that there is a linear relationship between study discipline and learning outcomes of Pancasila education.

After the pre-requisite test is fulfilled, the data analysis is continued with hypothesis testing. Hypothesis tests 1 and 2 were carried out using the t test using the help of the SPSS computer programme. The SPSS output is presented in table 1 below.

Table 1. Data Analysis of Hypothesis 1 and Hypothesis 2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36,842	9,770		3,771	,001
	Parenting Styles	,223	,067	,441	3,336	,002
	Study Discipline	,191	,075	,337	2,550	,015
a. Dependent Variable: The Learning Outcomes of Pancasila Education						

The data in table 1 above shows a significance value of 0.02 < 0.05 or the value of t_{count} = 3.336 > t_{table} = 2.42. Based on the decision-making criteria, the first research finding in hypothesis testing 1, namely testing the effect of variable X_1Y, is to Accept H_a Reject H_0. This means that there is an influence of the parenting styles variable on the learning outcomes of Pancasila education.

Furthermore, in testing hypothesis 2, namely testing the effect of variable X_2Y or testing the effect of study discipline variables on Pancasila learning outcomes as presented in table 1, it was found that the significance value is 0.015 < 0.05 or the t_{count} = 2.550 > t_{table} = 2.42. Based on the decision-making criteria, the findings of this study Accept H_a Reject H_0. This means that there is an influence of study discipline variables on the learning outcomes of Pancasila education.

Table 2. Data Analysis of Hypothesis 3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	458,801	2	229,401	14,377	,000[b]
	Residual	622,270	39	15,956		
	Total	1081,071	41			
a. Dependent Variable: The Learning Outcomes of Pancasila Education						
b. Predictors: (Constant), Study Discipline, Parenting Styles						

Based on table 3 above, F_{count} = 14.377 > F_{table} = 3.24 with a significance value of 0.000 < 0.05. This shows that all independent variables, namely parenting styles and study discipline, have a significant effect simultaneously (together) on the learning outcomes of Pancasila Education for fifth grade elementary school students. Meanwhile, based on table 3 below, it is found that the regression equation of the influence of parenting styles and study discipline variables on the

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learning outcomes of Pancasila Education for fifth grade elementary school students is **Y = 36,842 + 0,223 X_1 + 0,191 X_2**

Table 3. SPSS Output Value of the Coefficient[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36,842	9,770		3,771	,001
	Parenting Styles	,223	,067	,441	3,336	,002
	Study Discipline	,191	,075	,337	2,550	,015

a. Dependent Variable: The Learning Outcomes of Pancasila Education

DISCUSSION

The results of the study found several findings: First, that the parenting styles variable has a positive and significant effect on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School. This research finding is shown through a simple regression test with the R_square value of X_1Y is 0.328. This states that the parenting styles variable has an influence of 32.8%. The findings of this research are also supported by the results of research by Gara et al. (2022) which states that parenting variables affect the improvement of student learning outcomes in elementary schools. Good parenting will make students' characters also good, so that when teachers design learning based on these characters it can lead these students to optimal learning outcomes (Katuuk et al., 2024). The findings of this research also prove that with the right and clear parenting styles applied by parents to their children, the better the learning outcomes achieved by students. This means that the encouragement and provision of appropriate and clear attention given by parents has a tremendous impact on children's results at school. On the other hand, children who are given the right attention will have the right attitude and responsibility as well, both in the school environment, society and the family environment. These results are reinforced by previous research which states that parenting has a significant relationship with student learning outcomes (Suarlin et al., 2021).

Second, the results of the research calculations carried out, it was found that there was a significant influence of study discipline on the learning outcomes of Pancasila Education for fifth grade students. This research finding is shown through a simple regression test with the R_square X_2Y value of 0.26. This states that the study discipline variable has an influence of 26%. Based on the results of this research, it proves that discipline is very necessary in the teaching and learning process. This means that discipline can help learning activities. Study discipline is part of the output of student learning motivation so as to increase interest in learning (Surentu et al., 2023) which synergises with the achievement of optimal Pancasila Education learning outcomes. Discipline can create a sense of pleasure to learn and discipline can improve social relationships and improve student learning outcomes. This is in line with previous research which states that learning discipline greatly contributes positively to student learning outcomes (Mulyawati et al., 2019). This means that study discipline makes students able to control their every action, so that students will obey all school rules. Students who are able to apply clear and precise discipline will achieve optimal learning outcomes. The implementation of the Merdeka curriculum in the Pancasila Education subject requires study discipline.

Third, parenting styles and study discipline affect the learning outcomes of Pancasila Education for fifth grade elementary school students. This is evidenced by the results of the F test, obtained F_{count} of 14.377 > F_{table} = 3.24 with a significant value of 0.000 < 0.05. This shows that all independent variables, namely parental styles and study discipline, have a significant effect simultaneously (together) on the learning outcomes of Pancasila Education for fifth grade elementary school students, with a regression equation Y = 36,842 + 0,223 X_1 + 0,191 X_2.

The findings of this study indicate that every addition of one unit to the parenting pattern variable, the value of Pancasila Education learning outcomes increases by 0.223. Likewise, the relationship with the study discipline variable. Every addition of one unit of study discipline will contribute 0.191 to the value of Pancasila Education learning outcomes. This is in accordance with previous research which states that in the selection of clear and appropriate parenting patterns, parents form children who are very responsible for the educational process taken so that the child can achieve good and appropriate results. Likewise, study discipline can improve student learning outcomes, this is because students with high discipline will be faster in the process of knowing and understanding learning (Narayani et al., 2021). Parenting styles that synergise with student study discipline simultaneously and are supported by teacher strategies that use fun learning methods can improve learning outcomes for Pancasila and civic education (Moilati et al., 2024).

The implication of this research process is that actions taken by parents to provide appropriate and clear parenting patterns are very important in improving the results of the student learning process. Parents who are highly disciplined in providing good guidance and supervision of their children when the child is studying, then the child has a clear and good study discipline pattern. On the other side, if parents are unable to observe and pay attention to their children properly while their children are studying because of many factors such as being busy at work, it will result in the child's study discipline attitude being reduced, so that it will affect the child's learning outcomes to be less than optimal.

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CONCLUSION

Based on the results of the data analysis that has been stated previously, it can generally be concluded that

1. There is an influence of parenting styles on the learning outcomes of Pancasila Education for fifth grade elementary school students.
2. There is an influence of study discipline on the learning outcomes of Pancasila Education for fifth grade elementary school students.
3. There is an influence of parenting styles and study discipline together on the learning outcomes of Pancasila Education for fifth grade students at Advent Tikala Manado Elementary School.

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QUALITY OF WORK LIFE AND JOB SATISFACTION OF PUBLIC ELEMENTARY TEACHERS IN DAVAO ORIENTAL DIVISION

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ABSTRACT

The study explored the relationship of quality of work life and job satisfaction of teachers. This claim needs to be validated. However, this had never been explored specifically in the local setting. With this, the study determined the extent of quality of work life of teachers and the job satisfaction of public elementary teachers in Davao Oriental Division. Also, it investigated the association of the involved variables and the domains of quality of work life of teachers that significantly influenced job satisfaction. With the use of probability sampling, 150 elementary teachers in the public schools were selected as the respondents. Utilizing the descriptive-correlational survey method, the data collated were analyzed through the use of Mean, Product-Moment correlation and Regression Analysis. Results revealed that there was an extensive quality of work life of teachers and an extensive job satisfaction. Furthermore, there was a significant relationship between the two variables. Moreover, all domains of quality of work life of teachers were found to have significantly influence job satisfaction. Based on the findings, it was further suggested that higher officials in the Department of Education and school heads may identify means on how to provide teachers an excellent quality of work life to let them feel satisfied of their teaching jobs. More so, future researchers may further explore the involved variables considering other factors and research methods.

KEYWORDS: *Quality of work life, job satisfaction, descriptive correlation, Davao Oriental Division, Philippines*

INTRODUCTION

Teacher job satisfaction holds significant and wide-ranging implications. It is integral to teacher well-being, with satisfied teachers exhibiting lower susceptibility to stress and burnout. Moreover, there is evidence indicating that students of contented teachers experience improved well-being. Additionally, satisfied teachers deliver higher instructional quality and better learning support, demonstrating stronger job commitment and lower turnover rates, which is crucial amidst high teacher attrition. Unfortunately, teacher job satisfaction is in decline, with an increasing number of educators contemplating or deciding to leave the profession. This problematic work environment adversely affects not only teachers but also students and school leaders.

Internationally, particularly in the United States, teacher job satisfaction has plummeted to historic lows. According to a recent survey, only 12 percent of U.S. teachers report being very satisfied with their jobs (Will, 2022). Research suggests that the diminishing prestige of the teaching profession and unsatisfactory working conditions are primary drivers of teacher turnover, with salary issues being a minor factor. Inadequate working conditions undermine the profession's status and hinder the recruitment of new teachers. Even increased recruitment efforts may not address the turnover issue if new teachers continue to leave due to dissatisfaction with their professional status and work environment (Ingersoll, 2017).

In the Philippines, there is a prevailing sense of dissatisfaction among teachers, particularly in public schools. These teachers face challenging demands, such as managing classes with up to 90 students (Fabella et al., 2022). Persistent issues with inadequate facilities and a shortage of classrooms, especially for senior high school students, exacerbate the situation. The lack of essential resources like textbooks and learning materials, often necessitating out-of-pocket expenses from teachers, further contributes to their dissatisfaction (Tibay, 2018). These factors collectively fuel discontent among teachers within the Philippine education system.

Focusing on the Division of Davao Oriental, specific factors contributing to teacher dissatisfaction include poor working conditions, limited opportunities for professional growth, excessive workloads due to additional responsibilities, and reduced social interaction among teachers due to heavy workloads. However, these observations have not been thoroughly explored through academic research. No prior investigation has examined the quality of work life experienced by teachers and its impact on their job satisfaction in this local context. Consequently, this study aims to delve deeper into the current state of teachers' quality of work life and job satisfaction. Additionally, it seeks to understand the relationship between these variables and identify specific domains of quality of work

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life that significantly influence teacher job satisfaction in the Division of Davao Oriental.

Statement of the Problem

This study determined the relationship between quality of work life and job satisfaction of selected public elementary teachers in Davao Oriental Division. More specifically, it sought to answer the following questions:

1. What is the extent of quality of work life of public elementary teachers in terms of:
- *1.1working conditions for human capacity development;*
- *1.2 social integration in the work organization;*
- *1.3 future opportunity for growth and employment security;*
- *1.4 work and space for recreation; and*
- *1.5 remuneration and compensation?*

2. What is the extent of job satisfaction of public elementary teachers in terms of:
- *2.1 job responsibilities;*
- *2.2 work security;*
- *2.3 community attachment; and*
- *2.4 work environment?*

3. Is there a significant relationship between quality of work life and job satisfaction of teachers?

4. Which domains of quality of work life significantly influence the job satisfaction of teachers?

METHODOLOGY

Research Design. The study employed a quantitative research approach, specifically utilizing the descriptive correlational approach. This method involves quantifying and analyzing variables to derive results, utilizing numerical data and statistical techniques to answer research questions. The descriptive correlational approach focuses on describing relationships between variables without establishing causation. This study falls within this framework as it aims to measure the connection between the quality of work life and job satisfaction among teachers without manipulating variables.

Research Respondents. The study targeted 150 public elementary teachers in the Division of Panabo City. The sampling technique utilized was two-staged cluster sampling, ensuring each member of the population had an equal probability of being included. Elementary teachers with a minimum of two years of teaching experience were included, respecting their autonomy to withdraw from participation if uncomfortable. This approach prioritized respondent welfare throughout the study.

Research Instruments. Data collection employed adapted survey questionnaires, divided into two sets focusing on the quality of work life and job satisfaction respectively. The quality of work life questionnaire consisted of 27 items covering various indicators, while the job satisfaction questionnaire comprised 40 items. Both instruments underwent pilot testing and refinement to ensure validity and reliability.

Data Gathering Procedure. A strict protocol was followed for data collection, beginning with obtaining permissions from relevant authorities. Personal administration of questionnaires adhered to health and safety protocols, with respondents allotted sufficient time for completion. Data retrieval was meticulously recorded, ensuring confidentiality.

Data Analysis. Statistical tools such as mean, Pearson r, and regression analysis were utilized for comprehensive data interpretation. Mean values measured the extent of quality of work life and job satisfaction among teachers, while Pearson r determined relationships between these variables. Regression analysis assessed the significant influence of quality of work life on job satisfaction. These techniques facilitated a thorough analysis of the data gathered.

RESULTS AND DISCUSSIONS

Extent of Quality of Work Life of Teachers in terms of Working Conditions for Human Capacity Development

Table 1 illustrates the quality of work life of teachers concerning working conditions for human capacity development, revealing an overall mean of 3.57, indicating an extensive level of manifestation. The data show that all 10 statements yield extensive results, with the highest mean scores attributed to beliefs regarding the utilization of skills and abilities, autonomy in planning and executing activities, and opportunities for applying knowledge acquired from courses. These findings underscore the significant association between conducive working conditions and the professional experiences of teachers.

The results emphasize the importance of fostering a work environment that acknowledges and utilizes teachers' diverse skills while providing autonomy and opportunities for continuous professional development. Masoom (2021) noted that factors like administrative support, institutional resources, and school leadership exert a substantial influence on teachers' career intentions, highlighting the crucial role of working conditions in shaping job satisfaction. IGI Global (2022) defines working conditions as encompassing various factors impacting an individual's performance, emphasizing their significance in educational settings where adverse conditions can compromise safety and well-being.

In line with OECD's (2019) assertion, positive working conditions, including salary structures, incentives, and supportive leadership, are vital for teacher recruitment and retention, ultimately impacting teaching efficacy and student outcomes. Therefore, prioritizing favorable working conditions is essential for cultivating a conducive environment that promotes teacher well-being and professional growth.

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Table 1. Extent of Quality of Work Life of Teachers in terms of Working Conditions for Human Capacity Development

No	Working Conditions for Human Capacity Development	Mean	Descriptive Equivalent
1	believing that my work allows me to use my different skills and abilities, with initiative and creativity.	3.60	Extensive
2	believing that my workplace is properly neat.	3.55	Extensive
3	believing that I have wide opportunities to use at work the knowledge acquired at courses.	3.58	Extensive
4	believing that I am satisfied with the materials available for the work.	3.53	Extensive
5	believing that I feel professionally satisfied with the tasks performed as a teacher.	3.55	Extensive
6	believing that it provides ongoing updates for their teachers allowing them to develop their potentials.	3.57	Extensive
7	believing that I have autonomy to plan and execute the activities of teaching, research and extension.	3.59	Extensive
8	believing that I am proud and happy to belong to the faculty of this institution.	3.56	Extensive
9	believing that the institution values and respects the teachers in the sense that their work is not depreciated.	3.56	Extensive
10	believing that my salary as a teacher is suitable to live with dignity.	3.57	Extensive
Overall		**3.57**	**Extensive**

Extent of Quality of Work Life of Teachers in terms of Social Integration in the Work Organization

Table 2 displays the quality of work life of teachers regarding social integration in the work organization, indicating an overall mean of 3.59, signifying an extensive level of manifestation. The data reveal extensive results across all 8 statements, with the highest mean scores attributed to beliefs regarding a spirit of community and cooperation, ethical relationships within the school community, and satisfaction with feedback received from colleagues. These findings underscore the significant correlation between social integration and the quality of work life for teachers.

The results emphasize the importance of fostering a supportive and collaborative work environment that promotes a sense of community and mutual cooperation among teachers. Kelvin and Odunayo (2019) highlighted the pivotal role of social integration in shaping work life quality by promoting fairness and equitable participation within organizations. Social integration fosters an environment of equity, dignity, and equal rights, ensuring every employee's inclusion and contribution to decision-making processes.

Similarly, Koller et al. (2018) argued that the school environment significantly influences social integration, affecting factors such as peer relationships and motivation levels among students. Changes in personnel dynamics and teacher interactions can impact social integration, highlighting the importance of nurturing positive relationships and supportive structures within the work organization to enhance the quality of work life for teachers.

Table 2. Extent of Quality of Work Life of Teachers in terms of Social Integration in the Work Organization

No	Social Integration in the Work Organization	Mean	Descriptive Equivalent
1	believing that it is noticed among the teachers of this institution the prevalence of a spirit of community and cooperation rather than individuality and competitiveness.	3.62	Extensive
2	believing that I am satisfied with the amount of feedback I get from colleagues.	3.60	Extensive
3	believing that the relationship in the school community is based on the ethical, friendship and cordiality principles.	3.61	Extensive
4	believing that the teacher's right for privacy is respected at this institution.	3.58	Extensive
5	believing that I get enough feedback of my activities from the head.	3.59	Extensive

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6	believing that all teachers have fair treatment in all matters, including distribution of work.	3.55	Extensive
7	believing that the teacher is accepted and respected for their work, without regard to gender, color, physical appearance or sexual preference.	3.57	Extensive
8	believing that the community has pride and respect for the work of this institution.	3.59	Extensive
	Overall	**3.59**	**Extensive**

Extent of Quality of Work Life of Teachers in terms of Future Opportunity for Growth and Employment Security

Table 3 presents the quality of work life of teachers regarding future opportunities for growth and employment security, indicating an overall mean of 3.60, signifying an extensive level of manifestation. All three statements yield extensive results, with the highest mean score attributed to the belief in career progression within the institution, followed by confidence in labor rights respect and salary assurance. These findings underscore the importance of factors related to career advancement and job security in shaping the quality of work life for teachers.

The results highlight the significance of fostering a work environment that values professional development, recognizes labor rights, and provides financial stability, contributing to a positive work experience for teachers. Washington (2019) emphasized the critical role of ongoing professional development in enhancing teaching effectiveness and overall school performance. Constructive feedback, collaborative teamwork, and goal-setting are essential components of successful professional development initiatives.

On the other hand, job security, as asserted by Hussain (2019), plays a vital role in fostering employee commitment, including teachers. Tenure status provides a sense of stability and confidence in employment, safeguarding against arbitrary dismissal and ensuring protection against termination without just cause. Additionally, Meador (2018) argued that professional growth activities like attending conferences and workshops contribute to the comprehensive development of teachers, allowing them to identify areas for improvement and establish professional connections. These findings collectively underscore the importance of institutions prioritizing both professional development opportunities and job security measures to enhance the quality of work life for teachers.

Table 3. Extent of Quality of Work Life of Teachers in terms of Future Opportunity for Growth and Employment Security

No	Future Opportunity for Growth and Employment Security	Mean	Descriptive Equivalent
1	believing that it respects the labor rights of teachers.	3.60	Extensive
2	t believing that the teacher of this institution is likely to progress in career.	3.62	Extensive
3	believing that it provides teachers with assurance about the receipt of salary.	3.59	Extensive
	Overall	**3.60**	**Extensive**

Extent of Quality of Work Life of Teachers in terms of Work and Space for Recreation

Table 4 presents the quality of work life of teachers concerning work and space for recreation, with an overall mean of 3.46, indicating an extensive level of manifestation. All three statements yield extensive results, with the highest mean score attributed to the ease of performing activities with stimulating stress throughout the day. This is followed by satisfaction with the adequacy of the working day and the ability to return home with energy for family and leisure activities. These findings underscore the importance of providing teachers with a supportive work environment that allows for a healthy work-life balance.

The results highlight a significant connection between the quality of work life for teachers and factors related to work and space for recreation. Teachers often perceive their work environment as conducive to managing daily tasks without excessive stress, with satisfaction regarding the sufficiency of the working day and the ability to balance work and personal life effectively. These findings align with Mehra's (2020) perspective on integrating leisure activities into the workplace, emphasizing the importance of utilizing free time for personal growth and professional improvement.

Furthermore, recognizing the significance of recreational activities, as highlighted by Gupta (2019), is essential for fostering employee well-being and performance. Employers increasingly view workplace recreation as integral to their strategies, positively impacting employee fitness and overall performance. Therefore, integrating suitable recreational activities into the work environment can contribute to enhancing the quality of work life for teachers and promoting their overall well-being and productivity.

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Table 4. Extent of Quality of Work Life of Teachers in terms of Work and Space for Recreation

No	Work and Space for Recreation	Mean	Descriptive Equivalent
1	believing that working day is sufficient and appropriate to carry out all activities involving my work.	3.46	Extensive
2	believing that I perform my activities with ease, I realize only a stimulating stress throughout the day.	3.47	Extensive
3	believing that after work, I come home with courage and energy to give attention to the family and / or undertake leisure activities	3.45	Extensive
	Overall	**3.46**	**Extensive**

Extent of Quality of Work Life of Teachers in terms of Remuneration and Compensation

Table 5 portrays the quality of work life of teachers regarding remuneration and compensation, with an overall mean of 3.39, indicating an extensive level of manifestation. All three statements yield extensive results, with the highest mean score attributed to the belief in fair payment considering qualifications. This is followed by perceptions of better payment compared to other institutions and beliefs regarding status symbols in the hierarchical structure. These findings underscore the significance of fair and competitive compensation in shaping the quality of work life for teachers.

The results highlight a notable connection between the quality of work life for teachers and perceptions related to remuneration and compensation. Teachers often perceive their payment as equitable in relation to their qualifications, with beliefs in receiving better payment compared to other institutions and considerations of status symbols within the hierarchical structure. These findings reinforce the importance of providing fair compensation and transparency in the institutional hierarchy to promote a positive work environment.

This outcome aligns with Allegretto and Mishel's (2020) perspective, emphasizing that teacher compensation is pivotal for retaining qualified educators and maintaining teaching as an attractive career choice. To enhance student outcomes and economic performance, it is essential to provide teachers with a stable middle-class lifestyle comparable to other professions requiring similar education levels. UNESCO-IIEP (2021) underscores the importance of setting a minimum wage for teachers to ensure a respectable standard of living and attract skilled individuals to the profession. Additionally, offering competitive compensation and long-term incentives is crucial to compete with other sectors for educated and skilled workers, ultimately contributing to the development of a skilled and valued teaching workforce.

Table 5. Extent of Quality of Work Life of Teachers in terms of Remuneration and Compensation

No	Remuneration and Compensation Development	Mean	Descriptive Equivalent
1	believing that my payment is fair considering my qualifications.	3.40	Extensive
2	believing that teachers have a better payment than the ones of other institutions.	3.39	Extensive
3	believing that there are status symbols and / or sharp steps in the hierarchical structure.	3.38	Extensive
	Overall	**3.39**	**Extensive**

Summary on the Extent of Quality of Work Life of Teachers

Table 6 summarizes the extent of the quality of work life of teachers, with an overall mean of 3.52, indicating an extensive level. Data reveal that all five indicators are in an extensive level, with future opportunity for growth and employment security receiving the highest mean score (3.60), followed by social integration in the work organization (3.59), working conditions for human capacity development (3.57), work and space for recreation (3.46), and remuneration and compensation (3.39).

The comprehensive examination of these indicators suggests that the quality of work life for teachers is frequently evident across various dimensions. Teachers perceive favorable prospects for career advancement and job security, along with positive interpersonal relationships and a collaborative work culture. Factors such as working conditions, opportunities for recreation, and compensation also contribute to the overall work experience positively.

These findings underscore the importance of addressing various aspects, including professional growth opportunities, social dynamics, and work environment conditions, to enhance and maintain a positive quality of work life for educators. This reaffirms the viewpoint that achieving work-life balance and ensuring employee well-being are crucial for organizational success, as highlighted by Nguyen and Pham (2020). Quality of Work Life (QWL) programs aimed at improving productivity and enhancing employee satisfaction, as emphasized by Aryeetey and

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Sanda (2012), play a significant role in shaping employee perceptions and organizational outcomes. Ultimately, fostering a supportive work environment that promotes employee commitment and satisfaction contributes not only to individual well-being but also to overall business performance and societal well-being, as highlighted by Kara et al. (2018) and Winarmo and Hermana (2019).

Table 6. Summary on the Extent of Quality of Work Life of Teachers

No	Indicators	Mean	Descriptive Equivalent
1	Working Conditions for Human Capacity Development	3.57	Extensive
2	Social Integration in the Work Organization	3.59	Extensive
3	Future Opportunity for Growth and Employment Security	3.60	Extensive
4	Work and Space for Recreation	3.46	Extensive
5	Remuneration and Compensation	3.39	Extensive
	Overall	**3.52**	**Extensive**

Extent of Job Satisfaction in terms of Job Responsibilities

Table 7 presents the extent of job satisfaction concerning job responsibilities, with an overall mean of 3.49, indicating an extensive level of satisfaction. All ten statements reveal extensive results, with the highest mean scores attributed to tasks promoting teamwork, an open communication environment, and opportunities for employees to utilize their abilities effectively. These findings underscore the frequent manifestation of job satisfaction among surveyed individuals regarding their job responsibilities.

The data analysis indicates extensive satisfaction across all statements, emphasizing the importance of a positive and collaborative work environment in fostering job satisfaction. Employees value mutual respect, teamwork, and opportunities for meaningful tasks that align with their skills and talents. These results affirm the significance of creating a supportive and inclusive workplace culture, where employees feel empowered and engaged in their responsibilities, ultimately contributing to their overall job satisfaction and well-being. Despite potential challenges such as workload and time constraints, prioritizing a positive work environment and meaningful tasks is essential for enhancing job satisfaction among employees.

Table 7. Extent of Job Satisfaction in terms of Job Responsibilities

No	Job Responsibilities	Mean	Descriptive Equivalent
1	having the chance to “rub elbows” with important people in my school through my immediate supervisor’s help.	3.35	Moderately Extensive
2	being able to do things that concur with my conscience.	3.33	Moderately Extensive
3	having the opportunity to do a work that is well suited to my abilities.	3.50	Extensive
4	having an open working environment where I can tell to my co-workers how to do things.	3.55	Extensive
5	having the chance to try something new and different in my job.	3.52	Extensive
6	having the chance to do something that makes use of my abilities.	3.54	Extensive
7	having the chance to develop new and better ways to do my job.	3.53	Extensive
8	doing things that don’t harm my other co- workers.	3.56	Extensive
9	being given the freedom to use my own judgment at work.	3.53	Extensive
10	performing my tasks without guilt of cheating anyone.	3.53	Extensive
	Overall	**3.49**	**Extensive**

Extent of Job Satisfaction in terms of Work Security

Table 8 illustrates the extent of job satisfaction regarding work security, with an overall mean of 3.42, indicating an extensive level of satisfaction. All ten statements yield extensive results, with the highest mean scores attributed to items emphasizing confidence in job stability, satisfaction with benefits, and pride in job performance. These findings suggest that job satisfaction related to work security is frequently observed among surveyed individuals.

The data analysis reveals extensive satisfaction across all statements, highlighting various aspects contributing to job satisfaction concerning work security. Notably, employees value a sense of security in their job, comprehensive benefits, and recognition for their work. Confidence in job stability reflects the significance of feeling secure in one's employment for overall satisfaction. Satisfaction with benefits comparable to those offered by other institutions underscores the importance of

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competitive compensation packages. Furthermore, pride in job performance indicates the significance of recognition and accomplishment in fostering job satisfaction in the context of work security.

These results emphasize the importance of creating a work environment that provides employees with stability, competitive benefits, and opportunities for recognition, ultimately enhancing overall job satisfaction regarding work security. This aligns with recommendations from Taylor and Taylor (2011) and Das and Baruah (2013) to prioritize job security to improve employee well-being and effectiveness. Implementing supportive work environments, providing autonomy, and conducting regular evaluations can further enhance teachers' job security and commitment to the profession, as suggested by Yucel (2012) and Gu and Day (2014).

Table 8. Extent of Job Satisfaction in terms of Work Security

No	Work Security	Mean	Descriptive Equivalent
1	being happy with my compensation relative to the amount of work I do in school.	3.30	Moderately Extensive
2	having a fair chance of being reclassified or be promoted in my school.	3.46	Extensive
3	being satisfied with the benefits I receive comparable to what other schools can offer.	3.49	Extensive
4	being rewarded accordingly in my school for all my efforts.	3.34	Moderately Extensive
5	being confident that my job could provide me a secured future.	3.50	Extensive
6	being able to get a full credit for the work I do.	3.33	Moderately Extensive
7	being able to be proud and take pride for a job well done.	3.48	Extensive
8	having a competitive pay with the same jobs in other schools.	3.32	Moderately Extensive
9	having a reasonable pay in comparison to other teachers and workers in my school.	3.46	Extensive
10	having fair opportunities for professional growth and advancement from my school.	3.47	Extensive
	Overall	**3.42**	**Extensive**

Extent of Job Satisfaction in terms of Community Attachment

Table 9 indicates the extent of job satisfaction concerning community attachment, with an overall mean of 3.73, indicating an extensive level of satisfaction. All ten statements yield extensive results, with the highest mean scores attributed to items emphasizing contributions to community strengthening, participation in outreach programs, and service to others. These findings suggest that job satisfaction related to community attachment is frequently observed among surveyed individuals.

The data analysis reveals extensive satisfaction across all statements, highlighting various aspects contributing to job satisfaction concerning community engagement. Notably, employees value opportunities to contribute to broader community initiatives and make a positive impact beyond the workplace. Satisfaction in helping the school strengthen its linkages and networks emphasizes the importance of professional involvement in community-building efforts. Additionally, participation in community outreach programs and service to others reflects a sense of purpose and social responsibility, contributing to overall job satisfaction.

These findings underscore the significance of fostering a work environment that encourages community involvement, providing employees with opportunities to connect with and contribute to the broader community. This aligns with perspectives emphasizing the importance of a positive and supportive school environment, where members feel connected and integral to a professional community dedicated to effective teaching. By prioritizing community attachment, schools can enhance employee job satisfaction, well-being, and performance, ultimately fostering a more cohesive and supportive educational environment.

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Table 9. Extent of Job Satisfaction in terms of Community Attachment

No	Community Attachment	Mean	Descriptive Equivalent
1	having the chance to build a connection in the community.	3.50	Extensive
2	having the chance to be in service to other people.	4.20	Very Extensive
3	helping in encouraging the school's stakeholders to participate in all school-related activities.	3.56	Extensive
4	having the chance to be somebody in the community.	3.52	Extensive
5	having the chance to participate in community outreach programs (i.e. linis barangay, coastal clean-up, tree planting).	4.21	Very Extensive
6	helping find solutions to the problems of people and communities.	3.54	Extensive
7	helping the school strengthens its linkages and networks.	4.22	Very Extensive
8	being supported by my immediate head in taking care of the complaints of the parents in the community.	3.51	Extensive
9	feeling the pleasantness of the school administrators towards external stakeholders.	3.52	Extensive
10	having the chance to have a social position in the community which goes with my teaching job.	3.56	Extensive
	Overall	**3.73**	**Extensive**

Extent of Job Satisfaction in terms of Work Environment

Table 10 presents the extent of job satisfaction regarding the work environment, with an overall mean of 3.55, indicating an extensive level of satisfaction. All ten statements yield extensive results, with the highest mean scores attributed to items emphasizing mechanisms that show concern for all members, a sense of accomplishment from teaching, and promotion of teamwork and collaboration among teachers and heads.

The data analysis reveals extensive satisfaction across all statements, shedding light on various aspects contributing to job satisfaction related to the work environment. Employees value a workplace that prioritizes concern and inclusivity, recognizing achievements, and fostering teamwork and collaboration. Mechanisms demonstrating care for all members of the school community are particularly significant, emphasizing the importance of a caring and inclusive environment. Recognition of accomplishments in teaching and promotion of teamwork underscore the significance of valuing educators' contributions and fostering a collaborative work culture.

These findings collectively underscore the importance of cultivating a positive and supportive work environment that prioritizes employee well-being, recognizes achievements, and encourages teamwork. This aligns with research emphasizing the positive impact of a supportive organizational culture on teachers' performance and motivation. By enhancing the work environment and fostering effective communication and collaboration, organizations can improve employee satisfaction, motivation, and ultimately, performance.

Table 10. Extent of Job Satisfaction in terms of Work Environment

No	Work Environment	Mean	Descriptive Equivalent
1	having fair policies and practices towards employees.	3.50	Extensive
2	having clear communication channel between school heads and teachers.	3.55	Extensive
3	promoting teamwork and collaboration among teachers and heads.	4.10	Extensive
4	having a conducive work environment and spaces with good air-conditioning system, lighting, and ventilation among others.	3.52	Extensive
5	promoting friendships and good relations among teachers.	3.56	Extensive
6	offering an environment that nurtures positive experiences with my colleagues in the profession.	3.54	Extensive
7	providing a feeling of accomplishment from teaching.	4.21	Very Extensive
8	providing mechanisms that show concern and love for all members of the school.	4.22	Very Extensive
9	providing feeling of pleasantness towards work, school and co-teachers.	3.56	Extensive
10	giving support in times of need or difficulty to teachers, students and the community.	3.56	Extensive
	Overall	**3.73**	**Extensive**

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Summary on the Extent of Job Satisfaction

Table 11 presents a summary of job satisfaction, indicating an overall mean of 3.59, signifying an extensive level of satisfaction across all four indicators. Both community attachment and the work environment emerge with the highest mean score, followed by job responsibilities and work security.

The analysis suggests that job satisfaction is frequently observed among the surveyed individuals, with extensive results across all indicators. The high mean scores for community attachment and the work environment underscore the significant impact of community engagement and a positive workplace atmosphere on overall satisfaction. The close ranking of job responsibilities emphasizes the importance of fulfilling tasks, while the slightly lower mean score for work security still indicates its relevance in influencing satisfaction.

These findings highlight the multifaceted nature of factors contributing to job satisfaction, including community connection, the work environment, fulfilling responsibilities, and work security. This balanced emphasis underscores the importance of taking a holistic approach to enhance job satisfaction.

These results align with previous research emphasizing the pivotal role of job satisfaction in influencing teachers' commitment and productivity within a school organization. Positive job experiences contribute to teachers' dedication and responsibility in fulfilling their duties, ultimately benefiting students' learning experiences. Additionally, job satisfaction is perceived as essential for personal success and well-being, characterized by passion, enjoyment, and fulfillment in one's work. Ultimately, fostering job satisfaction contributes to a positive work environment and enhances overall organizational performance.

Table 11. Summary on the Extent of Job Satisfaction

No	Indicators	Mean	Descriptive Equivalent
1	Job Responsibilities	3.49	Extensive
2	Work Security	3.42	Extensive
3	Community Attachment	3.73	Extensive
4	Work Environment	3.73	Extensive
	Overall	**3.59**	**Extensive**

Significance of the Relationship Between the Extent of Quality of Work Life of Teachers and Job Satisfaction

The data presented in Table 12 underscore the significant relationship between the quality of work life of teachers and their job satisfaction. The overall r-value of .467 with a p-value of <0.05 indicates the rejection of the null hypothesis, providing compelling evidence of this relationship. Pairwise correlation among the indicators further supports this, revealing computed r-values ranging from 0.461 to 0.472, all with p-values below 0.05. This implies that as aspects such as working conditions, social integration, future opportunities, and compensation improve, job satisfaction among teachers also increases.

These findings emphasize the nuanced connection between various dimensions of the work environment and teachers' satisfaction, offering valuable insights for institutions seeking to enhance the well-being of their teaching staff.

This aligns with prior research by Nair and Subash (2019), which highlights the significance of employee satisfaction for organizational stability. Quality of work life encompasses not only job satisfaction but also overall contentment in non-work domains and subjective well-being. Addressing factors contributing to organizational effectiveness and growth is crucial for promoting job satisfaction and enhancing the quality of work life. Similarly, studies by Usha and Rohini (2018) and Bhavani and Jegadeeshwaran (2014) emphasize the impact of various factors such as working conditions, compensation, and career growth on the quality of work life and job satisfaction among teachers, further underscoring the importance of addressing these aspects to foster a positive work environment and enhance overall satisfaction.

Table 12. Significance of the Relationship Between Quality of Work Life of Teachers and Job Satisfaction

Quality of Work Life of Teachers Indicators	Dependent Variable	r-value	p- value	Decision on Ho
Working Conditions for Human Capacity Development		0.469	0.000	Rejected
Social Integration in the Work Organization		0.470	0.000	Rejected

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Future Opportunity for Growth and Employment Security	**Job Satisfaction**	0.472	0.000	Rejected
Work and Space for Recreation		0.465	0.000	Rejected
Remuneration and Compensation		0.461	0.000	Rejected
Overall		**0.467***	**0.000**	**Rejected**

*Significant at 0.05 significance level.

Regression Analysis on the Influence of Quality of Work Life of Teachers and Job Satisfaction

The regression analysis presented in Table 13 highlights the significant influence of the quality of work life of teachers on their job satisfaction. With an overall p-value of <0.05, it's evident that various domains of teachers' work life significantly predict their satisfaction levels. The B values for each domain further quantify this influence, with future opportunities for growth and employment security demonstrating the highest impact. These findings align with Walton's Quality of Work Life Model, which identifies key factors impacting overall work satisfaction, emphasizing the importance of factors like fair compensation, safe working conditions, and opportunities for growth.

Moreover, the coefficient of determination reveals that nearly half of job satisfaction (43.4%) is explained by these domains, underlining their substantial impact. This comprehensive analysis offers empirical support for rejecting the hypothesis that no domain significantly influences job satisfaction. By addressing factors such as working conditions, social integration, and compensation, organizations can enhance teacher well-being and job satisfaction, ultimately improving overall performance and effectiveness. Therefore, ensuring favorable working conditions and opportunities for growth is essential not only for individual teachers but also for organizational success and effectiveness.

Table 13. Regression Analysis on the Influence of Quality of Work Life of Teachers and Job Satisfaction

	Job Satisfaction			
Quality of Work Life of Teacher	**B (Standardized Coefficients)**	**B (Unstandardized Coefficients)**	**T**	**Sig.**
Constant	0.711	0.141	6.321	0.000
Working Conditions for Human Capacity Development	0.458	0.429	12.629	0.000
Social Integration in the Work Organization	0.463	0.432	12.639	0.000
Future Opportunity for Growth and Employment Security	0.468	0.434	12.642	0.000
Work and Space for Recreation	0.455	0.427	12.618	0.000
Remuneration and Compensation	0.448	0.424	12.595	0.000
R	0.467			
R^2	0.434			
F	24.083			
p	0.000			

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Conclusions

The study reveals that the quality of work life of teachers is frequently evident across various dimensions, including working conditions, social integration, growth opportunities, recreational spaces, and compensation. Similarly, job satisfaction among teachers is notably high, particularly concerning job responsibilities, work security, community attachment, and the work environment. Importantly, the study establishes a significant relationship between the quality of work life and job satisfaction of teachers across all domains examined.

Moreover, the findings indicate that each domain of teachers' work life significantly influences their job satisfaction, with a rejection of the null hypothesis. Specifically, improvements in working conditions, social integration, growth opportunities, recreational facilities, and compensation positively correlate with increased job satisfaction. This underscores the importance of addressing these domains to enhance overall teacher well-being and satisfaction.

Recommendations

Based on the study's conclusions, several recommendations are proposed:

Department of Education Initiatives: DepEd should prioritize initiatives aimed at improving the overall work environment for educators. This may involve targeted policies and interventions addressing specific domains identified in the study, such as professional development opportunities, positive relationships, and supportive work conditions.

Proactive Measures by School Heads: School administrators should proactively prioritize the well-being of teaching staff by implementing policies addressing workload management, recognition of achievements, and professional growth opportunities. Establishing regular channels of communication and fostering a collaborative school culture can further enhance job satisfaction.

Teacher Self-Care and Advocacy: Teachers should prioritize self-care, seek professional development opportunities, and engage in open communication with school administrators. By articulating their needs and concerns and actively contributing to a positive work environment, teachers can enhance their job satisfaction and well-being.

Future Research Directions: Future research should explore additional factors influencing the quality of work life and job satisfaction of teachers. Utilizing alternative research approaches and investigating relevant variables can provide further insights into enhancing teacher satisfaction and well-being.

By implementing these recommendations, educational institutions can foster a supportive and fulfilling work environment for teachers, ultimately enhancing their job satisfaction and contributing to improved educational outcomes.

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LEARNER-ORIENTED INSTRUCTION AND DATA INTERPRETATION SKILLS OF STUDENTS IN MANAY SOUTH DISTRICT, DAVAO ORIENTAL

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ABSTRACT

The study aimed to investigate the influence of learner-oriented instruction of teachers on the data interpretation skills of students. In this study, the researcher selected the 212 elementary school teachers in Manay South District in Davao Oriental as the respondents of the study. Stratified random sampling technique was utilized in the selection of the respondents. Non-experimental quantitative research design using descriptive-correlational method was employed. The data collected were subjected on the following statistical tools: Mean, Pearson Moment Product Correlation and Linear Regression Analysis. Findings revealed that learner-oriented instruction of teachers and data interpretation skills of students in Manay South District in Davao Oriental were described as moderately extensive. Further, correlation analysis demonstrated that there is a significant relationship between learner-oriented instruction of teachers and data interpretation skills of students in Manay South District in Davao Oriental. Evidently, regression analysis proved that learner-oriented instruction of teachers in terms of learner empowerment; self-directed learning; and active learning engagement significantly influenced the data interpretation skills of students in Manay South District in Davao Oriental. The study, therefore, conducted for further utilization of findings through publication in reputable research journal.

KEYWORDS: *Educational management, learner-oriented instruction of teachers, data interpretation skills of students, regression analysis, quantitative study*

INTRODUCTION

In the current educational landscape, where the focus is shifting from rote memorization to skill development, understanding the dynamics between learner-responsive pedagogy and analytical interpretation aptitude is crucial. The modern classroom is more diverse than ever, with students from various backgrounds, learning styles, and abilities. Learner-responsive pedagogy ensures that educational processes accommodate this diversity, fostering a more inclusive and equitable learning environment. As education becomes more personalized, understanding how learner-responsive pedagogy influences analytical interpretation aptitude helps educators tailor instruction to individual students' needs. This customization improves learning outcomes by catering to students' unique strengths and weaknesses. Hence, this knowledge empowers educators to create learning experiences that cultivate analytical thinking, adapt to individual needs, and prepare students for the challenges of the 21st century.

Reports indicated that poor analytical interpretation aptitude can have a detrimental effect on students' performance in various academic contexts. For instance, Nunn et al. (2016) reported that continuous struggle with analytical tasks can erode students' confidence in their abilities, leading to a negative cycle where they avoid challenging tasks altogether. In addition, Kozma et al. (2000) noted that students with poor analytical interpretation skills might struggle to comprehend and make sense of complex information, which can hinder their ability to understand academic content across various subjects. More so, Barron et al. (2008) showed that students with weak analytical aptitude might find it challenging to approach and solve complex problems in academics and real-life situations, since analytical skills are essential for identifying, analyzing, and solving problems. In th Philippine setting, Dela Cruz et al. (2018) noted that lack of analytical aptitude resulted to poor performance in math and science subjects.

Conversely, Yuanxiang (2017) pointed out that analytical interpretation aptitude are essential for students' academic success, critical thinking, problem-solving, and decision-making abilities. These skills equip students with the ability to understand and use data effectively, making them more informed and well-rounded individuals in both their academic pursuits and daily life. According to Hussain et al. (2017), developing analytical interpretation aptitude promotes critical thinking abilities. Students learn to analyze information, consider multiple perspectives, and make logical connections, enhancing their overall cognitive skills. Similalry, Medeshovaa et al. (2017) viewed that data interpretation skills are valuable in problem-solving scenarios. Students can use data to identify patterns and trends, which can guide them in finding solutions to complex problems.

Previous studies showed that lerner-oriented instruction contributed to the enhancement of data interpretation skills of students. For instance, Chickering and Gamson (1987) showed that learner-oriented instruction promotes critical thinking skills, which are essential for data interpretation. Students are encouraged to question, analyze, and evaluate data, leading to more accurate and insightful interpretations. Adding more, Kuh (2008) proposed that learner-oriented instruction emphasizes connecting learning to real-world applications. This connection helps students see the relevance of data interpretation skills in practical scenarios, making the learning process more meaningful. Similarly, Gurung (2018) proposed that learner-oriented instruction involves interactive and hands-on activities that actively engage students in data analysis and interpretation.

On one hand, Marzano et al. (2001) characterized learner-responsive pedagogy as an educational approach that prioritizes the needs, interests, and preferences of individual learners. It places learners at the center of the learning process, encouraging active engagement, self-directed learning, and personalized experiences to foster deeper understanding and meaningful

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knowledge acquisition. Also, Shooley (2017) mentioned that learner-responsive pedagogy plays a crucial role in developing learners' interest and engagement. Accordingly, learner-responsive pedagogy tailors the learning experience to individual learners' interests, needs, and experiences. By connecting the content to real-life situations and personal interests, learners find the learning process more relevant and meaningful, sparking their curiosity and motivation to explore further.

While there have been several studies investigating the influence of teachers' learner-responsive pedagogy on the analytical interpretation aptitude of students, there remains a notable gap in the literature regarding the specific mechanisms through which learner-responsive pedagogy influences different aspects of data interpretation skills of students. While existing research has established a positive correlation between learner-oriented instruction and data interpretation skills of students, there is a need for more in-depth exploration to understand the underlying factors and processes that contribute to this relationship. Thus, it is on this context that the researcher felt the need to fill in the research gap of conducting a study in the Philippine setting, particularly in Manay South District, Davao Oriental using a quantitative approach. Specifically, the researcher made used descriptive correlational design to understand the data interpretation skills of students better as determined by the learner-oriented instruction, which is found to be scarce.

Statement of the Problem

The primary objective of the study is to determine which domains of learner-oriented instruction significantly influence the data interpretation skills of students in Manay South District, Davao Oriental. Specifically, the study has the following objectives:

1. What is the extent of learner-oriented instruction in terms of:
   - 1.1 learner empowerment;
   - 1.2 self-directed learning;
   - 1.3 active learning engagement; and
   - 1.4 technology integration?
2. What is the extent of data interpretation skills of students in terms of:
   - 2.1 domain knowledge;
   - 2.2 attention to detail;
   - 2.3 adaptability; and
   - 2.4 time management?
3. Is there a significant relationship between learner-oriented instruction and data interpretation skills of students in Manay South District, Davao Oriental?
4. Which domains of learner-oriented instruction significantly influence the data interpretation skills of students in Manay South District, Davao Oriental?

METHODOLOGY

Research Design

A quantitative non-experimental, correlational research design was employed. Quantitative research focuses on quantifying data collection and analysis (Bhandari, 2020). Non-experimental research measures variables as they occur naturally without manipulation. Descriptive-correlational research examines the relationship between variables to establish cause and effect (Myers & Well, 2013). This study explored the relationship between learner-oriented instruction and students' data interpretation skills, focusing on how different domains of learner-oriented instruction affect these skills.

Research Respondents

The respondents were 212 elementary school teachers from Manay South District, Davao Oriental, selected using Slovin's formula from approximately 450 teachers. Stratified random sampling was used to account for the population's heterogeneity (Pandey, 2015). Only permanent-regular teachers who voluntarily participated were included.

Research Instrument

Adapted and modified survey questionnaires were used. The first part, adapted from Marzano et al. (2001), assessed learner-oriented instruction across four domains: learner empowerment, self-directed learning, active learning engagement, and technology integration. The second part, adapted from Bonato et al. (2014), evaluated students' data interpretation skills across four indicators: domain knowledge, attention to detail, adaptability, and time management. Both parts of the survey demonstrated high reliability with Cronbach's alpha values of 0.954 and 0.976, respectively. The instruments used a range of means for descriptive interpretation.

Data Gathering Procedure

After validating the research questionnaire, the following steps were taken:

1. Permission to Conduct the Study: Permissions were secured from relevant authorities.
2. Distribution and Retrieval of the Questionnaire: Questionnaires were distributed and respondents were given adequate time to complete them.
3. Collation and Statistical Treatment of Data: Data were tallied and analyzed using SPSS for descriptive and inferential statistics.

Ethical Considerations

The study followed ethical protocols, including informed consent, ensuring participants' voluntary involvement, protecting their psychological well-being, and maintaining confidentiality per the Data Privacy Act of 2012. The researcher ensured the safety, risk minimization, and benefits disclosure to respondents. Transparency and justice were maintained throughout the study, and the findings were shared with the community and relevant stakeholders.

Data Analysis

- Mean: Used to describe the extent of learner-oriented instruction and students' data interpretation skills.
- Pearson Product-Moment Correlation: Assessed the relationship between learner-oriented instruction and data interpretation skills.
- Linear Regression Analysis: Identified which domains of learner-oriented instruction significantly influenced data interpretation skills.

RESULTS AND DISCUSSIONS

Learner-Oriented Instruction

Learner Empowerment

The findings presented in Table 1 underscore the pervasive nature of learner-oriented instruction among teachers, as evidenced by a robust mean score of 3.51, indicating an extensive implementation. This suggests a prevalent commitment among educators to cultivate learning environments wherein students are empowered to assume active roles in their education. Brinkmann (2019) highlighted the intrinsic motivation fostered by learner empowerment, wherein students' ability to make choices, set goals, and engage actively in their learning journey correlates with heightened enthusiasm. Bremner (2020) further elucidated that empowered learners, endowed with autonomy and control over their educational experiences, exhibit heightened interest and engagement, substantiating the observed extensive learner empowerment.

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Table 1. ***Learner-Oriented Instruction in Terms of Learner Empowerment***

	Statement	Mean	Descriptive Rating
1.	Providing them with choices in their learning journey, allowing them to explore topics of interest and work at their own pace.	3.22	Moderately Extensive
2.	Letting them decide on the research topics, methodologies, and presentation formats	3.24	Moderately Extensive
3.	Promoting learner empowerment by involving my students in decision-making processes.	4.15	Extensive
4.	Ensuring that my teaching methods are flexible and inclusive.	3.43	Extensive
	Mean	**3.51**	***Extensive***

Self-Directed Learning

In Table 2, the moderately extensive mean score of 3.21 reflects the occasional implementation of self-directed learning within learner-oriented instruction. This signifies educators' efforts in encouraging students to become self-directed and autonomous in managing their learning processes. Bremmer's (2022) discourse emphasized the personalized nature of self-directed learning, catering to individual needs and interests, thereby augmenting comprehension and academic attainment.

Table 2. ***Learner-Oriented Instruction in Terms of Self-Directed Learning***

	Statement	Mean	Descriptive Rating
1.	Encourage my students to take charge of their learning by setting their goals, identifying areas of interest, and creating their learning paths.	3.27	Moderately Extensive
2.	Providing students with resources, guidance, and support to facilitate their independent exploration.	3.14	Moderately Extensive
3.	Encouraging students to reflect on their learning progress and experiences.	3.84	Extensive
4.	Starting by providing structured choices and gradually increasing autonomy as they build confidence.	2.11	Less Extensive
5.	Encouraging students to take ownership of their education by involving them in decision-making processes	3.67	Extensive
	Mean	**3.21**	***Moderately Extensive***

Active Learning Engagement

As delineated in Table 3 with a moderately extensive mean score of 3.06, illustrates sporadic integration within learner-oriented instruction. This reveals educators' endeavors to facilitate instructional activities that promote dynamic participation and collaboration among students. Zhang (2017) expounded upon the intrinsic motivation engendered by active learning engagement, positing its role in nurturing autonomy, relevance, and positive emotional responses, thus enhancing overall academic motivation. Echoing this sentiment, Starkey (2017) underscored the intrinsic joy and satisfaction derived from active participation in the learning process.

Table 3. ***Learner-Oriented Instruction in Terms of Active Learning Engagement***

	Statement	Mean	Descriptive Rating
1.	Using various strategies, such as group discussions, debates, hands-on activities, and problem-solving tasks.	3.46	Extensive
2.	Conducting simulations and role-playing exercises to make complex topics more tangible and relatable.	2.12	Less Extensive
3.	Incorporating real-world problem-solving tasks, where students collaborate to find creative solutions.	3.43	Extensive
4.	Becoming a facilitator of learning, guiding, and supporting students' inquiries and discoveries.	3.23	Moderately Extensive
5.	Allowing students to contribute verbally, through written responses, or even via technology tools.	3.93	Extensive
	Mean	**3.23**	***Moderately Extensive***

Technology Integration

Table 4 portrays the extent of technology integration within learner-oriented instruction, yielding a moderately extensive mean score of 3.11. This suggests that while technology integration is occasionally observed among educators in Manay South District, Davao Oriental, there remains room for improvement in leveraging digital tools to enrich instructional practices. Carter et al. (2020) advocated for the utilization of technology to personalize learning experiences, provide immediate feedback, and infuse gamification elements, thereby fostering students' active participation and enthusiasm in their educational journey.

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Table 4. ***Learner-Oriented Instruction in Terms of Technology Integration***

	Statement	Mean	Descriptive Rating
1.	Incorporating technology to encourage student participation and collaboration.	3.26	Moderately Extensive
2.	Having the technical skills needed to use technology.	3.25	Extensive
3.	Using technology tools to process data and report results.	3.29	Moderately Extensive
4.	Knowing about technologies that I can use for understanding the subject matter.	3.41	Extensive
5.	Choosing technology that can enhance the teaching approaches for a lesson.	2.36	Less Extensive
	Mean	***3.11***	***Moderately Extensive***

Summary on Learner-Oriented Instruction

Additionally, Table 5 offers a comprehensive summary of learner-oriented instruction, encapsulating the mean scores across various domains. Notably, learner empowerment emerged with the highest mean score of 3.51, indicating its extensive prevalence among educators. Conversely, technology integration garnered the lowest mean score of 3.11, signaling a lesser frequency of implementation. These findings underscore the multifaceted nature of learner-oriented instruction, emphasizing the importance of empowering students and fostering active engagement to cultivate deeper understanding and meaningful knowledge acquisition. Shooley (2017) emphasized the pivotal role of learner-oriented instruction in nurturing students' interest and engagement, tailoring the learning experience to individual preferences and experiences.

In conclusion, the results elucidate the dynamic interplay between learner-oriented instruction and students' data interpretation skills in Manay South District, Davao Oriental. By fostering active learning environments, empowering students, and integrating technology effectively, educators can significantly enhance students' proficiency in interpreting data and deriving meaningful insights. These findings underscore the transformative potential of learner-oriented instruction in shaping students' analytical acumen, critical thinking abilities, and overall academic success.

Table 5. Summary on Learner-Oriented Instruction in Manay South District, Davao Oriental

Indicators	Mean	Descriptive Equivalent
Learner Empowerment	3.51	Extensive
Self-Directed Learning	3.21	Moderately Extensive
Active Learning Engagement	3.23	Moderately Extensive
Technology Integration	3.11	Moderately Extensive
Overall	**3.27**	***Moderately Extensive***

Data Interpretation Skills of Students

Domain Knowledge

The moderately extensive mean score of 3.35 in Table 6 elucidates the occasional manifestation of students' domain knowledge in interpreting data. This underscores students' proficiency in understanding specific domains within their relevant contexts to derive meaningful insights from data. Papamitsiou and Economides (2018) emphasized the critical role of domain knowledge in facilitating the selection of pertinent data and identifying anomalies for accurate interpretation.

Table 6. ***Data Interpretation Skills of Students in Terms of Domain Knowledge***

	Statement	Mean	Descriptive Rating
1.	Students demonstrating a strong understanding of foundational concepts.	3.12	Moderately Extensive
2.	Students can grasp concepts quickly.	3.42	Extensive
3.	Students can make connections between what they learn in the classroom and how it relates to their everyday lives.	4.13	Extensive
4.	Students can connect their personal experiences to the subject matter.	2.72	Less Extensive
	Mean	***3.35***	***Moderately Extensive***

Attention to Detail

Attention to detail, as depicted in Table 7 with a moderately extensive mean score of 3.12, delineates students' intermittent focus on meticulous analysis to discern errors or inconsistencies in data. This underscores the significance of students' conscientious approach to data interpretation, ensuring accuracy and reliability in their analyses. Wang et al. (2016) underscored the pivotal role of attention to detail in bolstering the reliability and comprehensiveness of data interpretation endeavors.

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Table 7. ***Data Interpretation Skills of Students in Terms of Attention to Detail***

	Statement	Mean	Descriptive Rating
1.	Students are very detail-oriented and tend to notice even the smallest aspects of a task or assignment.	3.26	Moderately Extensive
2.	Students to double-check their assignments before submission.	3.45	Extensive
3.	Students participate in close reading exercises, where they analyze a text for specific information and nuances.	3.29	Moderately Extensive
4.	Students look for patterns among concepts.	2.49	Less Extensive
	Mean	***3.12***	***Moderately Extensive***

Adaptability

Table 8 highlights adaptability in data interpretation skills, attaining an extensive mean score of 3.59, underscoring students' frequent adeptness in embracing new data interpretation techniques. This underscores the importance of students' flexibility in adapting to evolving analytical methodologies, thereby enhancing their analytical prowess and problem-solving acumen. Sin and Muthu (2017) extolled adaptability's role in fortifying students' analytical capabilities and readiness to apply data interpretation skills across diverse academic and professional contexts.

Table 8. ***Data Interpretation Skills of Students in Terms of Adaptability***

	Statement	Mean	Descriptive Rating
1.	Students embrace change and are quick to adjust to new situations or learning methods.	3.89	Extensive
2.	Students can use different learning strategies in different situations.	3.62	Extensive
3.	Students engage themselves in problem-solving activities.	3.35	Moderately Extensive
4.	Students show a willingness to embrace change.	3.49	Extensive
	Mean	***3.59***	***Extensive***

Time Management

The moderately extensive mean score of 3.29 in Table 9 elucidates students' sporadic adherence to efficient time management practices during data interpretation endeavors. This underscores the imperative of students' judicious allocation of time to various stages of the data interpretation process, ensuring timely delivery of insights and findings. Nigussie (2019) underscored the pivotal role of time management in optimizing productivity and deriving meaningful insights from data analyses.

Table 9. ***Data Interpretation Skills of Students in Terms of Time Management***

	Statement	Mean	Descriptive Rating
1.	Students prioritize tasks, meet deadlines, and plan ahead.	3.26	Moderately Extensive
2.	Students maintain a structured approach to their tasks and responsibilities.	3.45	Extensive
3.	Students set clear goals for themselves, both short-term and long-term.	3.29	Moderately Extensive
4.	Students demonstrate self-discipline and avoid distractions while studying or completing assignments.	3.17	Moderately Extensive
	Mean	***3.29***	***Moderately Extensive***

Summary on Data Interpretation Skills

Lastly, Table 10 summarizes the data interpretation skills of students in Manay South District, Davao Oriental. The overall mean score is 3.34, indicating that these skills are moderately extensive and sometimes manifested. This means students occasionally demonstrate the ability to analyze, evaluate, and draw insights from various data forms like charts and graphs. This finding supports Yuanxiang's (2017) proposition that data interpretation skills are essential for academic success, critical thinking, problem-solving, and decision-making.

The highest mean score of 3.59 in adaptability is described as extensive and often manifested, while the lowest mean score of 3.12 in attention to detail is described as moderately extensive and sometimes manifested. According to Hussain et al. (2017), developing data interpretation skills enhances critical thinking by teaching students to analyze information, consider multiple perspectives, and make logical connections. Medeshovaa et al. (2017) emphasize that these skills are valuable in problem-solving, enabling students to identify patterns and trends to find solutions to complex problems.

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Table 10. ***Summary on Data Interpretation Skills of Students in Manay South District, Davao Oriental***

Indicators	Mean	Descriptive Equivalent
Domain Knowledge	3.35	Moderately Extensive
Attention to Detail	3.12	Moderately Extensive
Adaptability	3.59	Extensive
Time Management	3.29	Moderately Extensive
Overall	***3.34***	***Moderately Extensive***

Relationship Between Learner-Oriented Instruction and Data Interpretation Skills of Students in Manay South District, Davao Oriental

Table 11 reveals a significant positive relationship between learner-oriented instruction and students' data interpretation skills, denoted by a Pearson correlation coefficient (r) of 0.367 and a p-value of .000, signifying the enhancement of data interpretation skills with improvements in learner-oriented instruction. Vann et al. (2021) expounded upon the efficacy of personalized and active learning approaches in augmenting students' understanding and retention of data interpretation concepts.

Table 11. ***Relationship Between Learner-Oriented Instruction and Data Interpretation Skills of Students in Manay South District, Davao Oriental***

Variables	*Data Interpretation Skills of Students*		
	r-value	**p-value**	**Decision**
Learner Empowerment	0.326*	0.000	Reject H_0
Self-Directed Learning	0.399*	0.000	Reject H_0
Active Learning Engagement	0.402*	0.000	Reject H_0
Technology Integration	0.334*	0.000	Reject H_0
Overall Learner-Oriented Instruction	***0.367****	***0.000***	***Reject H_0***

Significant @ p<0.05

Legend: Perfect Correlation for r=1.00; Strong Correlation for 0.7≤r<1.00; Moderate Correlation for 0.3≤r<0.7; Weak Correlation for 0.00<r<0.30; No Correlation for r=0.00

Influence of Learner-Oriented Instruction on the Data Interpretation Skills of Students in Manay South District, Davao Oriental

In Table 12, the linear regression analysis demonstrates the significant influence of learner-oriented instruction on students' data interpretation skills, with learner empowerment, self-directed learning, and active learning engagement emerging as significant predictors. This underscores the pivotal role of learner-oriented instruction in shaping students' proficiency in interpreting data and deriving meaningful insights. The observed adjusted R^2 value of 0.512 underscores the substantial contribution of learner-oriented instruction to the variability in students' data interpretation skills, highlighting its paramount importance in fostering analytical acumen and critical thinking abilities.

By aligning with Kolb's (1984) Experiential Learning Theory, learner-oriented instruction facilitates hands-on experiences and reflective practices, thereby internalizing data interpretation processes and enhancing students' interpretative prowess. Gurung's (2018) emphasis on interactive and hands-on activities within learner-oriented instruction resonates with the observed enhancement of students' engagement and motivation, fostering a conducive environment for data interpretation skill development.

Table 12. ***Influence of Learner-Oriented Instruction on the Data Interpretation Skills of Students in Manay South District, Davao Oriental***

Learner-Oriented Instruction	*Data Interpretation Skills of Students*				
	B	**Beta**	**S.E**	**p-value**	**Decisions**
Learner Empowerment	.203*	.149	.049	.000	Reject H_0
Self-Directed Learning	.287*	.311	.048	.000	Reject H_0
Active Learning Engagement	.211*	.210	.051	.000	Reject H_0
Technology Integration	.024	.108	.013	.098	Accept H_0
R^2 = 0.512					
F-value = 16.766*					
p-value = 0.000					

Significant @ p<0.05

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CONCLUSIONS AND RECOMMENDATIONS

Findings

The primary objective of this study was to evaluate the impact of learner-oriented instruction on the data interpretation skills of students in Manay South District, Davao Oriental. Utilizing a non-experimental quantitative design with a descriptive-correlation approach, the study selected 212 elementary school teachers through stratified random sampling. Modified and pilot-tested survey questionnaires were used to ensure high reliability and internal consistency.

The study revealed that learner-oriented instruction received a moderately extensive overall rating, with specific domains such as learner empowerment, self-directed learning, active learning engagement, and technology integration scoring 3.51, 3.21, 3.23, and 3.11, respectively. Students' data interpretation skills were similarly rated as moderately extensive, with domain knowledge, attention to detail, adaptability, and time management scoring 3.35, 3.12, 3.59, and 3.29, respectively.

A significant positive moderate relationship was found between learner-oriented instruction and students' data interpretation skills ($r = .367$, $p < .05$). Specific domains of learner-oriented instruction, including learner empowerment ($r = .326$), self-directed learning ($r = .399$), active learning engagement ($r = .402$), and technology integration ($r = .334$), significantly influenced students' data interpretation skills. The collective impact of learner empowerment, self-directed learning, and active learning engagement was substantial, with an F-value of 16.766 and an r2 value of 0.512, indicating that these factors account for 51.20% of the variability in students' skills.

Conclusions

Learner-Oriented Instruction. Teachers in Manay South District implement learner-oriented instruction to a moderately extensive degree. Learner empowerment is particularly emphasized, while self-directed learning, active learning engagement, and technology integration are moderately emphasized. This indicates that teachers frequently place students at the center of the learning process, promoting active engagement and personalized experiences.

Data Interpretation Skills. Students' data interpretation skills are rated as moderately extensive overall, with adaptability receiving a notably high rating. This suggests that students occasionally demonstrate the ability to analyze and derive insights from various data forms.

\Relationship and Influence. There is a significant positive moderate relationship between learner-oriented instruction and students' data interpretation skills. This finding underscores the importance of active learning, student engagement, and personalized instruction in developing critical data interpretation skills. Specific domains of learner-oriented instruction, particularly learner empowerment, self-directed learning, and active learning engagement, significantly contribute to students' data interpretation skills.

Recommendations

Curriculum Development. The Department of Education should revise curricula to emphasize learner-centered pedagogies and data literacy. Standardized assessments should be designed to evaluate students' data interpretation skills, thereby encouraging schools to prioritize this critical area.

School Leadership. School heads should cultivate a data-driven culture, utilizing data to inform instructional practices and monitor student progress. Additionally, they should support ongoing professional development for teachers in learner-centered teaching methods and data interpretation skills.

Teacher Development. Teachers should actively engage in professional development focused on learner-centered instruction and data literacy. They should integrate data analysis and interpretation tasks into classroom activities to enhance students' skills.

Student Engagement. Students should actively participate in classroom activities involving data analysis and interpretation. They should also independently explore resources and tools to further develop their data interpretation skills.

Future Research. Researchers should prioritize investigations into effective instructional strategies for learner-oriented teaching and interventions to improve data interpretation skills. Future studies should also analyze the impact of learner-oriented instruction on student learning outcomes and data literacy development.

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KNOWLEDGE REGARDING FIRST AID TRAINING SKILLS AMONG COMMERCIAL DRIVERS IN HIMACHAL PRADESH

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ABSTRACT

First aid is critical for preserving life, preventing further injury, and alleviating suffering until medical assistance is available. Road traffic accidents, a prevalent cause of injuries and fatalities, underscore the need for immediate first aid. This study assesses first aid knowledge among 200 commercial drivers in Chamba district, Himachal Pradesh. Using a structured questionnaire, socio-demographic data and first aid knowledge were collected and analyzed with SPSS-16. Results indicate 99% awareness of first aid, but only 30% had formal training. Key skills like controlling severe bleeding (73%) and splinting fractures (76.5%) were well-known, yet knowledge on airway management (36%) and correct patient positioning (25%) was lacking. Despite 56% recognizing chest compressions as a priority, only 20% emphasized breathing maintenance. The study highlights the necessity for comprehensive first aid training programs tailored for commercial drivers, who are frequently first responders to accidents. Enhanced training can improve emergency response, reduce economic and social impacts of traffic injuries, and promote better public health and safety outcomes. The findings stress the need for structured, recurring training sessions to bridge knowledge gaps and equip drivers with essential life-saving skills.

KEYWORDS: *First aid, commercial drivers, road traffic accidents, Chamba district, Himachal Pradesh, emergency response, training programs.*

KNOWLEDGE REGARDING FIRST AID TRAINING SKILLS AMONG COMMERCIAL DRIVERS IN HIMACHAL PRADESH

The first aid is the emergency assistance given to a victim sick or injured in order to preserve life, prevent further injury and relieve suffering until qualified medical care is available.[1] In the modern world where in addition to natural disasters the manmade disasters like road traffic accident has become very common. According to World Health Organization, every year the lives of approximately 1.19 million people die as a result of road traffic accidents. Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability.[2] As per Government of Himachal Pradesh data during year 2023 a total of 1,399 accidents are reported, among them 564 are killed and 830 are injured.[3] Road traffic injuries cause considerable economic losses to individuals, their families, and to nations as a whole. These losses arise from the cost of treatment as well as lost productivity for those killed and disabled by their injuries, and for family members who need to take time off work or school to care for the injured. The Government considers it necessary to protect the Good Samaritans from harassment on the actions being taken by them to save the life of the road accident victims and, therefore, the Government had issues guidelines to be followed by hospitals, police and all other authorities for the protection of Good Samaritans from legal complications.[4]

The road side injuries/ emergencies require immediate intervention at the spot to save the life of victim. So the importance of first aid becomes very important in such scenario. If the awareness about various life saving emergency procedures like cardiopulmonary resuscitation, artificial respiration, application of splints, correct use of fire extinguisher, triage the precious life can be saved. The knowledge of first aid is important for every individual but is more so for commercial drivers as they are more likely to witness/ involved in road traffic accidents. Also, studies among commercial drivers regarding first aid knowledge are very less. Hence, this study was carried out with the aim to assess the knowledge among the commercial drivers from Chamba district of Himachal Pradesh in India, regarding first aid.

MATERIAL AND METHODS

A cross-sectional study was conducted in the Chamba district of Himachal Pradesh in 2023. In this the 200 commercial drivers are selected by simple random sampling. All the participants who were willing to participate were enrolled in the study. This was a questionnaires based study in which the closed ended questions are used to assess the knowledge about first aid among participants. The questionnaire included two sections, in which the first section includes questions about socio-demographic details of participants. The second section includes questions regarding knowledge about first aid, first aid kit and components of first aid kit along with its uses. The data was collected entered in the MS-Excel and analysed using SPSS version-16.

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RESULTS

The present study is a cross-sectional study dome among commercials drivers in Chamba district of Himachal Pradesh. The table 1 provides a comprehensive socio-demographic profile of the study participants, highlighting their age distribution, education levels, marital status, type of vehicle driven, and daily driving hours. The majority of participants are aged between 30-39 years, comprising 48.5% of the sample. Those aged 20-29 years account for 31.5%, while 17.5% are in the 40-49 years age group. Participants aged 50 years and above constitute the smallest group, making up only 2.5%. The education levels among participants vary, with the largest group having completed education from middle to higher secondary school, representing 73.0% of the sample. Those with graduate-level education and above account for 21.5%, while a small proportion, 5.5% have education up to middle school. The marital status of participants shows that a significant majority, 78.5% are married, whereas 21.5% are unmarried. In terms of vehicle type, a large proportion of participants, 81.5% (163 individuals), drive private vehicles. The remaining 18.5% (37 individuals) operate government vehicles. The distribution of daily driving hours indicates that most participants drive between 6 to 10 hours per day, making up 73.5% (147 individuals) of the sample. Those driving less than 6 hours per day constitute 17.5% (35 individuals), while 9.0% (18 individuals) drive for more than 10 hours daily.

Table 1: Sociodemographic profile of the participants		
1	**Age**	
	20-29	63 (31.5%)
	30-39	97 (48.5%)
	40-49	35 (17.5%)
	≥50	05 (2.5%)
2	**Education**	
	Upto middle	11 (5.5%)
	Middle to higher secondary	146 (73.0%)
	Graduate and above	43 (21.5%)
3	**Marital status**	
	Married	157 (78.5%)
	Unmarried	43 (21.5%)
4	**Vehicle type**	
	Government	37 (18.5%)
	Private	163 (81.5%)
5	**Hours of driving per day**	
	<6 hours	35 (17.5%)
	6-10 hours	147 (73.5%)
	>10 hours	18 (9.0%)

The Table-1 Showing the socio-demographic details of the participants

The table-2 is showing the first aid knowledge among participants in Himachal Pradesh, revealing a high level of general awareness but varying degrees of specific knowledge and skills. An overwhelming 99% of participants have heard about first aid, yet only 30% have received formal training. A significant 95% recognize that first aid can save lives, and 90% are aware of the emergency helpline number. Additionally, 87% have heard of 'The Good Samaritan Law,' 80% know when and where to provide first aid, 60% believe bystanders should give first aid, and 68.5% can name at least five items in a first aid kit.

Regarding first aid priorities, 56% identified chest compression as most important, 20% emphasized maintaining breathing, 10.5% prioritized calling an ambulance, 8.5% highlighted splinting fractures, and only 4% thought stopping the bleeding was crucial, with 1% unsure. Specific knowledge revealed that 36% could identify airway problem symptoms, 25% knew the correct safe position for patients, 73% understood how to apply pressure to control severe bleeding, and 76.5% knew how to apply a splint for fractures. When it came to indications for hospital transportation, 15.5% cited unconsciousness, 3.5% mentioned open wounds, 5% noted fractures, and a substantial 76% correctly identified all three conditions as reasons for hospital transport.

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Knowledge of participants among first aid in Himachal Pradesh		
S. No.	**Knowledge**	**Frequency (%)**
1	Heard about first aid	198 (99%)
2	Ever received training in first aid	60 (30%)
3	First aid saves life	190 (95%)
4	Emergency helpline number known	180 (90%)
5	Heard of 'The good Samaritan Law'	174 (87%)
6	Knowledge of when & where to provide first aid	160 (80%)
7	Bystander should give first aid	120 (60%)
8	First aid kit contents (name any 5 articles)	137 (68.5%)
9	First aid priority:	
	Chest compression	112 (56%)
	Breathing maintenance	40 (20%)
	Call the ambulance	21 (10.5%)
	Splinting fractures 10 (4.0)	17 (8.5%)
	Stop the bleeding 73 (29.0)	08 (4%)
	Don't know 2 (0.8)	02 (1%)
10	Any symptom or sign of airway problem known	72 (36%)
11	Correct knowledge of safe position	50 (25%)
12	Applying pressure for severe bleeding	146 (73%)
13	Application of splint for fracture	153 (76.5%)
14	Indication of transportation to hospital:	
	Unconscious	31 (15.5%)
	Open wound	07 (3.5%)
	Fracture	10 (5%)
	All of the above	152 (76%)

DISCUSSION

The study assessed the knowledge among commercial drivers in Chamba district of Himachal Pradesh. All the participants in the study were males as this profession is male dominated in Himachal Pradesh. The majority of drivers are males and also driving private vehicle. A notable 99% of participants have heard about first aid, indicating widespread general awareness. A study conducted by Awasthi S et al among commercial drivers in India[5] in which majority of participants 96% have heared about first aid. In our study only 30% have received formal training while study conducted by Pallavisarji U et al in southern India[6] in which 62% of drivers had received training.

The study highlights varied levels of specific first aid knowledge. For instance, 73% of participants know how to apply pressure to control severe bleeding, and 76.5% understand how to apply a splint for fractures. These skills are crucial for managing common injuries in road traffic accidents. However, only 36% can identify symptoms of airway problems, and a mere 25% know the correct safe position for patients. A study conducted by Olugbenga-Bello AI et al in Nijeria[7] in which majority (59.9%) correctly prioritized airway management first, while only 37.6% identified the correct order for all the three care areas. When it comes to prioritizing first aid measures, 56% of the drivers correctly identified chest compression as the most important, reflecting a reasonable understanding of cardiopulmonary resuscitation (CPR). However, only 20% emphasized maintaining breathing, which is equally critical. This highlights the need for comprehensive training that equally addresses all life-saving priorities, ensuring a balanced approach to emergency care.

CONCLUSION

The study conducted among commercial drivers in the Chamba district of Himachal Pradesh demonstrates a high level of general awareness regarding first aid, with 99% of participants acknowledging its importance. However, only 30% of these drivers have received formal training, exposing a critical gap that needs addressing. While a significant number of drivers are proficient in essential first aid skills such as applying pressure to control severe bleeding (73%) and using splints for fractures (76.5%), there is a marked deficiency in knowledge regarding airway management (36%) and correct patient positioning (25%). These findings underscore the necessity for comprehensive and mandatory first aid training programs specifically tailored for commercial drivers, who are often first responders to road traffic accidents.

The prioritization of first aid measures by the drivers, with 56% identifying chest compression as crucial yet only 20% emphasizing the importance of maintaining breathing, further highlights the need for balanced and thorough training that covers all vital aspects of emergency care. By implementing structured, recurrent training programs and practical, hands-on sessions, the readiness of these drivers to effectively manage roadside emergencies can be significantly enhanced. Such initiatives are

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not only crucial for improving immediate emergency response but also for mitigating the long-term economic and social impacts of road traffic injuries, ultimately contributing to better public health and safety outcomes.

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A LITERATURE REVIEW ON CORRECTING FORWARD HEAD POSTURE USING THE MCKENZIE APPROACH

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ABSTRACT

Introduction*: Forward head posture (FHP) is a common musculoskeletal problem caused by modern lifestyle variables such as prolonged sitting, poor ergonomics, and excessive use of electronic gadgets. This literature review investigates the efficacy of the McKenzie Method in addressing FHP by doing a thorough examination of relevant research.*
Methods: *A comprehensive search was performed in electronic databases such as PubMed, Google Scholar, and Direct Science. The inclusion criteria were studies published between 2016 and 2023 that focused on the McKenzie method for treating FHP in children and adults worldwide. A total of 33 publications were discovered, with 6 chosen for in-depth research.*
Results: *The review discusses the prevalence, causes, and implications of FHP, with a focus on musculoskeletal health and overall well-being. The McKenzie Method, a holistic approach to spinal and extremity pain, has emerged as an effective intervention for treating FHP. McKenzie exercises have been shown in studies to significantly enhance neck function, postural alignment, and respiratory health.*
Conclusion: *The study concluded that the McKenzie Method appears to be a promising approach for managing FHP, addressing the serious health consequences of this postural abnormality. Additional study is required to improve its effectiveness and promote greater postural health and general well-being.*

INTRODUCTION

Posture is defined as a state of musculoskeletal balance through which a minimal amount of stress is applied to the body. Many people try to maintain good posture, but they cannot sustain it due to various factors such as their occupation, recreational activities, and BMI [(1)]. Our posture starts getting affected from a very early stage of life. As soon as children start school, their musculoskeletal system begins to change due to the continuous sitting posture. Children spend one-third of their time at school in a static position. Students sit on furniture that is not ergonomically suitable for them. Because of this static posture and faulty furniture, students experience pain in their back and neck regions, and the curvature of their spine gets affected [(2)].

Modern life also impacts posture as students study on their computers and other electronic devices in incorrect sitting positions. Carrying heavy bags also leads to postural changes. It was found that adolescents carrying more than 15% of their body weight in their bags experience postural changes. Common postural defects in adolescents include rounded shoulders, forward head posture, swayback posture, and flat back [(3)].

A prevalence study in Gujarat, India, states that 63 % of students between the ages of 12 and 16 years have forward head posture [(4)]. The prevalence of university students having a forward head posture is 63.96% [(5)]. Additionally, 79% of the population between the ages of 18 and 44 have a forward head posture [(6)]. Causes of forward head posture include long-duration work in front of computers [(7)]. Those who wear glasses are more prone to forward head posture [(8)], as are those carrying backpacks weighing more than 15% of their body weight [(3)], electronic gamers [(9)], and those who excessively use smartphones [(10)]. Lying on the stomach for more than 2 hours while reading also contributes to this condition [(11)].

Problems associated with forward head posture include restrictions in subcranial and upper thoracic movement, hypermobility of the mid-cervical spine, headaches, dizziness, occasional loss of balance, and difficulty in total spinal motion. Excessive extension of the upper cervical spine can reduce the space for the first and second occipital nerves to exit, leading to compression and referred pain in the head. Forward head posture can also cause upper thoracic kyphosis, reducing mobility in that region, which is not reversible. Additionally, adaptive shortening of anterior muscles and drooping of the clavicles can lead to thoracic outlet syndrome. The upper rib cage is immobilized in forward head posture, requiring increased abdominal activity during respiration [(12)]. If not treated, forward head posture can lead to TMJ dysfunction syndrome due to muscular imbalance [(13)].
Patho mechanics of forward head posture: A lordotic curve is normally present in the cervical spine. Continuous contraction of head and neck muscles is required to maintain a static posture for prolonged periods. Extension of the upper cervical spine and flexion of the lower cervical spine result in a protraction

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movement. Conversely, flexion of the upper cervical spine and extension of the lower cervical spine result in a retraction movement. In normal posture, the line of gravity should pass through the external auditory meatus, cervical spine bodies, acromion, and anterior to the thoracic spine. If the cervical spine remains in a protracted position for a prolonged period due to any reason or activity, it can lead to a postural deviation known as forward head posture. Due to these postural misalignments, muscles require greater force to counter the external torque produced by gravity, altering the line of gravity from its normal location [(14)].

This article aims to review the literature on correcting forward head posture through the McKenzie Method. The McKenzie Method, also known as Mechanical Diagnosis and Therapy (MDT), is a comprehensive approach to spinal and extremity pain. It emphasizes self-treatment and active patient involvement to manage and prevent musculoskeletal conditions. The following sections will detail the principles of the McKenzie Method and its application in addressing forward head posture, supported by evidence from relevant studies and clinical practice.

METHODOLOGY

Materials and Methods

A comprehensive search was conducted in electronic databases including PubMed, Google Scholar, and Direct Science.

Keywords such as forward head posture, neck pain, musculoskeletal pain, epidemiology, McKenzie approach
Studies focusing on the prevalence, risk factors, biomechanical aspects, and interventions for forward head posture were included. The articles were collected in full text. A total of 33 articles were collected and only 6 articles are used in this study for the research.

Study Selection

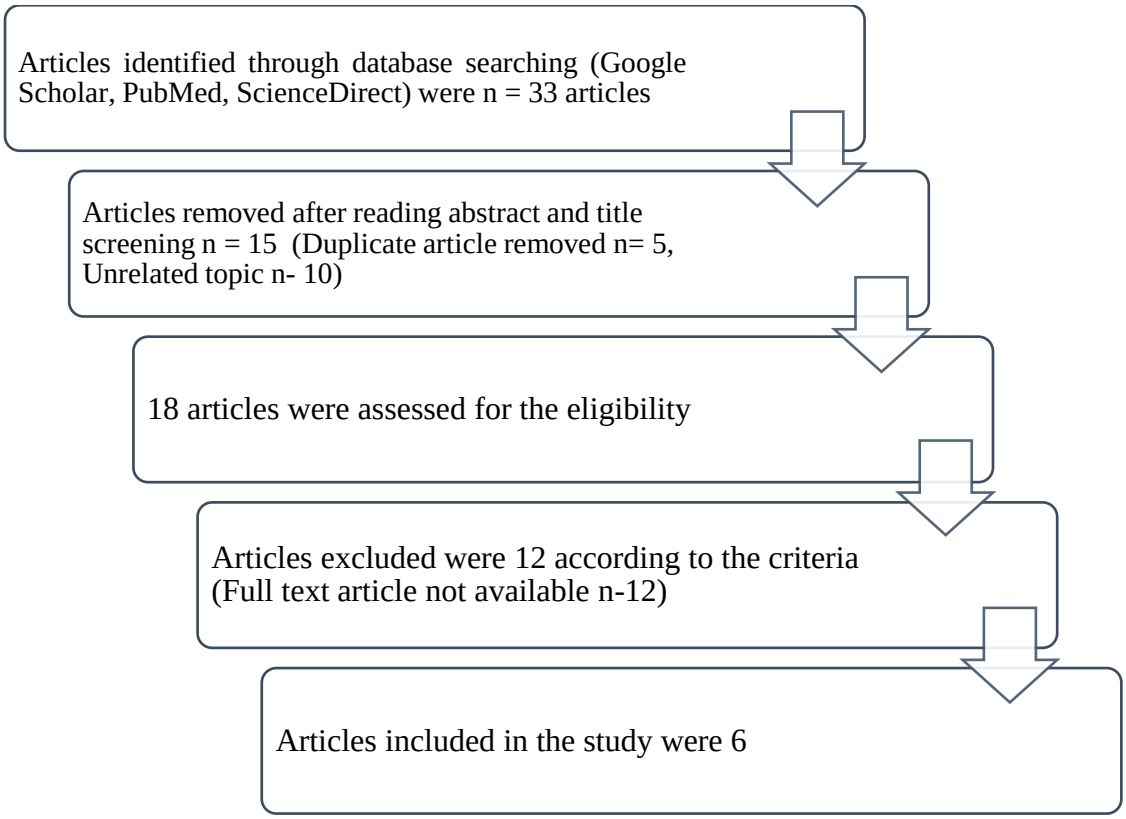
Inclusion Criteria

- Articles were included from year 2016 to 2023.
- Articles include the use of McKenzie approach to treat forward head posture.
- Article related to forward head posture worldwide.

Exclusion Criteria

- Articles before the year 2016 not be included.
- No pathological disorders, fractures, or stenosis conditions were included which caused forward head posture.

FLOW CHART



REVIEW OF LITERATURE

1. Erina et al (2023) conducted a study, the purpose of the research is to compare the effect of isometric and cervical McKenzie exercises on the neck functional score in computer users who have forward head posture. This study used a quasi-experimental design. By using purposive sampling, 24 computer users were selected for the study, the participants were split into two groups and given cervical McKenzie exercise (n = 12) and cervical isometric exercise (n = 12). Every group was given a distinct

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exercise. The Neck Disability Index (NDI) questionnaire was used to measure the neck's functional score both before and after the intervention. It has been concluded that cervical McKenzie exercise is much more effective than cervical isometric exercise, is more beneficial in raising neck functional scores in patients with FHP. (15)

2. Shreya Joshi et al (2019) The purpose of this study was to determine how the McKenzie self-therapy protocol improved adolescent girls' forward head posture and respiratory health. Sixty school-age girls were divided into two groups at random for experimental research. For 12 weeks, group A received McKenzie self-therapy while group B was in control. The craniovertebral angle (CVA) was used to assess the forward head angle. The peak expiratory flow metre was used to measure the peak expiratory flow rate, or PEFR. With McKenzie self-therapy, a significant improvement in respiratory function and forward head posture was observed. The control group's respiratory function showed a significant difference. There was a greater variation in CVA in the exercise group, but there was no discernible difference in respiratory performance across the groups. (16)
3. Vishnupriya Deshpande et al (2019) this study aims to investigate how young individuals forward head posture is affected by the McKenzie technique, neck exercises, and a combination of both. Thirty subjects, aged eighteen to thirty-five, were divided into three groups Group-A, Group-B, Group- C randomly and given three sessions a week for four weeks of McKenzie approach, neck exercise, or combination treatment. The McKenzie method and neck exercises were both beneficial in treating forward head posture; however, there was a statistically significant difference between groups (A) and (B), (B) and (C), but not between groups (A) and (C). (17)
4. SeYoon Kim et al (2019), the study aimed to examine how forward head posture and respiratory function were affected by the McKenzie exercise programme. Thirty adult males and females, ages 20 to 29 with forward head posture, were assigned randomly into two groups: the experimental group (N = 15) and the control group (N = 15). For four weeks, participants in the experimental group conducted the McKenzie exercises three times a week, whereas those in the control group received no assistance at all. Measurements of forced vital capacity (FVC), FVC% predicted, forced expiratory volume at one second (FEV1), and FEV1% predicted were made to assess changes in respiratory function. Craniovertebral angle (CVA) was also taken. When pre- and post-test measures were compared, the experimental group's CVA considerably increased, indicating postural improvement, while the control group showed no significant change. In the experimental group, there were significant improvements in all respiratory measurements (FVC, FVC %pred, FEV1, and FEV1 %pred), while no significant differences were observed in the control group. So, they concluded forward head posture and respiratory function can both be enhanced by the McKenzie exercise. (18)
5. Do Youn Lee et al (2017) The purpose of this study was to ascertain the impact of exercises that improve forward head posture on rounded shoulder posture when using the self-stretch, McKenzie, and Kendall exercises as intervention methods. The 28 participants that were chosen were divided into three groups at random: the Kendall exercise group (n = 9), the self-stretch exercise group (n = 10), and the McKenzie exercise group (n = 9). The craniovertebral angle was employed to compare the forward head posture. The scapular index was developed to quantify the rounded shoulder posture. Within each group, there were notable variations in the scapular index and craniovertebral angle, but not between the groups. The study's findings demonstrated that all interventions raised the scapular index and the craniovertebral angle, indicating that the exercises used improved the forward-head and rounded-shoulder postures. (19)
6. Kumar Neeraj et al (2016) The goal of this research was to compare the benefits of McKenzie Neck Exercise vs Strengthening Neck Exercise for individuals with neck pain. 44 individuals with neck pain were included in a convenience sample and randomly assigned to one of three groups, A, B, or C. Postural correction, hot packs, and McKenzie treatment will be administered to Group A subjects. Postural correction, a hot pack, and strengthening exercises will be given to the Group B patient. Postural correction and Hot Pack are the subjects of Group C. For four weeks, all three groups received treatment. Tools Using analysis of variance, the subjects' height, weight, and age were compared among groups A, B, and C. The McKenzie method, the isometric strengthening exercise, and the hot pack method differed significantly from one another for treating cervical pain. Studies have shown that the McKenzie protocol is superior to the isometric strengthening exercise. (20)

DISCUSSION

The literature review provides a full summary of forward head posture (FHP), its prevalence, underlying causes, and associated health consequences, as well as the McKenzie Method's effectiveness in treating this widespread postural defect. The findings highlight the enormous impact of modern lifestyle and ergonomic variables on posture, beginning at a young age.

Forward head position is common in all age groups, with research showing that 63 % of the age group 12 to 16, 63.96 % of university students, and 79 % of the population aged 18 to 44 years demonstrate this postural condition. The predominance is attributed to long durations of sitting, poor ergonomics, and heavy backpack use. Specific behaviours, such as long-term computer work, excessive smartphone use, and wearing bags weighing more than 15% of body weight, are important causes. This prevalent occurrence underscores the importance of appropriate intervention techniques to reduce the related health risks.

FHP has wide-ranging ramifications, affecting not only musculoskeletal health but also overall well-being. FHP is associated with limitations in subcranial and upper thoracic movement, hypermobility of the mid-cervical spine, headaches, dizziness, occasional loss of balance, and issues with total spinal motion. These symptoms are compounded by

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biomechanical changes produced by prolonged cervical spine protraction, which can result in increased muscular strain and nerve compression. Moreover, adaptive shortening of anterior muscles and drooping of the clavicles can result in thoracic outlet syndrome, while immobilization of the upper rib cage in FHP necessitates increased abdominal activity during respiration. If left unaddressed, FHP can also contribute to temporomandibular joint (TMJ) dysfunction due to muscular imbalance.

The Patho-mechanics of FHP involve a disruption of the normal cervical spine alignment, necessitating continuous contraction of head and neck muscles to maintain the posture. The altered line of gravity requires greater muscular force to counteract the external torque, leading to increased strain and potential postural deviations. Understanding these mechanics is crucial for developing effective therapeutic interventions.

The McKenzie approach has shown considerable promise in correcting FHP. Several studies reviewed demonstrate its effectiveness in improving neck function, postural alignment, and respiratory health. For instance, Erina et al. (2023) found that cervical McKenzie exercises significantly improved neck functional scores in computer users with FHP compared to cervical isometric exercises. Similarly, Shreya Joshi et al. (2019) reported significant improvements in both FHP and respiratory function among adolescent girls following the McKenzie self-therapy protocol.

Other studies further support these findings. Vishnupriya Deshpande et al. (2019) highlighted the benefits of the McKenzie method combined with neck exercises in treating FHP in young adults. SeYoon Kim et al. (2019) demonstrated significant improvements in postural alignment and respiratory function in adults with FHP after a four-week McKenzie exercise program. Additionally, Do Youn Lee et al. (2017) found that the McKenzie exercises improved both FHP and rounded shoulder posture, indicating its comprehensive benefits. Kumar Neeraj et al. (2016) also confirmed the superiority of the McKenzie method over isometric strengthening exercises in treating cervical pain associated with FHP.

In summary, the McKenzie Method emerges as a highly effective approach for managing and correcting FHP. Its emphasis on self-treatment and active patient involvement makes it a practical solution for various settings, from schools to workplaces. Future research should focus on the long-term efficacy and adherence to the McKenzie Method, comparative studies across different populations, and the integration of technological tools to enhance its effectiveness. Addressing these areas will further validate and refine the use of the McKenzie Method in promoting better postural health and overall well-being.

CONCLUSION

In conclusion, forward head posture (FHP) is a prevalent postural defect affecting various age groups, primarily due to modern lifestyle factors such as prolonged sitting, incorrect ergonomic setups, and excessive use of electronic devices. The associated health problems of FHP are extensive, impacting musculoskeletal health and overall well-being by causing movement restrictions, muscle strain, nerve compression, and potential conditions like thoracic outlet syndrome and temporomandibular joint dysfunction.

The literature reviewed highlights the significant potential of the McKenzie Method in addressing FHP. Studies consistently demonstrate the effectiveness of the McKenzie exercises in improving neck function, postural alignment, and respiratory health across different populations. The method's emphasis on self-treatment and active patient involvement makes it a practical and accessible solution for various settings.

Given these findings, the McKenzie Method stands out as a highly effective approach for managing FHP. However, future research should focus on assessing the long-term efficacy and adherence to this method, conducting comparative studies across diverse populations, and integrating technological tools to further enhance its effectiveness. These steps will help validate and refine the use of the McKenzie Method, ultimately promoting better postural health and overall well-being.

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TEACHER EFFICACY AND ATTITUDE IN INCLUSIVE EDUCATION AS PREDICTORS OF READINESS FOR INCLUSIVE EDUCATION: AN EXPLANATORY SEQUENTIAL DESIGN

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ABSTRACT

This explanatory sequential mixed method study aimed to know the status and determine the influence of teacher efficacy and attitude in inclusive education to teachers' readiness for inclusive education. The participants were the teachers from the public elementary schools in Region XI, Philippines, who were purposively selected. The researcher made use of validated adapted survey questionnaires and in-depth interview guide to collect relevant data. Mean, standard deviation, regression and thematic analysis were used to analyze the corresponding data gathered. In the quantitative phase, the findings revealed that the status of teacher efficacy with all the indicators: efficacy to use inclusive instruction, efficacy in managing behavior got a very high rating. The participants also rated very high as to the attitude in inclusive education with all its indicator: cognitive, affective and behavioral. As to the readiness for inclusive education, with all its indicators: curriculum instruction, curriculum content, assessment on students' performance and evaluation and monitoring of students' progress got a very high rating. It revealed further that both teacher efficacy and attitude in inclusive education significantly influence teachers' readiness for inclusive education. It also showed that the two predictors combined had a significant influence on readiness for inclusive education. In the qualitative phase, for teacher efficacy, the themes emerged were: confirmed very high rating of efficacy to use inclusive instruction, confirmed very high rating on efficacy in collaboration, and confirmed very high rating on efficacy in managing behavior. For attitude in inclusive education, the themes emerge were: confirmed very high rating on affective, confirmed very high rating on cognitive and confirmed very high rating on behavioral. As to readiness for inclusive education, the themes emerged were: confirmed very high rating on curriculum instruction, confirmed very high rating on curriculum content, confirmed very high rating on assessment of students' performance and confirmed very high rating on evaluating and monitoring students' progress. Finally, findings of the integration revealed that the results of the two phases corroborated with each other, thus the nature of integration is connecting-merging. Participants confirmed that teacher efficacy is always evident, attitude of teachers toward inclusive education is always demonstrated and readiness for inclusive education is always observed. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating.

KEYWORDS: *Educational leadership, teacher efficacy, attitude in inclusive education, readiness for inclusive education, mixed methods, explanatory sequential design, Philippines.*

I. INTRODUCTION

The readiness of teachers to address the needs of all students is crucial for the successful implementation of inclusive education practices (Dioso et al., 2022). However, most countries need comprehensive equity strategies to achieve this goal. According to UNESCO (2019), only 11 percent of 71 countries have implemented comprehensive equity strategies, while another 11 percent have developed approaches targeted at specific groups. It raises critical questions about the effectiveness and inclusivity of current educational systems in addressing the diverse needs of all learners and the preparedness of educators to meet these needs.

According to an Australian study on teachers' readiness for inclusive teaching, many still feel ill-equipped because of their inclusive role and are not adequately prepared for the difficulties they now encounter in implementing inclusive education (Walker, 2021). Similar to this, a study carried out in Indonesia revealed that teachers struggle to create lessons that can meet the needs of all students, lack knowledge of the traits of all students, and are unable to create individualized learning plans for learners with special educational needs (LSEN) (Tambunan &

Rachmadtullah, 2018). In addition, a study conducted in Russia revealed that teachers are cautious about the implementation of

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special education and believed that they are not ready to work with LSEN for they do not understand their psychological characteristics (Pershina et al, 2018).

In 2010, the Philippine Department of Education (DepEd) projected that there were 5.49 million learners with special learning needs in the country. According to a recent presentation by the Bureau of Learning Division, there are an estimated 1.7 million persons with disabilities in the Philippines, or 1.57 percent of the country's overall population. Yet according to studies, instructors might not be sufficiently trained for inclusive education (Mendes et al., 2018). In Negros Oriental, most participants struggle to give lessons effectively to children with special needs in a system that is inclusive (Dela Fuente, 2021). Further instruction in managing students with special needs in an inclusive environment was also stressed in research conducted in Zamboanga (Dioso et al., 2021).

A study conducted by Loreman et al. (2019) examines teachers' efficacy and readiness toward inclusive education. The results showed that teachers with higher levels of teacher self-efficacy were more likely to have greater readiness for inclusive education and feel more prepared to implement inclusive practices in their classrooms. Additionally, the study found that teachers who had more experience working with students with disabilities had higher levels of teacher self-efficacy and readiness. Moreover, Kaya (2021) had similar results in their study and stated that teacher efficacy was an important predictor of preparation for inclusive education. Besides, the aforementioned teachers believe that they can only make a limited number of interventions to include a student with special learning needs in a conventional classroom due to the belief that they are not ready for inclusive education (Kazanopoulos et al., 2022). Further, there is a clear connection between a positive attitude toward inclusive education and readiness for inclusive education. In other words, as attitudes toward inclusive education become more positive, readiness for inclusive education practices also increases (Zainalabidin & Ma'rof, 2021). Hence, it is reasonable to expect that a teacher who holds negative attitudes toward inclusion or a specific program may not also prepare to address all the learners' needs, thus decreasing their readiness for inclusive education (Kielblock, 2018). Teachers hold positive attitudes towards inclusion as an idea, but feel less positive about their readiness and capacity to implement inclusive practices in their classrooms (Boyle, 2021).

In spite of the growing recognition of the importance of inclusive education, there is still a lack of understanding about the specific factors that influence teacher attitude in inclusive education, teacher efficacy, and readiness for inclusive education. While some research has explored individual factors such as teacher attitude in inclusive education (Cochran,1998; Jury et al., 2021; Singh et al., 2020) and teacher efficacy (Johnson, 2020; Kazanopolous et al., 2022) alone, there is a need for more comprehensive studies that consider a range of factors that may interact to shape teacher readiness for inclusive education. Several studies have explored readiness for the implementation of education focusing on pre-service teachers (Kudarinova, 2023; Smolyar et al., 2021); and secondary teachers (Serakalala et al. 2019). However, the cited studies were conducted abroad or outside the country and the researcher could not access studies which dealt with the same phenomenon in the local setting. This study explored the potential linkages of public elementary mainstream teachers between how teacher efficacy and attitude in inclusive education may impact the extent of their readiness for inclusive education practices. In addition, the mentioned studies were mostly quantitative in nature, but this study employed mix method design to provide a more comprehensive and well-rounded understanding about the issues on readiness for inclusive education as suggested by Zainalabidin and Marof (2021). By addressing these gaps in the literature, researchers can provide valuable insights into how to support teachers in implementing inclusive education effectively in general. Thus, the researcher saw the urgency to conduct this study.

The researcher was keenly interested in understanding the influences on teacher readiness for inclusive education. This would be very useful for mainstream teachers to further explain and address the issues of readiness in the context of curriculum instruction, curriculum content, assessment of student performance, and evaluating and monitoring students' progress. Furthermore, the researcher wanted to explore issues that could provide strong linkages between teacher attitude in inclusive education, teacher efficacy, and readiness in the context of inclusive education. Ultimately, the research aimed to contribute to promoting inclusive education practices, social equity, and high-quality education for all learners.

This study would be very useful specifically for teachers who are teaching in the general education classroom with LSEN. Thus, the findings of this study would be shared and contribute to the body of knowledge through publication in scholarly journals, conference proceedings, and academic books. This could also be disseminated via the presentation of research findings at conferences, seminars and workshops along with other professionals in the field. Further, the researcher may engage with the local communities and organizations to promote the dissemination of research findings in a meaningful way through hosting community forums, workshops, or public lectures to share research outcomes directly with the people like teachers who may benefit from or be affected by the findings.

WORLD VIEW AND THEORETICAL LENS

By combining the constructivist and pragmatic worldviews, this research can capture the subjective experiences and perspectives of teachers while also aiming to generate practical knowledge and insights to enhance readiness for inclusive education. It recognizes the importance of both the individual's construction of knowledge and the practical outcomes that can be achieved through research.

Pragmatism focuses on examining the practical implications of research data to question its validity and meaning, it is compatible with interpretive understandings of socially constructed reality that are qualitative (Morgan, 2014). It

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presents a viewpoint on understanding as part of society and a context achievement that influences and is influenced by the lived experience of those who acquire it (Talisse & Aikin, 2008). Pragmatists believe in applying the philosophical and methodological strategy best-addressing research challenges, emphasizing knowledge that can be put into practice and viewing inquiry as a tool for experiencing. (Kelly & Cordeiro, 2020).

Constructivism, on the other hand, is a philosophical paradigm that stresses how individuals actively construct their perceptions of reality through their cognitive processes, leading to various realities (Lincoln & Guba, 1985). Adherents of this paradigm emphasize the co-construction of knowledge between researchers and participants and the importance of participants' own constructs, descriptions, and narrations of their lived experiences (Tashakkori et al., 2021).

Systems Theory by Niklas Luhmann (1984) served as the theoretical foundation of this study. As to Luhmann (1984), every society is segmented into distinct subsystems, such as legal, political, educational, scientific, or economic. It is autopoietic—a system that generates and replicates its own elements and structures (Luhmann, 2012). Several fundamental components, including differentiation, autopoiesis, and communication, form the foundation of Luhmann's system theory. These are functionally differentiated and operate based on their own distinctive codes and communication patterns (Luhmann, 1984).In addition, Social Cognitive Theory (SCT) by Albert Bandura (1986) was another significant theory in this study. According to SCT, learning occurs when people, behavior, and surroundings interact dynamically and reciprocally. The distinctiveness of SCT lies in its emphasis on social influence and internal and external reinforcement. Furthermore, Furthermore, the Planned Behavior Theory (PBT) by Icek Ajzen (1985) is a theoretical framework that clarifies how individuals' intentions to engage in a specific conduct are influenced by their attitudes, subjective norms, and perceived behavioral control. PBT contends that teachers' attitudes toward implementing inclusive education, subjective norms, and perceived behavioral control have an impact on their intents to engage in inclusive activities. For instance, instructors who are supportive of inclusive education and believe that others in their social network share their views are more likely to plan to use inclusive methods. Additionally, teachers are more likely to plan to use inclusive practices if they believe they have some influence over their ability to do so.

II. METHODS

Research Design

This study employed a mixed methods research design, particularly an explanatory sequential design. Mixed methods research design has become popular because it allows researchers to combine qualitative and quantitative research strengths to provide a more comprehensive and nuanced understanding of complex phenomena (Creswell, 2014). The explanatory sequential design involves first phase of quantitative data collection and analysis, followed by a second phase of qualitative data collection and analysis, with the overall goal of better understanding a research problem. In this study, following the analysis of the survey results pertaining to teacher efficacy, attitudes towards inclusive education, and readiness for inclusive education, the researcher identified specific issues that warrant further clarification (Creswell, 2014). By employing both quantitative and qualitative methodologies, this study sought to gain a more holistic perspective on the factors influencing teacher readiness for inclusive education (Creswell & Plano Clark, 2018).

In the quantitative phase, typically involves using surveys methods to gather numerical data, which is then analyzed using statistical methods. By utilizing a correlational approach, the researcher aimed to examine the relationships between teacher efficacy and attitudes in inclusive education in order to gain insights into the readiness of teachers for inclusive education. Meanwhile, on the qualitative phase, the researcher used phenomenological approach. Phenomenology is a qualitative research approach that emphasizes the shared experiences within a specific group (Creswell, 2014). The interview guide questions used in IDI and focus FGD were taken from the results on the quantitative descriptive and inferential results, focusing on its strengths and weaknesses.

Place of Study

This study was conducted in Region 11 involving public elementary schools in DepEd Schools Division Offices. The Schools Division Offices comprises six cities namely: Digos City, Davao City, Island Garden City of Samal, Panabo City, Tagum City, City of Mati; and four provinces namely: Davao Oriental, Davao Occidental, Davao del Sur, and Davao del Norte. DepEd Region XI were chosen as the locale of the study due to the following reasons: The researcher holds a specific interest in examining the readiness of teachers for inclusive education within her local community. Next, the researcher was confident that the Davao region offers a sufficient number of participants for the study. The region is known to have a significant population of public elementary school teachers who are actively engaged in mainstream classrooms, where students with and without disabilities learn together.

Participants

The participants of the study were 300 public elementary school teachers in Region XI who have experienced teaching in the mainstream classrooms who answered the survey questionnaire. Purposive sampling was used in selecting the participants because the researcher considered first the availability of the participants who met the criteria: each participant was a full-time teacher in a public elementary school, teachers from Kinder to Grade 6, with at least 1 year of experience in teaching in the mainstream classroom, and teachers who have handled any disabilities as specified by IDEA. Those teaching less than a year, have not handled any learners with disabilities, and teachers in the secondary school were not qualified to participate in the study. The criteria were set to attain homogeneity in their responses (Creswell, 2003). In the qualitative strand, 17 participants were invited for in-depth interview (IDI) and focus group discussion (FGD), who were selected from the participants in the quantitative strand. According to Creswell (2013), a heterogeneous group may vary in size from three to four individuals to 10 to 15. Specifically, 10 participants for IDI and seven for FGD. The sampling technique and inclusion and exclusion criteria were similar to the

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quantitative strand. The findings were used as a basis to define the evolving themes that can explain the outcomes from the quantitative stage.

Instruments

This study utilized research instruments to gather the necessary data for quantitative and interview guide for qualitative phase. Survey questionnaires have three parts. The first questionnaire was about the teacher efficacy adapted from Park et al. (2014), the so-called Teacher Efficacy for Inclusive Practices (TEIP) consist of 18 items with Cronbach's alpha of .923. The second questionnaire is about the Multidimensional Attitudes Towards Inclusive Education Scale (MATIES) which has a Cronbach's alpha of .799 for the entire scale of 18 items. The third questionnaire was adapted from Taripe (2018) and used by Dioso et al., (2021) which is about teachers' readiness to implement inclusive education with Cronbach's alpha of 0.981 for the overall scale of 40 items. The three parts of survey questionnaires used five-point rating scale of 5 - Strongly Agree, 4 - Agree, 3- Moderately Agree, 2 - Disagree, and 1 - Strongly Disagree. On the qualitative phase, the researcher drafted an interview guide for qualitative data collection. Open-ended questions were used by the researcher which were listed in the interview guide. These questions came from the quantitative descriptive and inferential results emphasizing extreme means or items that have the lowest or highest mean.

Data Analysis

The collected quantitative data were examined using statistical tools like mean, standard deviation, and multiple regression analysis. Mean was used to measure the status of the studied variables, while standard deviation was used to measure the degree of reliability of the statistical conclusions in relation to the variables and multiple regression data analysis was used to examine the relationships between teacher efficacy and attitudes in inclusive education in order to gain insights into the readiness of teachers for inclusive education. Additionally, they were used to investigate the influence of teacher efficacy and attitudes in inclusive education on teachers' readiness for inclusive education. For the qualitative phase, a step–by–step process was used to analyze the verbatim data gathered by the researcher through IDI and FGD. The Collaizi's Method (1978), composed of seven steps, was observed to uncover the participants' genuine experience regarding the phenomenon being studied. The data were transcribed, reduced, coded, then themes were formed and reviewed, modified, and developed. After this, the researcher analyzed whether the themes were coherent and distinct.

Trustworthiness of the Study

Trustworthiness of this study was addressed through a thorough collection of data by survey and in-depth interview and was supported by FGD for triangulation. Establishing trustworthiness is a crucial aspect of research to ensure the accuracy and validity of findings. Researchers like Creswell (2014), Flick (2018), and Guba (2018) emphasize various methods to establish trustworthiness in qualitative research such as credibility, transferability, dependability, and confirmability to assess the trustworthiness of research findings.

III. RESULTS

Quantitative Results

Status of Teacher Efficacy

The status of teacher efficacy is presented in Table 1.1. The teacher efficacy had an overall mean of 4.48 with a description of very high. This implies that teacher efficacy for inclusive practices is always evident among general education elementary teachers in Region XI. More so, the overall standard deviation is 0.42, which is characterized as homogenous based on the consistent responses as quantified by a standard deviation not exceeding 1.00.

Efficacy to use inclusive instruction got a mean of 4.49 which is described as very high and the mean ranges from 4.42 to 4.57. On the other hand, the efficacy in collaboration obtained a mean of 4.45 which was described as very high and mean rating ranges from 4.38 to 4.61. Lastly, efficacy in managing behavior got a mean of 4.50 which has a descriptive rating of very high and the means ranges from 4.40 to 4.64.

Table 1.1
Status of Teacher Efficacy

	Efficacy to use inclusive instruction	Mean	SD	Description
	The teachers are ….			
1.	using a variety of assessment strategies (for example, portfolio assessment, modified tests, performance-based assessments, etc).	4.57	0.59	Very high
2.	providing an alternate explanation or example when students are confused.	4.57	0.60	Very high
3.	demonstrating confidence in designing learning tasks so that the individual needs of students with disabilities are accommodated.	4.46	0.56	Very high
4.	accurately gauging student of what was taught.	4.42	0.64	Very high
5.	providing appropriate challenges for very capable students.	4.45	0.56	Very high
6.	showing confidence in adapting school-wide assessments so that students with all disabilities can be assessed.	4.46	0.57	Very high
	Category mean	**4.49**	**0.47**	**Very high**
	Efficacy in collaboration			
	The teachers are ….			
1.	assisting families in helping their children do well in school.	4.37	0.62	Very high
2.	working jointly with other professionals and staff (e.g. aides, other teachers) to teach students with disabilities in the classroom.	4.41	0.60	Very high
3.	being confident in the ability to get parents involved in school activities of their children with disabilities.	4.46	0.61	Very high
4.	making parents feel comfortable coming to school.	4.61	0.57	Very high
5.	collaborating with other professionals (e.g. itinerant teachers or speech pathologist) in designing educational plans for students with disabilities.	4.38	0.65	Very high
6.	being confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities.	4.36	0.65	Very high
	Category mean	**4.45**	**0.50**	**Very high**
	Efficacy in managing behavior			
	The teachers are ….			
1.	showing confidence in the ability to prevent disruptive behavior of children with special needs in the classroom before it occurs.	4.40	0.59	Very high
2.	controlling disruptive behavior of children with special needs in the classroom.	4.45	0.60	Very high
3.	calming down a student who is disruptive or noisy	4.48	0.60	Very high
4.	getting children to follow classroom rules	4.64	0.52	Very high
5.	being confident in dealing with students who are physically aggressive.	4.49	0.60	Very high
6.	making our expectations clear about student behavior.	4.55	0.58	Very high
	Category mean	**4.50**	**0.49**	**Very high**
	Overall Mean	**4.48**	**0.42**	**Very high**

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Status of Attitude in Inclusive Education

The status of attitude in inclusive education is presented in Table 1.2 with an overall mean of 4.42 described as very high. This means that the attitude of teachers toward inclusive education is always demonstrated. More so, the overall standard deviation is 0.42, which is characterized as homogenous based on the consistent responses as quantified by a standard deviation not exceeding 1.00. Cognitive got a mean of 4.47 described as very high and the means ranges from 4.17 to 4.65 while affective indicator obtained a mean of 4.36 described as very high and the mean rating ranges from 4.32 to 4.40 and behavioral indicator got a mean of 4.43 described as very high and the means ranges from 4.27 to 4.59.

Table 1.2. ***Status of Attitude in Inclusive Education***

Cognitive The teachers are believing that....	Mean	SD	Description
1. an inclusive school is one that permits academic permission of all students regardless of their ability.	4.65	0.53	Very high
2. students with disability should be taught in inclusive schools.	4.60	0.58	Very high
3. inclusion facilitates socially appropriate behavior amongst all students.	4.56	0.57	Very high
4. any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.	4.69	0.58	Very high
5. students with disability should not be segregated even if it is expensive to modify the physical environment of the school.	4.17	0.89	High
6. students with disability should be enrolled in inclusive schools so that they can experience socialization in the regular school.	4.24	0.86	Very high
Category mean	4.47	0.48	Very high
Affective The teachers are			
1. being challenged when they have difficulty communicating with students with disability.	4.32	0.68	Very high
2. being not upset when students with disability cannot keep-up in their day-to-day curriculum in my classroom.	4.35	0.69	Very high
3. being not irritated when they are unable to understand students with disability.	4.38	0.68	Very high
4. being comfortable including students with a disability in a regular classroom with other students without disability.	4.39	0.66	Very high
5. being not worried that students with disability are included in the regular classroom, regardless of the severity of the disability.	4.34	0.72	Very high
6. being encouraged when the teachers have to adapt the curriculum to meet the individual needs of all students.	4.40	0.69	Very high
Category mean	4.36	0.57	Very high
Behavioral The teachers are			
1. encouraging students with disability to participate in all social activities in the regular classroom.	4.59	0.62	Very high
2. adapting the curriculum to meet the individual needs of all students regardless of their disability.	4.61	0.58	Very high
3. physically including students with a severe disability in the regular classroom with the necessary support.	4.27	0.87	Very high
4. modifying the physical environment to include students with disability in the regular classroom.	4.35	0.68	Very high
5. adapting their communication techniques to ensure that all students with emotional and behavioral disorder can be successfully included in the regular classroom.	4.40	0.66	Very high
6. adapting the assessment of individual students in order for inclusive education to take place.	4.48	0.61	Very high
Category mean	4.43	0.55	Very high
Overall Mean	4.42	0.42	Very high

The Status of Teachers' Readiness for Inclusive Education

The status of readiness for inclusive education is presented in Table 1.3 and its overall mean is 4.44 described as very high. More so, the overall standard deviation is 0.47, which is characterized as homogenous based on the consistent responses as quantified by a standard deviation not exceeding 1.00. The *Curriculum instruction* got a mean of 4.43 described as very high and the means ranges from 4.54 to 4.35. Meanwhile *Curriculum content* got a mean of 4.40 described as very high and the means ranges from 4.48 to 4.26. The *Assessment on students' performance* got a mean of 4.42 with an equivalent description of very high and the mean rating ranges from 4.54 to 4.37 and the *Evaluating and monitoring students' progress* got the mean of 4.48 and the means ranges from 4.60 to 4.38.

Table 1.3

Status of Teachers' Readiness for Inclusive Education

Curriculum Instruction	Mean	SD	Description
1. preparing differentiated instructions for regular students and those with special needs.	4.35	0.65	Very high
2. using effective ways of persuading students to follow classroom rules.	4.42	0.55	Very high
3. offering hands-on instruction to apply learned knowledge.	4.43	0.60	Very high
4. using effective behavior management techniques to modify students' inappropriate behavior.	4.39	0.65	Very high
5. motivating students to arouse their interest in learning concepts.	4.54	0.53	Very high
6. providing remedial reading strategies to students with reading difficulties.	4.46	0.60	Very high
7. providing learning activities that enhance collaborative learning.	4.47	0.55	Very high
8. using manipulatives to concretize concepts.	4.39	0.65	Very high
9. giving exercises to attain mastery of concepts.	4.43	0.62	Very high
10. employing appropriate strategies that promote interest.	4.44	0.62	Very high
Category mean	4.43	0.53	Very high
Curriculum Content			
1. implementing various curricula for students with special needs.	4.26	0.65	Very high
2. designing lessons appropriate for the special education program.	4.31	0.67	Very high
3. orienting students about the special education program.	4.43	0.64	Very high
4. showing awareness about the learning tasks for students with learning disabilities.	4.43	0.59	Very high
5. organizing classroom activities for both regular students and students with special needs.	4.40	0.64	Very high
6. using my knowledge about the lessons appropriate for students with special needs and finding it easy in explaining the concepts.	4.39	0.65	Very high
7. applying my knowledge in preparing instructional materials appropriate for students with special needs.	4.35	0.64	Very high
8. assisting students on their academic difficulties.	4.48	0.62	Very high
9. encouraging students with special educational needs to participate and perform well in class.	4.45	0.62	Very high
10. using my knowledge in handling students with learning difficulties.	4.46	0.64	Very high
Category mean	4.40	0.56	Very high
Assessment on students' performance			
1. constructing questions that develop critical thinking.	4.37	0.68	Very high
2. using varied and relevant assessment strategies to measure achievements.	4.40	0.63	Very high
3. individualizing assessments.	4.38	0.66	Very high
4. demonstrating knowledge in assessing and grading content knowledge of the students.	4.38	0.63	Very high
5. using alternative testing techniques in assessing students' performance and progress.	4.39	0.61	Very high
6. using appropriate assessment tools to measure students' progress.	4.47	0.60	Very high
7. conducting formative and summative tests.	4.54	0.53	Very high
8. finding creative measures in designing homework.	4.39	0.59	Very high
9. utilizing observation to measure students' learning.	4.44	0.56	Very high
10. finding varied methods of preparing assessment tools appropriate for children with special needs.	4.40	0.63	Very high
Category mean	4.42	0.53	Very high
Evaluating and Monitoring Students' Progress			
1. applying varied evaluation tools in assessing students' achievement.	4.45	0.57	Very high
2. using rubrics in evaluating students' progress.	4.47	0.57	Very high
3. carrying out evaluation of students' performance.	4.46	0.59	Very high

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4.	implementing new guidelines	4.38	0.61	Very High
5.	providing feedback to students with special needs as well as to parents.	4.48	0.59	Very High
6.	conducting periodic evaluation of students' progress.	4.60	0.58	Very High
7.	recording students' progress.	4.60	0.53	Very High
8.	informing parents/guardians regarding students' performance/progress.	4.59	0.62	Very High
9.	collaborating with special education teachers, parents, and other professionals in the formulation of students' Individualized Education Plan (IEP).	4.46	0.56	Very High
10.	formulating IEP based on psycho-educational assessment.	4.29	0.59	Very High
	Category mean	**4.48**	**0.47**	**Very High**
	Overall mean	4.44	0.47	Very High

Significance of the Influence of Teacher Efficacy and Attitude in Inclusive Education on Teacher Readiness for Inclusive Education

Table 2 shows the statistical data from regression analysis to determine whether the influence of teacher efficacy and attitude in inclusive education on the teacher readiness for inclusive education is significant or not. The results reveal that teacher efficacy significantly influences teacher readiness for inclusive education with a beta coefficient of 0.466, and p-value of less than 0.05. This means that in every increase in teacher efficacy there is a corresponding increase in teacher readiness for inclusive education by 0.466.

Table 2

Significance of the Influence of Teacher Efficacy and Attitude in Inclusive Education on Teacher Readiness for Inclusive Education

Predictors	Beta coefficient	t	p-value	Remarks
Teacher efficacy	0.466	8.240	0.000	Significant
Attitude in inclusive education	0.447	7.859	0.000	Significant
Predictors	**R-squared**	**F**	**P-value**	**Interpretation**
Combined	0.513	150.337	0.000	Significant

Note: R = 0.716; R-squared = 0.513; F = 150.337; p < 0.05

In the same manner, the attitude in inclusive education has a computed beta coefficient of 0.447 with p-value of less than 0.05. This finding indicates that there is an increase of teacher readiness for inclusive education in every increase of teacher attitude in inclusive education. Finally, the combined predictive effect of teacher efficacy and attitude in inclusive education is significant as quantified by the R-squared value of 0.513 with a p-value of less than 0.05. This result indicates that the regression model with teacher efficacy and attitude in inclusive education as predictors, will be able to account 51.3 percent of the variance in teacher readiness for inclusive education that is attributed to these predictors. It indicates then that the 48.7 of the variation can be attributed to other factors not included in this investigation.

Standpoints of the Participants on Teacher Efficacy, Attitude in Inclusive Education and Readiness for Inclusive Education

Table 3.1 reveals the standpoints of the participants on teacher efficacy, attitude in inclusive education and readiness for inclusive education. It can be gleaned in the table that participants confirmed very high rating of teacher efficacy, confirmed very high rating of attitude in inclusive education and confirmed very high rating of readiness for inclusive education.

Table 3.1. ***Standpoints of the Participants on Teacher Efficacy, Attitude in Inclusive Education and Readiness for Inclusive Education***

Level	Essential Themes	Typical Reasons
Teacher Efficacy		
Efficacy to use inclusive instruction Using a variety of assessment strategies. Mean: 4.57 SD: 0.59	Confirmed very high rating	[1]Accommodate learners needs, [2]Cater the learner multiple intelligences, [3]Consider the strengths and weaknesses of the learners, [4]Solid basis for evaluation of pupils learning and development,[5]Embrace diverse learning styles of learners.
Efficacy in collaboration Being confident in their ability to get parents involved in school activities of their children with disabilities. Mean: 4.46 SD: 0.61	Confirmed very high rating	[1]Teachers have good intentions, [2]Teachers give assurance to parents, [3]Teachers share the experiences of their children, [4]Teachers strengthen the communication with the parents, [5] Teachers build harmonious relationship with the parents
Efficacy in managing behavior Getting children to follow classroom rules. Mean: 4.64 SD: 0.52	Confirmed very high rating	[1]Firm in the classroom policy, [2]Setting classroom rule, [3]Establish clear expectations to students, [4]Consistency of classroom rules, [5] Provide positive reinforcement.
Attitude in Inclusive Education		
Cognitive Permits academic permission of all students regardless of their ability Mean: 4.65 SD: 0.53	Confirmed very high rating	[1]Provide the students with knowledge based on their capacity; [2]All are children of God, thus treat them equally; [3]All students have the equal opportunity to succeed; [4]Fair treatment of all students; [5]All students are accepted.
Affective Not worried that students with disability are included in the regular classroom, regardless of the severity of the disability Mean: 4.34 SD: 0.72	Confirmed very high rating	[1]Explained to the students the importance of "no child left behind."; [2]Necessary to create a conducive learning environment;[3] Willing to modify their lessons.; [4]Teachers understand their learners better; [5] Feel fulfilled when students needs are addressed; [6]Feel responsible for the learning of all students.
Behavioral Adapt the curriculum to meet the individual needs of all students regardless of their disability Mean: 4.51 SD: 0.58	Confirmed very high rating	[1]Bring out the skills of the learners. [2]Be more effective in meeting the needs of the learners. [3]Increase the milestone of the learners.
Encourage students with disability to participate in all social activities in the regular classroom. Mean: 4.59 SD: 0.52	Confirmed very high rating	[1]Fostering a sense of belonging and understanding among all learners. [2]Increase the learner's self-esteem. [3]Acknowledge their strength and boost the learner's potential.
Readiness for Inclusive Education		
Curriculum Instruction Motivating students to arouse their interest in learning concepts. Mean: 4.54 SD: 0.53	Confirmed very high rating	[1]Learners look forward for the activity. [2]Intrinsic and extrinsic rewards are provided to encourage learners. [3]Learners are eager to listen and complete the task. [4]Learners are interested to learn. [5]Teachers get away from paper and pen test.
Curriculum Content Using my knowledge in handling students with learning difficulties. Mean: 4.46 SD: 0.64	Confirmed very high rating	[1]Exposure to trainings and immersions helped. [2]Collaborate with experts to substantiate learning. [3]Teachers device own teaching techniques. [4]Teachers going extra miles for students. [5]Teachers focus on students strengths.
Assessment on students' performance Conducting formative and summative tests. Mean: 4.54 SD: 0.58	Confirmed very high rating	[1]Modification in the summative exams to accommodate the learner's learning capacity. [2]Students have specific skill to develop that cannot be measured in one assessment. [3]Evaluate the overall learning outcome and measure the effectiveness of the instructional process. [4]Teachers track students' progress. [5]Reflection on students' understanding.
Evaluating and Monitoring Students' Progress Applying varied evaluation tools in assessing students' achievement. Mean: 4.45 SD: 0.57	Confirmed very high rating	[1]Videos, portfolio, anecdotal reports are used to document student progress. [2]Utilize mix of formative and summative assessments and leverage technology for efficient data collection. [3]Use of checklist to monitor the skills of learners. [4]Provides consistent recording of students' progress. [5]Teachers use collaborative class activities for efficient evaluating students skills.

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Significance of the Influence of Teacher Efficacy and Attitude in Inclusive Education to Teacher Readiness for Inclusive Education		
Combined influence of Teacher Efficacy and Attitude in Inclusive Education $R^2 = 0.513$	Confirmed combined significant influence of Teacher Efficacy and Attitude in Inclusive Education to teacher readiness	[1]Teachers are confident and know how to deal with diverse students. [2]Teachers show concern, patient and flexible in dealing students with special needs [3]Teacher have a lot of teaching strategies and are more ready in handling diverse students. [4]Teacher have a lot of teaching strategies and are more ready in handling diverse students. [5]Teachers are open and optimistic [6]Teachers emphasize learners' right to education and give justice particularly to learners with special needs. [7]Teachers have positive attitude towards learners with disabilities.

Confirmed Very High Rating on Teacher Efficacy

It can be seen in the table that all the indicators of teacher efficacy, efficacy to use inclusive instruction, efficacy in collaboration, and efficacy in managing behavior, confirmed the very high rating found in the quantitative results of this study. The highest items on each indicators were being confirmed by the participants through IDI and FGD. The participants confirmed the very high rating of the item *using a variety of assessment strategies.* They were able to confirm this particular very high rating due to their confidence in the use of inclusive instruction through utilizing different strategies for all learners. The participants also confirmed the very high rating of the item *being confident in their ability to get parents involved in school activities of their children with disabilities*. they were able to confirm this by showing strong sense of confidence to collaborate with the parents thru giving assurance, good intentions and creating good relations. Lastly, the participants confirmed the very high rating on the item *getting children to follow classroom rules*. They were able to confirm this particular very high rating by emphasizing the establishment of clear expectations, be firm and consistent of given rules.

Confirmed Very High Rating of Attitude in Inclusive Education

It can be seen in the table that all the indicators of attitude in inclusive education: cognitive, affective and behavioral confirmed the very high rating found in the quantitative results of this study. The participants confirmed the very high rating of the item *permits academic permission of all students regardless of their ability.* They were able to confirmed this very high rating when participants strongly expressed their agreement on accepting all students, including LSEN because they too have their own worth or value. The participants also confirmed the very high rating of the item *not worried that students with disability are included in the regular classroom, regardless of the severity of the disability*. In the sharing the teachers prioritize a supportive learning environment, adapt lessons, understand students, fulfill needs, and take responsibility for all students' learning. These insights from the participants gave explanations as to why they confirmed very high rating in affective particularly in being not worried that LSEN are included in the classroom regardless of the severity of the disability. Lastly, the participants confirmed the very high rating of the items *adapt the curriculum to meet the individual needs of all students regardless of their disability* and *encourage students with disability to participate in all social activities in the regular classroom.* The participants strong willingness to do something to really meet the needs of LSEN in all aspects can confirm this very high rating.

Confirmed Very High Rating of Readiness for Inclusive Education

It can be seen in the table that all of the indicators of readiness for inclusive education: curriculum instruction, curriculum content, assessment on students' performance and evaluating and monitoring students' progress confirmed a very high rating. The participants confirmed the very high rating of the item *motivating students to arouse their interest in learning.* The standpoints shared by the participants underscored the pivotal role of motivation in shaping the effectiveness of curriculum instruction, emphasizing its capacity to inspire engagement and enhance learning outcomes. Participants confirmed this very high rating due to these reasons.

The participants confirmed the very high rating of the item *using my knowledge in handling students with learning difficulties.* They were able to confirmed this very high rating due to their depth understanding about curriculum content, specifically in addressing the different needs of LSEN. Their insights delineate strategies and approaches to cater to the LSEN if they need more than their knowledge, emphasizing the importance of tailored instruction and inclusive practices within the curriculum framework.

Confirmed Very High Rating on the Significance of the Influence of Teacher Efficacy and Attitude in Inclusive Education to Teacher Readiness for Inclusive Education

Based on the result, the participants confirmed the combined significant influence of Teacher Efficacy and Attitude in Inclusive Education to teacher readiness. They shared that they are confident, optimistic, flexible, and equipped with different strategies on how to handle learners with special needs. The participants were able to confirmed this very high rating mainly because of their demonstration of confidence, empathy, and flexibility. They have different teaching strategies to effectively accommodate diverse students, particularly those with special needs, emphasizing their right to education and fostering a positive attitude toward learners with disabilities.

Joint Display of Quantitative and Qualitative Results

Shown on Table 4 are the joint display of quantitative and qualitative results of the teacher efficacy, attitudes in inclusive education, and readiness of teachers for inclusive education.

Teacher efficacy. Particularly, efficacy to use inclusive instruction, the item *using a variety of assessment strategies* got a very high rating. The reasons expressed by the participants focused on addressing learners' individual needs by accommodating various learning styles and considering their multiple intelligences, strengths, and weaknesses. They also emphasize the importance of utilizing diverse teaching strategies that manifest their confidence in inclusive instruction. Consequently, the two are connecting-merging. As to efficacy in collaboration, the item *being confident in their ability to get parents involved in school activities of their children with disabilities* has a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. The reasons expressed by the participants demonstrate positive intentions by providing reassurance to parents, sharing insights about their children's

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experiences, fostering strong communication channels, and cultivating harmonious relationships with parents to support students' academic and personal development. Thus, connecting-merging was found to exist between the two sets of research findings in the data integration.

Table 4. ***Joint Display of Quantitative and Qualitative Results***

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
Teacher Efficacy	*Efficacy to use inclusive instruction* Using a variety of assessment strategies Mean: 4.57 SD: 0.59 *Efficacy in collaboration* Being confident in their ability to get parents involved in school activities of their children with disabilities Mean: 4.46 SD: 0.61 *Efficacy in managing behavior* Getting children to follow classroom rules Mean: 4.64 SD: 0.52	Participants confirmed teacher efficacy is always evident. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.1)	Connecting –Merging Connecting –Merging Connecting -Merging
Attitudes in Inclusive Education	Cognitive Permits academic permission of all students regardless of their ability Mean: 4.65 SD: 0.53 Affective Not worried that students with disability are included in the regular classroom, regardless of the severity of the disability Mean: 4.34 SD: 0.72 Behavioral Adapt the curriculum to meet the individual needs of all students regardless of their disability Mean: 4.51 SD: 0.58 Encourage students with disability to participate in all social activities in the regular classroom Mean: 4.59 SD: 0.52	Participants confirmed attitude of teachers toward in inclusive education is always demonstrated. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.1)	Connecting –Merging Connecting-Merging Connecting Merging
Readiness for inclusive instruction	*Curriculum Instruction* Motivating students to arouse their interest in learning concepts Mean: 4.54 SD: 0.53 *Curriculum Content* Using my knowledge in handling students with learning difficulties Mean: 4.46 SD: 0.64 *Assessment on students' performance* Conducting formative and summative tests Mean: 4.54 SD: 0.58 *Evaluating and Monitoring Students' Progress* Applying varied evaluation tools in assessing students' achievement Mean: 4.45 SD: 0.57	Participants confirmed readiness of teachers toward in inclusive education practices is always observed. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.1)	Connecting –Merging Connecting-Merging Connecting –Merging Connecting -Merging
Significant Influence	Combined influence of Teacher Efficacy and Attitude in Inclusive Education $R^2 = 0.513$	Participants confirmed the result. Based on the IDI and FGD, it could be gathered that the general assertions that teacher efficacy and attitude in inclusive education influence teacher readiness for inclusive education. (Refer to Table 3.1)	Connecting -Merging

With regard to efficacy in managing behavior, the item *getting children to follow classroom rules* got a very high rating. Participants confirmed teacher efficacy is always evident. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. The participants expressed this by creating a structured learning environment by enforcing firm classroom policies, setting clear rules and expectations for students, maintaining consistency in their application, and utilizing positive reinforcement to encourage desired behavior. Hence, connecting-merging is the nature of data integration.

Attitude in Inclusive Education. Specifically, the item *permits academic permission of all students regardless of their ability* in cognitive got a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. The participants' standpoints emphasized addressing the students' needs by tailoring to their capacities while promoting equality by acknowledging all students as equal children of God. They ensure fair treatment, equal opportunities for success, and a culture of acceptance for all students, regardless of differences. Therefore, the two are connecting-merging.

Concerning affective attitude, the item *not worried that students with disability are included in the regular classroom, regardless of the severity of the disability* has a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, teachers emphasize the significance of inclusivity through the no child left behind principle, striving to cultivate a conducive learning environment by adapting lessons to meet individual student needs. They also demonstrate a deep understanding of their students, find fulfillment in addressing their needs, and feel a strong sense of responsibility for the learning outcomes of all students. Thus, the nature of data integration is connecting-merging.

Meanwhile, the behavioral attitude, two items emerged as very high rating: *adapt the curriculum to meet the individual needs of all students regardless of their disability* and *encourage students with disability to participate in all social activities in the regular classroom*. Participants confirmed attitude of teachers toward in inclusive education is always demonstrated. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, teachers empower learners by honing their skills, effectively addressing their needs, and advancing their milestones while fostering a supportive and inclusive environment. This approach aims to enhance learners' self-esteem, cultivate a sense of belonging, and maximize their potential by recognizing and boosting their strengths. Therefore, connecting-merging was found to exist between the two sets of research findings in the data integration.

Readiness for Inclusive Education. Particularly, curriculum instruction, the item *motivating students to arouse their interest in learning concepts* has a very high rating. Based on the IDI

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and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, they designed activities to engage learners, utilizing both intrinsic and extrinsic rewards to motivate their participation and foster active listening, task completion, and enthusiasm for learning while also shifting focus away from traditional paper-and-pen testing methods. For that reason the nature of data integration is connecting-merging.

Regarding curriculum content, the item *using my knowledge in handling students with learning difficulties* has a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, teachers enhance their skills through training and collaboration with experts, developing personalized teaching techniques, and going the extra mile to support students, focusing on recognizing and nurturing students' strengths. Their insights underscore the necessity for customized instruction and inclusive practices within the curriculum framework to effectively support learners with special educational needs. Thus, connecting-merging is the nature of data integration.

As to, assessment on students' performance, the conducting formative and summative tests emerged as a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, they necessitates the conduct of summative and formative assessments. They emphasized that the summative exams are adjusted to suit individual learning capacities, acknowledging that specific skills cannot be adequately assessed in a single evaluation. Also, the overall learning outcomes are evaluated to gauge the effectiveness of instruction, with teachers monitoring student progress and reflecting on their understanding. Therefore, connecting-merging was found to exist between the two sets of research findings in the data integration.

In the aspect of evaluating and monitoring students' progress, the item applying varied evaluation tools in assessing students' achievement received a very high rating. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. In the probing of the participants, teachers emphasized using various methods such as videos, portfolios, and anecdotal reports to document student progress comprehensively, incorporating a blend of formative and summative assessments with technology to collect and analyze data efficiently. They also use checklists to monitor student skills consistently and facilitate evaluation through collaborative class activities. With these reasons, the nature of data integration is connecting-merging.

Significance of the influence of teacher efficacy and attitude in inclusive education to teacher readiness for inclusive education. Particularly, the influence of teacher efficacy and attitude in inclusive education to teacher readiness received a very high rating. The participants confirmed the influence of teacher efficacy and attitude in inclusive education to teachers' readiness for inclusive education. Based on the IDI and FGD, it could be gathered that the general assertions that teacher efficacy and attitude in inclusive education influence teacher readiness for inclusive education. During the probing of the participants, teachers emphasized the demonstration of confidence, empathy, and flexibility in addressing diverse student needs, utilizing a wide array of teaching strategies while prioritizing inclusivity and advocating for the educational rights of all learners, particularly those with special needs, thereby fostering a positive and supportive learning environment. These insights from the participants gave explanations as to why teacher efficacy and attitude in inclusive education influence teacher readiness. Therefore, connecting-merging was found to exist between quantitative and qualitative data findings.

IV. DISCUSSIONS

The Status of Teacher Efficacy

The status of teacher efficacy as assessed by the participants is very high. This means that teacher efficacy for inclusive practices is always evident among general education elementary teachers in Region XI . The findings of this study are parallel to the works done by Kazanopoulos et al. (2022) , Hay et al. (2023), San Martin et al. (2021) and Park et al. (2016) which have very high level of teacher efficacy in all indicators which include efficacy to use inclusive instruction, efficacy in collaboration and efficacy in managing behavior . However, this study disagrees with the study of Sakari et al.(2020) which has moderate level of teacher efficacy. In addition, Abraham (2021) emphasized that teachers must provide appropriate challenges based on the needs of the students and adapt techniques to suit their needs. For students with disabilities, teachers must reject a one-size-fits-all or standardized teaching approach and instead use a strategy that appropriately meets each student's individual needs to accurately gauge students of what was taught (Smith, 2024). Therefore, teachers must possess effective classroom management skills (Gage et al.,2018) which includes their ability to communicate clear expectations to all students, effectively prevent and manage disruptive behavior, ensure students adhere to classroom rules, and handle physically aggressive students (Park et al., 2016). Teachers who establish clear expectations for students and effectively manage behaviors can increase instructional time, leading to enhanced learning opportunities for all students (Flower et al., 2017)

The Status of Attitude in Inclusive Education

The status of attitude in inclusive education as assessed by the participants is very high. This means that the attitude of teachers toward inclusive education is always demonstrated. This is measured in the three categories, namely: cognitive, affective, and behavioral.

The findings of this investigation support the study of Scanlon et al. (2022), Boyle et al. (2021) and Zainalabidin et al. (2021) that teachers have very high level of positive attitude in inclusive education and emphasized that all types of learners can learn in most situations. However, this study disagrees with the study of McCarthy (2019), Rizkiah et al. (2018) and Fu et al. (2021) who claim that teachers have negative attitude towards inclusive education due to the different factors. These factors include parents' attitude, equipment and the attitudes of the teachers as well (Fu et al., 2021).

This study contends that the cognitive attitude of teachers toward inclusive education is always demonstrated. The very

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high status of cognitive is an indication that elementary teachers believe that inclusive schools, which accommodate students of all abilities, foster socially appropriate behavior and enable every student to learn within the regular curriculum through tailored adaptations and advocate against segregation of students with disabilities despite potential expenses in modifying the school environment. These particular beliefs shapes teachers' overall perception about inclusive education (Sun & Xin, 2020). As stipulated in the DepEd order number 72 series of 2019, that all children must be accepted regardless of ability or disability, race, size, shape and color with support from school staff, students, parents and the community (DepEd,2019).

Status of Teachers' Readiness for Inclusive Education

The status of teachers' readiness for inclusive education as assessed by the participants is very high. This means that the readiness of teachers for inclusive education is always observed. This indicates that teachers are equipped with the different strategies and techniques, adapt curriculum to tailor the needs of the learners. This also suggest that they have different assessment strategies to track and evaluate the performance of all learners.

This study aligns with the study done by Lai et al.(2017) and Adnan (2022) that teachers have very high level of readiness and are highly prepared, and they are already aware of the different strategies and various assessments for all kinds of students (Ecoben, 2019; Serakalala et al., 2019). However the results of this study does not conform with the studies of Zainalabidin and Ma'rof (2021), and DeNeve et al. (2014) that teachers express lower levels of preparedness regarding knowledge about inclusion and students with special needs. Similarly, the investigative findings do not conform with the studies done by Dioso et al. (2022) and Hanzah (2022), because of their moderate level of preparedness for inclusive education particularly on curriculum content.

Furthermore, this study supports the idea of Pershina et al. (2018) who emphasized that readiness for inclusive education requires considerable effort, and providing learning activities that enhance collaborative learning to address student's unique needs. As emphasized by York-Barr et al. (2016) that training of different strategies should scaffold approach for teachers with monitoring and mentoring for proper guidance and execution like using effective behavior techniques to modify students' inappropriate behavior. With this, those teachers who continue their training in catering learners with disabilities would have the skills necessary to accommodate and facilitate learning and engagement (Allam & Martin, 2021).

As stipulated by the UNESCO (2016) that curriculum plays a vital role in giving quality education to all students, the knowledge and skills of the teachers conveyed provide a structured and inclusive framework for systematic and comprehensive learning. This include teachers being equipped with the skills to adapt curricula and teaching resources to ensure access and engagement for students with diverse learning needs (Hock and Deshler, 2018). Furthermore, when teachers organize classroom activities for both regular students and LSEN, they are better equipped to modify and adapt the curriculum to meet the needs of all learners (Boyle et al., 2021). Moreover, the utilization of various assessment tools suited for learners with special needs could guide teachers about their instructional decision making (Sailor et al., 2014). Through frequent measurement, teachers gather data that aids them in making informed choices regarding ongoing interventions (McConnell & Rahn, 2016).

Significance of the Influence of Teacher Efficacy and Attitude in Inclusive Education to Teacher Readiness for Inclusive Education

The influence of teacher efficacy on readiness for inclusive education is significant. As a result, increased in teacher efficacy would also increase teachers' readiness for inclusive education. This means that teachers are more ready and motivated to design inclusive learning environments that meet the various requirements of every student when they have greater confidence in their capabilities (Leifler, 2020). The result of this study agrees with the study of Zainalabidin and Marof (2021) that there is a significant predictive correlation between teacher efficacy and teachers' readiness for inclusive education.

On the other hand, the influence of attitude in inclusive education on readiness for inclusive education is significant. As a result, increased of teachers' positive attitudes in inclusive education would also increase teachers' readiness for inclusive education. This means that attitude of teachers towards inclusive education influenced their readiness for inclusive education. The result conforms with the study of Zainalabidin and Ma'rof (2021) which found that attitude in inclusive education is one of the predictive factor on readiness for inclusive education. Similar findings were found in Kaya and Yavuz (2018) study indicating that a significant predictor of preparedness for inclusive education is the attitude toward inclusion.

Teachers' efficacy, despite being a small concept, has a significant influence (Tschannen-Moran & Hoy, 2004). Additionally, teachers who had more experience working with students with disabilities had higher levels of teacher self-efficacy and readiness (Loreman et al., 2018). On the other hand, teachers with low efficacy may find it difficult to educate children with various needs because they need more skills and confidence to do so (Marzano et al., 2001; Singh, 2020). On the other hand, Teachers with a more positive attitude toward the inclusive framework and policy are more likely to be prepared and willing to implement inclusive education (Zainalabidin & Ma'rof, 2021). Furthermore, it is reasonable to expect that a teacher who holds negative attitudes towards inclusion or a specific program may not also prepare to address all the learners needs, thus decreasing their readiness for inclusive education (Kielblock, 2018).

Standpoints of the Participants on Teacher Efficacy, Attitude in Inclusive Education and Readiness for Inclusive Education

From the standpoints of the participants on teacher efficacy, the participants confirmed the very high rating of teachers, particularly on the items: using a variety of assessment strategies, being confident in their ability to get parents involved

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in school activities of their children with disabilities and getting children to follow classroom rules. Thus, the emergent themes are the very high rating on the efficacy of using inclusive instruction, the very high rating on efficacy in collaboration, and the very high rating on efficacy in managing behavior. This confirmation reflects the contention of Johnson (2020) that recognized the importance of tailoring assessments to accommodate the individual strengths, challenges, and learning styles of their students. Moreover, Woodcock (2022) suggested that building the learners' strengths also made the students' learning enjoyable, safe, and engaging. As Dyson et al. (2020) pointed out, ensuring that every student can completely participate and interact in the learning process involves adjusting teaching strategies, instructional materials, and evaluation procedures. Also, this study supports the contention of Gage et al. (2018) that effective classroom management should be consistent with classroom routines, for the optimal utilization of instructional time.

The data finding supports the contention that every child has the right to education and must be given equal opportunity to learn suited for their level (UNESCO, 2019). The finding confirms the assertion of Gregory (2018) that teachers have individual's knowledge and understanding of practices related to inclusive education, particularly in supporting students with disabilities within the general education setting. Further, RA 10533 emphasized that all types of learners must be catered adhering to individual differences (DepEd, 2019). Nevertheless, we must also take into account the fact that deeply rooted historical and cultural settings, as well as individual experiences, have an impact on how attitudes form. These elements may significantly impact educational systems, frequently leading to widespread prejudice and inequality (Stepaniuk, 2019).

On readiness for inclusive education, the finding of the study confirmed the hypothesis of Serin (2018) that students may be inspired to strive for learning by both intrinsic and external reasons. This is also in support with the concept of Hattie (2018) about having a student-centered approach which could lead to effective instruction by engaging students not relying on paper and pen test. This means that teachers used evidence-based instructional strategies that support the involvement and academic success of all students in the classroom like differentiation, universal design for learning, and collaborative teaching (Tomlinson, 2018). This supports the conclusions of Johnson (2020) that teachers were eager to explore additional strategies and approaches to ensure that their assessments were fair, inclusive, and aligned with the unique needs of each student by also considering the strengths of the learners.

Therefore, teacher efficacy in this study is an articulation of the statements of Mahmoud et al. (2018) that it is crucial for the implementation of inclusive education; he believed that teachers' confidence in their ability to effectively design and implement teaching strategies that cater to the diverse learning needs of all students, confidence in their ability to work collaboratively with other professionals and confidence in their ability to maintain a positive and well-managed classroom environment (Sharma et al., 2012). Further, Further, instructional techniques, resources, and evaluation procedures should be modified to enable each student to participate actively in and engage with the learning process (Dyson et al., 2020).

Likewise, on the status of attitude in inclusive education, participants overall rating is very high. Participants confirmed attitude of teachers toward in inclusive education is always demonstrated. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. This result confirms that teachers have a positive attitude towards inclusive education, which corroborate on the statement of Lüke and Grosche (2018) that teachers generally exhibit positive attitudes toward the concept of inclusion. For the teachers to cater the unique needs of the children, teachers must have positive inclination towards them so that they also have positive action to address their needs (Darling-Hammond, 2020).

In line with the status of readiness for inclusive education, the qualitative results confirmed the quantitative results, particularly on the overall very high rating of readiness for inclusive education. Further, all indicators got a very high rating. This result confirms that teachers are equipped with the different strategies that would be useful in an inclusive setting. Thus, the confirmation of the very high rating is parallel to the conclusion of Dioso et al. (2022) that teachers' readiness for inclusive education was established with the provision of training and professional development. This finding also supports the result of Ecoben (2019) that teachers in general educations are very much aware with the nature of students disabilities and highly equipped with different techniques and strategies.

On the combined significant influence of teacher efficacy and attitude in inclusive education, participants confirmed the result. Based on the IDI and FGD, it could be gathered that the general assertions that teacher efficacy and attitude in inclusive education influence teacher readiness for inclusive education. This finding is consistent with conclusion of Zainalabidin and Ma'rof (2021) that teachers who had great confidence on their abilities would also lead to the improvement of their preparation, thus increasing their readiness for inclusive setting. In similar ways, this finding supports the statement of Mastropieri and Scruggs (2018) that teachers who have favorable cognitive attitudes toward inclusive education are more likely to use instructional strategies, according to a substantial link found between teachers' views and their preparedness for inclusive education.

Implications for Educational Practice

Implementing inclusive education in the Philippines, particularly in the Department of Education, is a continuous development. The ability and confidence of the teachers helped their readiness for the successful implementation of inclusive education. High levels of teacher efficacy, a favorable attitude toward inclusive education, and readiness for inclusive education all influence student outcomes, learning environments in the classroom, professional development, organizational support, and the promotion of social justice and equity in education.

General Education mainstream teachers are encourage to continue to immerse themselves with the latest methods and techniques suited for all kinds of disability or learners difficulty. In addition, all stakeholders which involves the education of all children must maintain strong collaboration and continued

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professional development fostered strong teacher efficacy and favorable attitudes. Moreover, DepEd must continue to provide the regular assessment of all stakeholders' readiness for inclusive education that would indicates solid organizational support and proficient management in educational organizations.

The data in this study were limited to elementary school teachers' perceptions; future research may include the other teachers in the high school level or higher education institutions for a broader context. Further, researchers may also include the perceptions of other professionals like special education teachers, head teachers, principals, and parents to increase the reliability of the results.

Conclusions and Recommendations

The following conclusions were drawn from the findings of the study:

The status of Teacher Efficacy among general education teachers who have handled LSEN is very high; this implies that the teacher efficacy for inclusive practices is always evident. Specifically, it was found out that indicators related to this variable has the following conclusions; efficacy to use inclusive instruction is very high, efficacy in collaboration is very high; and efficacy in managing behavior is very high.

The status of Attitude in Inclusive Education among general education teachers who have handled LSEN is very high; this implies that the attitude of teachers toward inclusive education is always demonstrated. Specifically, it was found out that indicators related to this variable has the following conclusions; cognitive is very high, affective is very high, behavioral is very high.

The status of Readiness for Inclusive Education among general education teachers who have handled LSEN is very high; this implies the readiness of teachers for inclusive education is always observed. Specifically, it was found out that indicators related to this variable has the following conclusions; curriculum instruction is very high, curriculum content is very high, assessment of students; progress is very high, and evaluating and monitoring students' performance is very high.

Teacher Efficacy and the Attitude in Inclusive Education significantly influence the Readiness for Inclusive Education among public elementary general education teachers in Region XI. Moreover, the two predictors in the study which are teacher efficacy and attitude in inclusive education are both significant factors or reasons why general education teachers are highly ready in teaching inclusive practices.

Standpoints of the participants on the variables revealed confirmed very high rating. Particularly, the theme emerged are; confirmed very high rating on teacher efficacy: confirmed very high rating on efficacy to use inclusive instruction, confirmed very high rating on efficacy in collaboration, confirmed very high rating on efficacy in managing behavior; confirmed very high rating on attitude in inclusive education: confirmed very high rating on cognitive, confirmed very high rating on affective, confirmed very high rating on behavioral; and confirmed very high rating on readiness for inclusive education: confirmed very high rating on curriculum instruction, confirmed very high rating on curriculum content, confirmed very high rating on assessment on students' performance and confirmed very high rating on evaluating and monitoring students' progress.

As to the data integration, connecting-merging was found to exist between the two sets of research findings of all the variables and indicators. Hence, the quantitative results are generally supported by the qualitative outcomes.

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SPEECH DELAY: A VIEW OF THE PROBLEM

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ABSTRACT

The problem of late development of speech activity in young children without pronounced mental pathology is becoming more and more relevant every year (Borovtsova L.A. et al., 2015 Vatoropina S.V. et al. 2015). As a rule, all children after three years of age, whose speech is characterized by extremely limited use of linguistic means, are diagnosed with general speech underdevelopment (according to P.E. Levina).

At the same time, the mechanisms of this disorder may be different. Insufficient knowledge of the clinical forms of speech underdevelopment, as well as the similarity of their manifestations, makes it difficult to differentiate the tempo delay of speech development and its impaired variant. Speech therapy intervention in these cases is often built without taking into account the clinical uniqueness of children and the mechanisms of delay in speech development, which, accordingly, reduces the effectiveness of the work carried out. At the same time, any phenomenon subjected to scientific analysis must be determined by its most characteristic features, distinguishing it from other similar phenomena. (Guseva A.Yu. 2022)

KEYWORDS: *delayed speech development, motor alalia, sensory alalia, aphasia, neurological disorders.*

PURPOSE

The purpose of this article is to systematize the accumulated medical and pedagogical experience in understanding the structure of the above problem.

Available studies indicate that the time of emergence and features of speech development are largely determined by the level of formation of the child's sensorimotor and cognitive spheres. In addition, the formation of speech at an early age occurs in constant interaction with other functions.

Delayed speech development of various origins does not ensure the formation of basic language functions: communicative, cognitive and regulatory, which leads to a delay in the development of cognitive processes. (Zakhodyakina K.Yu. 2023)

The etiology of speech pathology in children is multifactorial: on the one hand, various biological causes (intoxication, infections, metabolic disorders, injuries, etc.) can play an important role, which lead to disturbances in the rate of development of brain mechanisms or cause cerebral organic damage (Chutko L. S. et al., 2015; Malinina E.V., 2016; Zuccarini M. ^ b1., 2017; on the other hand, unfavorable social factors, including educational conditions, increased demands placed on the child, including early start of education (Pontoppidan M. et b1., 2017).

The first years of life are decisive for the formation of speech, since at this age the most intensive development of cortical speech zones occurs. A variety of unfavorable factors operating during this period can affect the development of the child's speech. (Karpenko E.S t2022)

In most cases, severe speech delay is accompanied by impaired visuospatial skills and/or motor clumsiness. Speech development typically improves as the child grows older, but mild developmental delays often remain for life. Delay in speech development is several times more common in boys than in girls. Developmental delay is characterized by a family history of similar or related disorders, suggesting an important role for genetic factors in the etiology of many (but not all) cases.

The total prevalence of mental retardation in the general structure of mental illnesses in children is 8–10% [7]. Delayed speech development is one of the types of delayed psycho-speech development. Currently, there is an increase in the prevalence of speech delay, but there are no accurate statistics to estimate it.

It is customary to divide the delay of psychospeech development into primary and secondary. Primary delay is formed when there is structural damage to the brain or disruption of its function for various reasons. Secondary delay occurs against the background of a primarily intact brain in chronic somatic diseases (heart disease, etc.), accompanied by cerebral insufficiency [10]. As a rule, such a delay is systemic in nature and is distinguished by an algorithm: "the norm is minus 1, in rare cases minus 2 epicrisis periods," while the primary delay is characterized by uneven development.

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There are also terms general and systemic speech underdevelopment. General speech underdevelopment is a delay in speech development in a child with normal intelligence. Systemic speech underdevelopment is a speech disorder against the background of underdevelopment of other higher mental functions. In the first years of life, due to the immaturity of the nervous system, children often experience maturational features of motor and psycho-speech functions. Therefore, usually in early childhood we can talk about a general delay in psychomotor development with a greater severity of the lag in the psycho-emotional or psycho-speech sphere [1].

f80.1. Expressive Speech Disorder

A disorder of speech development as a result of immature speech function in the cerebral cortex is called alalia. Motor alalia is the absence of active speech in a person with a developed passive vocabulary and an unimpaired volume of understandable speech. Sensory alalia is the inability to perceive and understand spoken speech. Total (sensorimotor) alalia is a violation of the perception and reproduction of speech.

The diagnosis is made when the severity of the delay in expressive language development is beyond normal variations for the child's mental age (although it may often be slightly below average). The use of nonverbal cues (such as smiles and gestures) and "inner" speech, reflected in imagination or role-play, is relatively intact; the ability to communicate socially without words is intact. The child will strive to communicate, despite the speech impairment, and to compensate for the lack of speech with gestures, facial expressions or non-speech vocalizations. However, co-occurring disturbances in peer relationships, emotional disturbances, behavioral disturbances and/or hyperactivity and inattention are common.

f80.2. Receptive Speech Disorder (Sensory Alalia)

Sensory alalia is a specific developmental disorder in which the child's understanding of speech is below the level corresponding to his mental age, expressive speech is also noticeably impaired, and a defect in verbal-sound pronunciation is not uncommon. Diagnostic criteria: • inability to respond to familiar names (in the absence of non-verbal cues) from the 1st birthday; • failure to identify at least some common objects by 18 months; • inability to follow simple instructions by age 2 years.

Delayed speech development, especially alalia, is often initially mistaken for deafness. These conditions are differentiated using audiometry. The child is presented with various sounds and, if he hears them, is asked to press a key, which is recorded by the sensor. Changes in audiometry are characteristic of sensorineural hearing loss. However, this study is not always reliable, as it requires active participation from the child. In children with a negative attitude, misunderstanding of the task, or attention deficit hyperactivity disorder, the audiogram is uninformative.

CONCLUSIONS

Thus, the diagnosis of speech disorders should be based on the results of diagnostic training and the following examination algorithm.

1. Consultation with a neurologist, neurological status.
2. Consultation with a psychologist, assessment of intellectual development, assessment of non-verbal intelligence.
3. Audiometry and auditory evoked potentials.
4. Electroencephalography (routine and sleep-assisted) to detect some cases of subclinical epileptic seizures that adversely affect cognitive function.
5. Neuroimaging (magnetic resonance imaging of the brain, computed tomography of the skull, temporal bones).
6. Consultation with a geneticist with special genetic tests.

Against the background of developmental and correctional activities, children with delayed speech development, as a rule, require medicinal support from time to time, which reliably improves the results of correctional work [2]. The feasibility of medicinal support for children with speech delays is associated with the presence of a large number of concomitant neurological and behavioral characteristics [6].

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CLINICAL AND NEUROPHYSIOLOGICAL CHARACTERISTICS OF NEUROPHTHALMOLOGICAL DISORDERS IN CHILDREN WITH SPEECH DELAY

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ABSTRACT

The problem of late development of speech activity in young children without severe mental pathology is becoming more and more relevant every year (Baranov A.A., 2012; Larkina E.V. et al., 2013; Makushkin E.V., 2013; Asmolova G. A. et al., 2014; Borovtsova L.A. et al., 2015). The lag in a child's speech development from the age norm is observed mainly in the early stages of the formation of mental activity (Shemyakina O.V., 2012). Disorders that arise in childhood do not disappear without a trace, but can worsen over time (Kuprianova I.E. et al., 2012; Clegg J. et al., 2005; Miniscalco C., et al., 2006; Bayer J.K. et al. ., 2008; Durkin, K., 2010). The role of the visual analyzer in the mental development of a child is great and unique. Violation of its function causes the child significant difficulties in understanding the surrounding reality, narrows social contacts, limits spatial orientation and the ability to engage in many types of activities [4].

An analysis of special psychological and pedagogical literature has shown that the peculiarities of the development of visual perception, insufficient development of motor and visual-motor coordination delay the process of mastering objective actions by a child with visual impairments and negatively affect the process of forming their ideas about objects in the surrounding world. The operational, functional and motivational aspects of object concepts in these children are not sufficiently developed, and without special work the formation of this mental process is extended over time.

The nature of the dysfunction of the central nervous system in children with delayed speech development affects the characteristics of the generation of visual evoked potentials (VEPs). The configurations of early and late VEP components differ significantly in children with speech delay and healthy children. With delayed speech development of various origins, the amplitude of the negative VEP component is reduced in the frontal, temporal and occipital regions of both hemispheres of the brain compared to the control. It has been established that a decrease in the amplitude of positive VEP components is associated with impaired attention function.

KEYWORDS: *visual impairment, delayed speech development, neurological disorders.*

PURPOSE

to study of clinical and neuro-ophthallogical features in children with speech development disorders.

MATERIALS AND METHODS

105 children aged 3 to 6 years were under clinical observation. Of these, 68 were children with speech development disorders and 37 were children without speech development disorders. Registration of total bioelectrical activity of the brain (EEG), isolation and analysis of visual evoked potentials was carried out using a computer encephalograph.

Long-latency visual evoked potentials were determined per flash of 50 Lx (0.5 J) with a duration of 4 ms, the interstimulus interval was 2 s (n = 100) with a probabilistic deviation of 25%. The absolute amplitudes of the components were assessed relative to the baseline, which was calculated relative to physical zero. The latency period (LP) of the peak was measured relative to the start of stimulation. When analyzing the obtained material, the components of the evoked potential were identified: P1 (positive - up to 60 ms), N1 (negative - up to 75 ms), P2 (up to 140 ms), N2 (up to 170 ms), P3 (up to 220 ms), N3 (up to 260 ms), P4 (300) (up to 320 ms) [4, 5].

RESULTS

The reason for patients to turn to a specialist was complaints of lack of speech, disruption of the stages of psycho-speech development, as a result of which a speech development disorder was identified in these patients. All patients underwent routine clinical and neurological examination, VEP, EEG and MRI of the brain.

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Table. 1

Pathological condition in children during the neonatal period, %

Pathological conditions	1 Group, n=68	2 Group, n=37
Asphyxia during childbirth	36	5
Hyperbilirubinemia	72,5	3
Prematurity	49	5
The use of ototoxic drugs	28	6
Viral infections	13	7
Anemia	19	3

Note: * - p-values are < 0.05 **- p values are < 0.001

Asphyxia during childbirth was detected in 36% and 5% of cases, respectively, in groups I and II. In the children we examined, hyperbilirubinemia was observed in 72.5% in group II and 3% in group 1. The use of ototoxic drugs was observed in 6% of subjects in group 1 and 28% in children in group 2. Prematurity occurred in 49% of children in group 1 and 5% of patients in group 2.

At the same time, the majority of children with speech development disorders had diffuse organic neurological symptoms, as well as central insufficiency of the VII and XII pairs of the cranial nerve, anisoreflexia, and revitalization of tendon reflexes. When examining the medical history, signs of perinatal damage to the nervous system were revealed in 48 (85%) patients.

In accordance with the results obtained, in children with speech development disorders aged 2-5 years, the maximum for the P1 component was recorded in the occipital region. At the same time, in children of group I, registration of the maximum P1 component was detected in the right hemisphere, and in children of group II it was found in the left region of the brain. In children one year of age with speech developmental disorders, two maximum amplitude values of the N1 component were present in the frontal and left occipital regions. In addition, an asymmetry in the formation of the N1 component was found in these brain regions.

Consequently, when studying survey data, a wider display of interhemispheric connections was found in the group of children with speech developmental disorders compared to children without speech developmental disorders.

Table. 2

Characteristics of the state of bioelectrical activity of the brain in the study groups (%)

EEG data	1 group, n=68	2nd group, n=37
Delayed Maturation	40,0	8,5
Diffuse Changes	30,0	8,2
Focal Changes	25,0	4,2
Paroxysmal Activity	10,0	1,4
Epileptiform Activity	15,0	1
Variant Of The Age Norm	0	10

Note. * - pvalue<0.001; ** - significant EEG differences between groups (p <0.001).

In 69.6% of patients, bilateral asymmetry and asynchronization of the EEG were detected and a wide range of changes in regulatory and organic origin of mild to moderate severity was diagnosed. A variant of the age norm was noted in 10% of patients in group 2. The EEG data obtained in children with speech development disorders indicate that children show more significant changes in the bioelectrical activity of the cerebral hemispheres than children in the healthy group.

Characteristic were significant diffuse changes in the bioelectrical activity of the brain, with a predominance of the organic nature of the changes. There was a delay in the formation of the age-related rhythm. Focal changes are represented in 25% of children in group 1, 4.2% in group 2, mainly with bursts of slow wave activity.

Table. 4

MRI in the Examined Groups, %

MRI data	1group, n=68	2 group, n=37
Expansion of the subarachnoid spaces	61,1	1,7
Ventriculomegaly	61,1	1,7
Focal lesions of white matter and basal ganglia	27,9	7,3
Periventricular changes	16,8	4,7
Anomaly of development	2	0

In children with speech development disorders, in most cases we observed expansion of the subarachnoid spaces (61,1%), ventriculomegaly (61,1%). The incidence of these changes in children of group 1 was 91.7% and was significantly higher (p>0.01). In 27.9% of children in group 1 and 7.3% in group 2, focal lesions of the white matter and subcortical areas were detected. In our study, 2% of cases of developmental anomaly were identified in children with speech development disorders,

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which characterizes a disorder in the maturation of nervous tissue in children against the background of intrauterine lesions.

CONCLUSIONS

An extensive examination of children with delayed speech development using clinical, neurological, ophthalmological functional studies makes it possible to determine the structure of various factors that lead to delayed speech development in children and have an impact on the further course of the disease.

As a result of a study of the characteristics of visual evoked potentials in children with speech developmental disorders, data were obtained indicating the presence of a relationship between the degree and nature of the dysfunction of the central nervous system and their influence on the processes of generating VEP components. Thus, intercentral connections are directly dependent on early disturbances in the development of brain structures, which subsequently leads to difficulty in analyzing information. Insufficient interconnection between brain regions in children with speech development disorders causes low functional activity of the fronto-occipital and interhemispheric connections of the cerebral cortex, which in turn leads to attention deficit.

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ALUMNI INFORMATION COLLECTION FOR ALUMNI TRACER USING WEB SCRAPING

R.J. Pielago

ABSTRACT

This research is Quasi Experimental research that aims to develop a method on how to scrape profile data and information that is publicly available in Social Media sites specifically Facebook to help the Alumni Affairs and Placement Services Office in gathering data for the Alumni Tracer. The research focuses on the assessment of data of Alumni of the College of Computer Studies from the Laguna State Polytechnic University that are needed by the Alumni Services and Placement Office for the year 2022 & 2023. The collected data using the Web Scraper will only be collected through the publicly available data in their respective webpage/platform using proper methods and means. The research was developed using the Kanban software development methodology and the program used Zhang and Shasha's Algorithm and Tree Pattern Matching Algorithm in developing the program to use in web scraping. The researcher tested and tried different approach and techniques in scraping publicly available data and were tested by its accuracy and functionality. The acceptability of the research is also determined by conducting a survey in terms of Functionality, Reliability, Usability, Efficiency, Maintainability, Portability and Compliance. The acceptability of the web scraping program got an Overall Mean of 4.37 and an Overall Standard Deviation of 0.65 that is translated as Highly Acceptable.

KEYWORDS: *Web scraping, social media scraping, Alumni tracer study, Alumni information collection, Data collection, Text mining*

INTRODUCTION

Graduate and past students make up an alumni association. Colleges and Universities rely on alumni to mentor students, which enables current students to connect with graduates to learn about numerous job prospects, including industry trends, industrial events, internships, scholarships, and more. To actively participate in registering, searching for, and managing the alumni information to receive more updates, this project handles the freshmen and old graduate students with their individual information. The establishment of an online alumni interface helped students who at some point lack the knowledge to advance in their careers by providing them with the appropriate advice from knowledgeable people that graduated in in their following Colleges and Universities.

Universities, colleges, and academies can benefit from tracer studies, as can organizations that offer scholarship, job opportunities from the government, businesses, and other organizations. Alumni are tracked using tracer studies, which can be used to assess how well goals, curricula, and educational procedures relate to the circumstances of today's alumni. To reach out and get alumni to volunteer their time to complete the tracer studies, there are a few challenges in the distribution process such as not willing to answer the tracer study and leaving behind important information.

As technology advances, data is needed in every aspect of a person's life, supporting the automation of data in areas such as acquaintance communication in a timely, accurate, and understandable manner. With the development of cutting-edge technology for information technology, new capabilities have emerged, such as the quick retrieval of data. For commercial and academic research initiatives, automatically retrieving data from the Web—a process known as "web scraping"—is becoming accepted practice. To make Web Scraping easier, many tools and technologies have been developed. The goal of this study is to solve this issue by gathering the information needed in compiling the necessary data from social media platforms, including employment, workplaces and current professions using the alumni data which scrap from social media platforms. With this in mind, the researcher wanted to create an Alumni Information Collection for Alumni Tracer using Web Scraper.

Research Objectives

The study aimed to develop a method on how to scrape profile data and information that is publicly available in Social Media sites specifically Facebook in order to help the Alumni Affairs and Placement Services Office in gathering data for the Alumni Tracer. Specifically, this study sought to find out the following: 1. to develop a web scraping program for Alumni Affairs and Placement Services where it can scrape for publicly available information in a Social Media platform like Facebook without violating the terms and conditions of the platforms/sites. 2. to test the functionality and accuracy of the developed web scrapping method in getting the correct alumni information to be listed in the Alumni Tracer. 3. to know the acceptability of using the Web scrapping method.

METHODS

Research Design

The researcher used experimental research design in the study. During the preliminary investigation, the researcher used the

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experimental research design to collect data in the Alumni Services and Placement Office of the Laguna State Polytechnic University through interviews and observations.

The researcher utilized the Developmental Research technique to study the Program-developmental, descriptive developmental described as the systematic procedure creating, developing, and assessing that must meet the criteria of the program effectiveness.

Data Collection Instruments
The researcher employed various methodologies during the data collection to better understand the research topic. These methodologies were instrumental in identifying and shaping the requirements of the study and the proposed system. The methods used by the proponent includes Internet research and Interview to gain an in-depth understanding of perceptions or opinions on the topic, the researcher conducted an interview with Chairperson of the Alumni Services and Placement Office of the Laguna State Polytechnic University to learn more about the process on how they collect data from the graduates of the said University. Upon interviewing Dr. Liza Bartolome, the researcher was given a Spreadsheet (Excel file) that contains information of the alumni from the College of Computer Studies for the year 2022 and 2023.

Development Methodology
The researcher utilized a Software Development Life Cycle (SDLC) model in the development of the prototype and its web scraping algorithms. According to Igbal & Idrees (2017), SDLC models were used typically for improving the quality of software and overall development process. Martins (2022) describes Kanban as an Agile management approach based on the idea of continuous improvement, in which tasks are "pulled" into a continuous flow of work from a product backlog. Kanban boards are used to apply the framework; they are a type of visual project management. Tasks, shown as cards on a Kanban board, progress through work stages, shown as columns. In this manner, your team can view the status of work in real time. Software development, engineering, and product teams are among the groups that use Kanban the most. However, any company looking to create a more adaptable and dynamic workflow can employ them.

In a Kanban system, you use a Kanban board—either physical or digital—to represent tasks as cards. These cards move through different stages, which are represented as columns on the board. The key columns typically include: TO DO: This column contains tasks that need to be started. They haven't been worked on yet; IN PROGRESS: Here, you'll find tasks that are currently being worked on. They're in progress but not yet completed; TESTING: Tasks move to this column once they're done. They're being reviewed, tested, or validated; DONE: Finally, tasks that have been completed successfully end up in this column.

Applied Concepts and Techniques
The researcher has examined the challenges encountered throughout the data collection, design, and software development. The data for this study was gathered and verified through the implementation of the following methods.

Online Research and Technology Gap Analysis
The researcher used the internet to obtain data and information that aided in conducting the study. The researcher received a lot of concepts, theories and existing applications relevant to the topic. The internet played a significant role in the study since it contains a lot of helpful material that is beneficial to the study. The researcher used this information to build new ideas, theories, and concepts for developing a decision-making support system in developing the Alumni Information Collection for Alumni Tracer Using Web Scraping. Most of the studies that was found by the researcher came from Google Scholars, ScienceDirect, Scispace, Eric.ed.gov, Researchgate.net, etc.

Expert Consultation
This method helped the researcher acquire more information for developing the system and think of the best practices they should use throughout the program development process. The researcher consulted with the Chairperson of the Alumni Services and Placement Office of the Laguna State Polytechnic University to gain valuable input regarding the program of the Alumni Services and Placement Office.

Algorithm Analysis
This section shows and discusses algorithms that have been tested and analysed to determine the most suited to the study. Upon searching, these are the algorithms that can be used to create a decision support system:

Zhang and Shasha's Algorithm

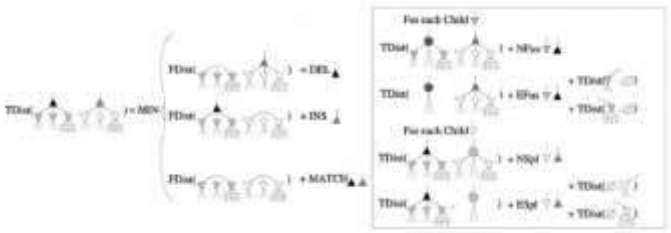


Figure 1. Zhang and Shasha's Algorithm

Figure 1 discusses the The Zhang-Shasha algorithm calculates the edit distance between trees by counting the minimum number of node insertions, deletions, and relabelings needed to transform one tree into another. This concept is analogous to the edit distance between strings but applied to tree structures. The algorithm was introduced by Kaizhong Zhang and Dennis Shasha.

The Zhang and Shasha algorithm is an effective dynamic programming algorithm that determines the tree edit distance between two trees (Cording, 2011). The bare minimum of node deletions, insertions, and replacements required to change one tree into another is known as the tree edit distance. Zhang and Shasha originally presented the technique in a groundbreaking

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work published in 1989. Since then, the tree edit distance has been extensively used in many domains, such as intelligent tutoring systems and biology.

The algorithm works by breaking down the problem of computing the tree edit distance into smaller sub-problems and solving each sub-problem recursively. The optimal solution to each sub-problem is stored in a table and used to solve larger sub-problems until the final problem is solved. The algorithm is efficient because it avoids recomputing the same sub-problems multiple times.

Tree Pattern Matching

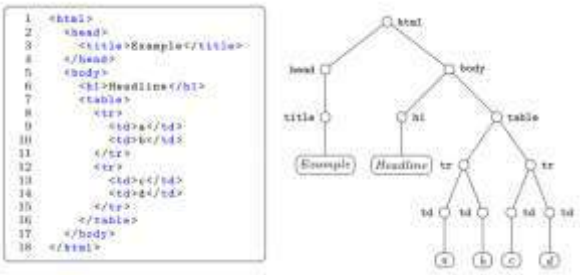


Figure 2. A HTML document and its tree model using Tree Pattern Matching Algorithm.

Hajiaghayi et.al (2021) stated that Tree pattern matching is a technique used to find a pattern in a tree structure. It is widely used in various fields, including XML query, compilers, and natural language processing. There are several algorithms for tree pattern matching, including the Zhang and Shasha algorithm. This algorithm is based on dynamic programming and is known for its efficiency. Another algorithm is the tree pattern matching algorithm called TreeMatch, which directly finds all distinct matchings of a query tree pattern.

For the second objective, to test the functionality and accuracy of the developed web scrapping method in getting the correct alumni information to be listed in the Alumni Tracer, the researcher used Accuracy, Recall, Precision, F-1 Score as the metrics to evaluate the performance of the algorithms were discussed.

Evaluation

The web scraping program was evaluated using the Likert Scale to measure acceptance and reliability. The rating scale is a tool that converts numerical values into descriptions to provide context for qualitative ratings given by the respondents. It converts scores into easily understandable categories, allowing a clear understanding of respondent sentiment. A rating of 5 indicates strong endorsement and support for the evaluated aspects, indicating high satisfaction and positive perception of the system or process. A rating of 4 signifies agreement, suggesting general approval or satisfaction with the evaluated elements. A rating of 3 indicates neutral stance, with no clear consensus or mixed perception. A rating of 2 indicates disagreement, indicating areas needing attention or improvement. A rating of 1 indicates strong disagreement, indicating apparent dissatisfaction or conflict with the evaluated elements, indicating urgent issues needing attention and resolution.

Statistical Treatment

The Likert Scale is displayed in Table 1. In order to gather information about participants' preferences or level of agreement with a statement or collection of assertions, surveys often employ Likert scales, which are psychometric answer scales. Using five or seven levels, respondents score quality from best to worst or from high to low. Likert scales are frequently used by researchers to evaluate behaviors, attitudes, and personality. It's a useful tool for expressing complex thoughts and emotions.

Rating	Description
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

Table 1. Likert Scale

The terms "minimum" and "maximum" designate the smallest and biggest values, respectively, within a data set. These are basic ideas that give a fast overview of the range of the data in descriptive statistics. The value that is equal to or less than every other value in the data collection is the minimum. Assuming that all the data points are listed in ascending order, the first number would be the minimum. The value that exceeds or equals every other value in the data collection is the maximum. The last number in an ascending list of data points would be the maximum.

$$X' = \frac{X - Xmin}{Xmax - Xmin}$$

Skewness is a statistical measure that describes the asymmetry of a distribution around its mean. In simpler terms, it indicates whether the data points tend to cluster more on one side of the scale. Zero Skewness: If the distribution is symmetrical, like a normal distribution, it has zero skewness. The left and right sides of the distribution are mirror images of each other. Positive Skewness (Right Skewed): A distribution with positive skewness has a longer tail on the right side. It means there are several unusually high values. The bulk of the data is concentrated on the left. Negative Skewness (Left-Skewed): Conversely, a distribution with negative skewness has a longer tail on the left side. This indicates a bunch of unusually low values, with most data skewed to the right.

$$skewness = \frac{(x - \mu)^3}{\sigma^3}$$

Kurtosis is a statistical measure that describes the “tailedness” of a probability distribution. It provides insight into the shape of the distribution, particularly the thickness or heaviness of the tails. Understanding kurtosis is important in fields like quality control

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because it affects the interpretation of data and the statistical models used for analysis.

$$kurtosis = \frac{(x - \mu)^4}{\sigma^4}$$

RESULTS AND DISCUSSIONS

RESEARCH OBJECTIVE 1: to develop a web scraping program for Alumni Affairs and Placement Services where it can scrape for publicly available information in a Social Media platform like Facebook without violating the terms and conditions of the platforms/sites. When creating the web scraping program used by the researcher, as much as possible, the researcher follows laws and rules about web scraping from the Computer Fraud and Abuse Act (CFAA) in the United States and the General Data Protection Regulation (GDPR) in the European Union. These rules deal with unauthorized access to data and protecting people's privacy. It includes the following:

- The data being obtained from the website shall have public access or with explicit permission.
- Respecting the terms of service provided by the website.
- Avoid scraping private data and personal data without consent in compliance with international privacy laws.
- Implementing ethical considerations such as limiting the data being scraped to not overload the server.

RESEARCH OBJECTIVE 2: To test the functionality and accuracy of the developed web scraping method in getting the correct alumni information to be listed in the Alumni Tracer.

The researcher tested the web scraping program to see if the data from the Alumni Tracer for the Graduates of 2023 match with the scraped data from the Facebook Group where the scraper was used to know the functionality of the data extracted. The researcher selected 20 random names from the Alumni Tracer of the College of Computer Studies under the program Bachelor of Science in Information Technology, it is represented in the Table using their Last Name, then it is compared to the scraped data from the Facebook Group.

	Alumni Tracer	Scraped?	Match?
Alumni 1	Brofar	Yes	Yes
Alumni 2	Solis	Yes	Yes
Alumni 3	Cagayat	Yes	Yes
Alumni 4	De Luna	No	No
Alumni 5	Sorromero	Yes	Yes
Alumni 6	Corpuz	Yes	Yes
Alumni 7	Amolato	Yes	Yes
Alumni 8	Maquiling	Yes	Yes
Alumni 9	Jazmin	Yes	Yes
Alumni 10	Sapo	Yes	Yes
Alumni 11	Briz	Yes	Yes
Alumni 12	Yretarino	Yes	Yes
Alumni 13	Daya	No	No
Alumni 14	Alababa	Yes	Yes
Alumni 15	Combalicer	Yes	Yes
Alumni 16	Perez	Yes	Yes
Alumni 17	Bodino	Yes	Yes
Alumni 18	Abadines	Yes	Yes
Alumni 19	Dela Luz	Yes	No
Alumni 20	Babaan	Yes	Yes

Table 2 shows the random pattern matching used by the researcher to determine the functionality of the web scraper when compared in the alumni tracer provided by the Alumni Services and Placement Office.

Reason of Data not being scraped is due to the Alumni is not included in the Facebook Group where the data was extracted. Additionally, another reason is that the Alumni changed their name in their Social Media profile and can also because the Alumni is not really included in the specific batch.

RESEARCH OBJECTIVE 3: to know the acceptability of using the Web scrapping method.

The functionality of the web scraping program is one of the criteria evaluated in this study. Descriptive analysis of the data shows, that respondents *strongly agree* that the program can perform the task required (M= 4.46, SD = 0.58); scraping result is accurate (M= 4.50, SD = 0.54); data collected can be helpful to the people (M=4.78, SD=0.42), and can collect the data that is publicly available to other users (M=4.46, SD=0.58).

It can also be deduced from the table, that the minimum score given by the respondents is 3 and the maximum is 5. A negative skewness, in all the statements, likewise, shows that only small proportion of respondents rated low score, precisely 3 as it is the minimum and that majority ratings were high. Negative kurtosis on the other hand, shows that most of the ratings of the respondents are close or near the mean.

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Table 3. Acceptability of Web Scraping Program as to Functionality

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. Can the Web scraping tool perform the task required?	4.46	0.58	3	5	-0.50	-0.68	Strongly Agree
2. Is the result of scraping accurate?	4.50	0.54	3	5	-0.40	-1.05	Strongly Agree
3. The data / information collected through scraping can be helpful to people.	4.78	0.42	4	5	-1.39	-0.06	Strongly Agree
4. The web scraper can collect the data that is publicly available to other users.	4.46	0.58	3	5	-0.50	-0.68	Strongly Agree
Overall Mean	4.55						
Overall Interpretation	Highly Acceptable						

Table 4. Acceptability of Web Scraping Program as to Reliability

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. Can the problem/s with the web scraping program be eliminated over time?	4.26	0.78	3	5	-0.50	-1.16	Strongly Agree
2. Is the program capable of handling errors?	4.20	0.61	3	5	-0.11	-0.36	Strongly Agree
3. Can the web scraping program resume working after an error?	4.38	0.72	3	5	-0.73	-0.73	Strongly Agree
Overall Mean	4.28						
Overall Interpretation	Highly Acceptable						

Table 5. Acceptability of Web Scraping Program as to Usability

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. The user can understand how the web scraper program works.	4.32	0.59	3	5	-0.19	-0.58	Strongly Agree
2. The user can learn the function of the web scraper.	4.22	0.55	3	5	0.11	-0.09	Strongly Agree
3. The user can use the web scraper without help from others.	4.28	0.73	3	5	-0.49	-0.95	Strongly Agree
4. The user interface is easy to understand.	4.60	0.61	3	5	-1.26	0.62	Strongly Agree
Overall Mean	4.36						
Overall Interpretation	Highly Acceptable						

Table 6. Acceptability of Web Scraping Program as to Efficiency

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. The web scraper responds to the user's request.	4.52	0.61	3	5	-0.90	-0.13	Strongly Agree
2. The web scraper utilizes the computer's resources efficiently.	4.52	0.61	3	5	-0.90	-0.13	Strongly Agree
Overall Mean	4.52						
Overall Interpretation	Highly Acceptable						

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Table 7. Acceptability of Web Scraping Program as to Maintainability

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. The user can analyze the data gathered by the web scraper.	4.36	0.66	3	5	-0.55	-0.64	Strongly Agree
2. The web scraper can be modified to scrap other types of data.	4.32	0.59	3	5	-0.19	-0.58	Strongly Agree
3. The web scraper can still function correctly after the changes are made.	4.42	0.70	3	5	-0.81	-0.54	Strongly Agree
4. The web scraper can be tested easily.	4.18	0.60	3	5	-0.07	-0.25	Strongly Agree
Overall Mean	4.32						
Overall Interpretation	Highly Acceptable						

Table 8. Acceptability of Web Scraping Program as to Portability

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. The web scraper can be used in other usage.	4.24	0.74	3	5	-0.42	-1.06	Strongly Agree
2. The web scraper can be installed easily in a computer.	4.20	0.73	3	5	-0.33	-1.02	Strongly Agree
3. The web scraper complies with portability standards.	4.46	0.68	3	5	-0.88	-0.34	Strongly Agree
4. The web scraper can replace existing software like it.	4.30	0.65	3	5	-0.38	-0.65	Strongly Agree
Overall Mean	4.30						
Overall Interpretation	Highly Acceptable						

Table 10. Acceptability of Web Scraping Program as to Compliance

Indicative Statement	$\overline{X}$	SD	Min	Max	Skew	Kur	Remarks
1. The web scraper comply with laws and regulations of the webpages it was being used.	4.28	0.76	3	5	-0.52	-1.05	Strongly Agree
Overall Mean	4.28						
Overall Interpretation	Highly Acceptable						

CONCLUSION

Based on the findings of the study, the following conclusions and generalizations are drawn:

1. To ensure safety of both the computing device and social media platform account, the method to be used in scraping should follow the international laws and rules about data privacy and should only extract data from publicly available sources.
2. To use the scraper effectively, researchers should create a group for Alumni into their respective batches and program so we can limit the data being collected to the appropriate level as to not violate the social media site's terms and conditions.
3. The researcher can utilize the CSV file for data cleanup purposes to help in determining the employment status of the Alumni since a few of them displayed incorrect information.

RECOMMENDATIONS

Based on the conclusions and actual testing the researchers have reached the following recommendations:

1. For further improvement, the researcher recommends creating a better Graphical User Interface for the scraping program so it can be installed offline which can help if internet connection is not available and to make it more portable.

2.It is also recommended that there is another program to use for data cleanup for the maintainability of the files that was scraped using the program that can be used to compare results when scraped again if the Alumni has updated their profile.

3.Lastly, if budget constraints are not a concern, using a desktop computer with better specifications than that of what the researcher used would be preferable as to be able to use system environments that took up storage resources from the computer. The researcher suggests getting a more robust Central Processing Unit (CPU) such as the latest version of Intel Core i7 or i9 series / AMD Ryzen 7 or 9 series. Random Access memory should be a

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single stick of 16/32 GB RAM DDR4 or DDR5 for better performance when executing the program. In addition, a good Graphics Processing Unit (GPU) like RTX 4090 or Radeon 7000 series can offer a lot in training datasets and avoid hangs and freezing during scraping.

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EXAMINATION OF THE CONCEPT OF IQTISAS IN TERMS OF CONSTRUCTIVIST GROUNDED THEORY METHOD

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ABSTRACT
It has been stated that the usage of the concept of iqtisas is common in the Arabic language. However, it is seen that this usage cannot find a place in the sources at the conceptual level. This leads to uncertainty about the framework and usage area of the concept of iqtisas. In our study, a more specific conclusion has been reached about the content and application of the concept of iqtisas and its application examples by examining it with the constructivist grounded theory method.
KEYWORDS: *Arabic Language and Retoric, Iqtisas, Constructivist Grounded Theory Method*

INTRODUCTION
The rhetorical aspect of the Arabic language has been the subject of many studies throughout history. One of the concepts included in these studies is the concept of iqtisas. However, although it is a phenomenon widely applied in language, it is noteworthy that this concept is mentioned at a limited level in works related to rhetoric. In this study, first the definitions of the concept of iqtisas in the literature will be determined by applying the constructivist grounded theory method[1] which is one of the qualitative research methods. Afterwards, it will be examined whether the verse text(ies) used as examples in these definitions are also used for similar purposes in Qur'an tafâsîr. Thus, it will be tried to reach the content of the concept of iqtisas based on the usage examples of the phenomenon of iqtisas.

CONSTRUCTIVIST GROUNDED THEORY METHOD
One of the qualitative research methods is the "Constructivist Grounded Theory Method". It is stated that this method, outlined by Charmaz (d. 2020), is systematic, flexible, and has guiding and constructivist features. [1] On the other hand, this method differs from other methods in that it includes the collection of data such as literature analysis and application examples in order to reach the grounded theory regarding the subject under research.[2] Therefore, in our study, the literature on iqtisas will first be examined. Afterwards, it will be investigated whether the sample iqtisas applications obtained in the literature are found in tafâsîr, especially rhetorical tafâsîr. A final evaluation will be made regarding the existence of the concept of iqtisas by evaluating the data obtained.

LITERATURE REVIEW
The concept of iqtisas at the center of our study is formed as a word from the root letters "k-s-s" (ق-ص-ص) and is inflected in the ifti'âl meter. This word includes the meanings of "to trace, to convey words or news, to tell". [3-5] Additionally, when this word is used with the letter 'ala (عَلَى), it also includes the meaning of "to narrate sensitively".[6, 7] The term meaning of this word was expressed by Ibn Faris (d. 395/1004) as "the transfer of a word or news in the same or another surah".[5, 8] Abû Hilâl al-'Askarî (d. after 400/1009) expressed iqtisas as "the transfer of a news or word". In addition, al-'Askari stipulated that the expression with iqtisas must be correct and real.[5, 9] al-Zarkashi (d. 794/1392) [10] and al-Suyûtî (d. 911/1505) [11] included this subject in their works by creating a section with the information provided by Ibn Faris under the title of el-Iqtisas.[5] This situation can be considered as evidence that iqtisas has such importance that it can be created a separate title among other Qur'an sciences. Ibn Abi'l-Isba' al-Mısrî (d. 654/1256) discussed iqtisası under the title of îcâz and expressed it as "It is when the mutakallim tells a story in a few words and in such a concise way that nothing is taken away from it".[12] According to İsmail Durmuş, the term iqtisas is mentioned as a concept used in the science of bedî' and is expressed as "the concise transfer of a word or news that is mentioned extensively in a verse in another place of the Qur'an".[4] As can be seen, while the concept of iqtisas was initially mentioned as a form expression of the Qur'an, it was defined more comprehensively by Ibn Abi'l-Isba' al-Mısrî.[13] Additionally, Ibn Abi'l-Isba' al-Mısrî stated that there are many expressions like this in the Holy Qur'an.[12, 7] Among the examples presented regarding the concept, the verse 40/32nd of the Surah al-Mu'min will be mentioned below and the interpretations in which the iqtisas application within the scope of this verse is carried out will be examined.

IQTISAS APPLICATIONS IN THE QUR'AN WITHIN THE SCOPE OF VERSE 40/32ND OF SURAH AL-MU'MIN
One of the verses given as an example of the application of the subject of iqtisas is the verse 40/32nd of the Surah al-Mu'min, which is stated in the Qur'an as ﴿وَيَا قَوْمِ إِنِّي أَخَافُ عَلَيْكُمْ يَوْمَ التَّنَادِ﴾ "O my people, I truly fear for you the day when you will flee."[5, 8] The information obtained from the tafâsîr regarding this verse will be discussed chronologically. First of all, in the fourth century of the Hijri, al-Māturīdī (d. 333/944) stated that the verses 40/32-33rd of the Surah al-Mu'min are related to the

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34th verses of the Surah Abasa in his tafsîr titled "Te'vîlâtu Ehli's-Sunne". Al-Māturīdī stated that there is an explanation in the verses 40/32nd and 33rd of the Surah al-Mu'min about one's escape from the fire on the Day of Judgment. While expressing this, he explained, "As in the 34th verse of Surah Abasa." From this statement, it is understood that he made iqtisas from the 34th verse of the Surah Abasa.[14] It was stated by Ibn Faris, one of the scholars of the fourth century Hijri, that he made an iqtisas of the verses of Surah Abasa 80/34, 35, 36, 37th.[5, 8] According to Ibn Faris, when the word التَّنَادِ in the verse is read as ندَّ, an iqtisas is made from the verse ﴿يَوْمَ يَفِرُّ الْمَرْءُ مِنْ أَخِيهِ﴾ "On that day, a person will run away from his brother", which is the 80/34th verse of Surah Abasa, until the end of the story.[8] It is noteworthy that al-Zamakhshari (d. 538/1144), one of the leading scientists in the field of rhetoric in the sixth century Hijri, established a relationship between the 40/32nd verse of the Surah al-Mu'min and the 34th verse of the Surah Abasa. While doing this, al-Zamakhshari also mentioned the text of the verse.[15] Al-Razi (d. 606/1210), one of the scientists of the seventh century Hijri, used the expression يندون كما تند الإبل "They run away like a camel" in his interpretation of the 40/32nd verse of the Surah al-Mu'min. While using this word, he also stated that the same meaning is in the 34th verse of Surah Abasa by mentioning the wording of the verse. This shows that he also benefited from the iqtisas method.[16] al-Baydawî (d. 685/1286), another scholar of the seventh century Hijri, explained the explanation of أن يند بعضهم من بعض "running away from each other" in his interpretation of the 40/32nd verse of the Surah al-Mu'min by saying "as in the 34th verse of the Surah Abasa ". Therefore, it is understood that al-Baydawî used iqtisas by referring to the 34th verse of Surah Abasa while interpreting the 40/32nd verse of the Surah al-Mu'min.[17] Abû Hayyân (d. 745/1344), one of the scholars of the eighth century Hijri, mentioned the word ندَّ البعير اذا هرب to indicate that the word ندَّ, which is mentioned as the root of the word التناد in the verse, is used to express the flight of the camel. While doing this, he then established a connection between them by mentioning the words of the 34th verse of Surah Abasa. [18] This can be considered as an example of his use of iqtisas. Abu'l-Su'ud (d. 982/1574), one of the scholars of the tenth century Hijri, described the explanation of the people like al-Baydawî "running away from each other" as in the 34th verse of Surah Abasa. This statement shows that he also applied the use of iqtisas like al-Baydawî.[19] Al-Ālusī (d. 1270/1854), a scholar of the thirteenth century Hijri, unlike other mufassirs, explained the expression يَوْمَ التناد as يَوْمَ الهرب والفرار "the day of escape". It is seen that al-Ālusī also uses the iqtisas form of expression by mentioning the wording of the 34th verse of Surah Abasa.[20]

EVALUATION OF FINDINGS

In the tafâsîr of al-Māturīdī, Ibn Fâris, az-Zamakhshari, al-Baydawî, al-Razi, Abû Hayyân, Abu'l-Su'ud and al-Ālusī, who lived in chronologically different periods, it is seen that the text of the 34th verse of Surah Abasa is shared in explaining the meaning of the 40/32nd verse of the Surah al-Mu'min. This situation, considering that these verses are given as examples for the application of the concept of iqtisas[5, 8], shows that the expression form of iqtisas is applied without being mentioned as a concept. As a matter of fact, when examined with the constructivist grounded theory method, it was understood that the concept of iqtisas - although its name was not mentioned as a concept - was used in different time periods.

CONCLUSION

It has been observed that the concept of iqtisas, defined by Ibn Faris, one of the scientists who lived in the fourth century Hijri, has been mentioned to a limited extent in the literature as a concept, although it is a widely used form of expression. In today's studies, it has found a place only in some dictionaries. Within the scope of our study, it was examined whether this concept was applied in the tafâsîr within the scope of the 32nd verse of the Surah al-Mu'min with the constructivist grounded theory method. As a result of the examination, it was concluded that the application examples of the concept were included in the tafâsîr, but the name of the concept was not mentioned. Studies on the use of the concept of iqtisas itself and/or its application examples outside of tafâsîr will contribute to a more comprehensive understanding of the subject.

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A LITERATURE REVIEW ON EFFECT OF CLINICAL MAT PILATES ON HEALTH-RELATED QUALITY OF LIFE IN MENOPAUSAL WOMEN

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ABSTRACT
Physical, psychological, and social changes are carried by the hormonal shifts resulting from menopause and the climacteric.
OBJECTIVE: *The research was to evaluate the effect of a Pilates based exercise program on the standard of living of climacteric women, as it is thought that the movements utilized in Pilates have an impact on mental as well as physical fitness.*
METHOD: *The authors gathered reviews including of comprehensive randomised controlled trials, systematic reviews, and experimental research through looking PubMed and Google Scholar regarding the effectiveness of Mat Pilates exercises in menopausal women.*
RESULT: *All the articles taken for the review has shown that Mat Pilates exercises had a significant effect in maintaining and increasing muscles strength in menopausal women. the whole text of the articles was gathered. A Twenty of the thirty identified articles were selected for review.*
KEYWORDS: *Mat Pilates Exercise, Menopausal Changes, Climeteric Changes, Health Related Quality Of Life, Menstrual Symptoms, Physical And Mental Changes*

INTRODUCTION
Menopause is the irreversible end of menstruation followed on by ovarian follicular function reduction. usually happens around the age approximately 45 to 55. After a year of amenorrhea, which is caused by the irreversible loss of ovarian function, menopause is identified. The menopausal age is 51.4 years on average. Menopause can cause a woman to have a longer or shorter menstrual cycle, miss periods, have a heavier or lighter period, experience hot flashes and night sweats, have trouble sleeping, have mood swings or changes including sadness and anxiety, have joint pain and stiffness in their musculoskeletal system, sometimes experience weakness in their lower extremities, and have vaginal dryness that makes it difficult to have sexual relations.

The anterior pituitary gland cyclic inhibition by oestrogen is broken, enabling the gland to continue secreting luteinizing hormone (LH) and follicle-stimulating hormone (FSH). Atrophic changes are observed, the uterus contracts, the ovaries reduce in size, the endometrium thins, and the cervix becomes smaller and secretes less. The fornices deepen and the vaginal wall atrophies, losing its elasticity. The vagina's fluids become less acidic, making an infection more likely. The genital tract and a prolapse tendency are the result of the supportive components failing. The labia become flatter and more prone to gaping, infection (vulvitis) may ensue, and pubic hair decreases. Oestrogen shortage affects the synovial membrane, muscles, ligaments, tendon collagen, bones, and joint capsule.

Women have long faced a range of emotional and physical problems, from minor to severe. Clinical mat Pilates has demonstrated to be beneficial in increasing both the quality of existence and the strength of muscles. Occasionally, during the menopausal era, the symptoms may intensify due to the decline of hormones.

Prior till the mid-1980s, the Pilates Method was primarily unknown outside of the dance community. However, in the last ten years, the method has quickly acquired popularity, overcoming its relative obscurity. The Pilates method consists mostly on a very modest number of exercises. It is an approach to training and bringing the body and mind together as one. Joseph Pilates opened and operated a gym in New York between the latter half of the 1920s and the 1960s. He wrote two volumes outlining his methodology. First came P. Freidman and G. Eisen's 1980 book "The Pilates Method of Mental and Physical Conditioning." The books "Your Health" and "Return to Life Through Contrology," which Pilates cowrote with W. J. Millar, were published in 1945.

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Each exercise develops intentional and economical movement—a "minimum of motion" and smooth succession that are then included in daily living. He explains the way his thought process has developed and includes several exercises that you may do at home.

Clinical mat Pilates is a helpful intervention for menopausal women, even though the exercise benefits both physical and mental health, including flexibility and balance. The person's strength and flexibility have increased because of a clinical mat Pilates exercise program because breath control helps to relax the muscles. A mat exercise using Pilates have been shown to improve muscle strength and flexibility, and they may also lessen the deleterious effects of menopause on function. Since there is no physical contact, the activity is less hazardous than different types of exercise since there's a lower risk of musculoskeletal harm. Additionally, it enhances quality of life, dynamic postural stability, muscle strength, muscular flexibility, and core strength.

The benefits of the Pilates technique on enhanced muscle strength, flexibility, motor skills, posture, pain management, and personal autonomy have all been investigated and validated.

Sr No.	AUTHOR	YEAR	STUDY	SAMPLE SIZE	SUMMARY
1	Maryam Abdoshahi	2023	Experimental study	32	An Experimental study on "The Impact of Pilates Training on Mental Health and Happiness Among Untrained Menopausal Women." Based on the research, it is advised that menopausal women take part in Pilates and other physical training programmes to enhance their mental health.
2	Anjali Bais, Pratik Phansopkar	2020	Comparative Study	42	It is A comparison between the Progressive Muscle Relaxation Technique and Pilates training Regarding the standard of living of menopausal women. 42 volunteers who are over 45 years old were split up into two groups. at random: Group A (n = 21) and Group B (n = 21).
3	Maria Carrasco-Poyatos, et. al.	2019	Randomized Control Trail	20	A Randomized Controlled Trail on "Pilates vs. Muscular Training In Older Women. Effect In Functional Factors and The Cognitive Interaction." omen over the age of 60 who were between 60 and 80 were asked to take part in the research. The appraisal and statistical analysis were conducted by blinded research personnel. Pilates should be suggested for upgrading older women's overall functional condition; however, muscle building exercises are efficient for developing static balance. Both training regimens work well to increase the total amount of lean body mass. Some aspects of functional autonomy interact with the cognitive function.
4	Nathalia Regina Sabatini Gandolfi, et. al	2019	Longitudinal study	40	Longitudinal research carried out on "The influence of the Pilates metho on quality of life and bone remodelling in older women: a controlled study" This study's aim was to assess how the Pilates approach affected a group of elderly women's quality of life and indicators of bone remodelling.: the Pilates class had a 50-minute Pilates exercise session once a week for 20 weeks, while the group under control didn't either. quality-of-life evaluation ratings for physical functioning and physical component summary improved in the Pilates group. Bone remodelling indicators showed no alterations.

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5	Małgorzata Długosz-Bo´s, et. al.,	2017	Experimental Study	50	An experimental study conducted on Impact of Three Months Pilates Training on Balance and Fall Risk in Older Women, 50 participants were included and split into two groups at random. The Pilates programme given for 60 min, twice a week for 6 months. Prior to and after the instruction cycle, all women underwent an assessment using Timed Up and Go (TUG), the One Leg Stance Test (OLST), a test performed on a Free step baropodometric platform, and the tests performed on a Biosway platform The Limits of Stability (LoS) test and the Modified Clinical Test of Sensory Interaction on Balance (mCTSIB) performed on a closed eyes on an unstable surface indicated statistically significant variations in the experimental group. The alterations listed above weren't statistically significant. in relation to the control group. Pilates training affected the participants' balance by improving LOS and reducing fall risk.
6	Daniele Tavares Martins-Meneses, et. al	2014	Experimental Study	44	An Experimental Study on "Mat Pilates Training Reduced Clinical and Ambulatory Blood Pressure In Hypertensive Women Using Antihypertensive Medications. During the pre- and post-experimental periods, the following factors were assessed: body mass, height, body mass index, waist and hip circumferences, flexibility, and the strength of the right and left hands. They were also compared to each other. They were also compared to each other. In all cases tested (clinical, 24 h, awake, and sleeping), TG demonstrated statistically significant improvements both within and across groups for the systolic, diastolic, and mean BP. MP reduces ambulatory and clinical BP in hypertensive women using antihypertensive medicines. These findings back up the suggestion that MP be used as a non-drug therapy for hypertension.
7	Gustavo RodrÃ-guez-Fuentes, et. al.,	2014	Observational study	27	Observational research on the benefits of Pilates on quality of life of premenopausal women. There were 27 females in the sample, ranging in age from 38 to 63. The plan of Pilates-based exercises was created in groups. For 12 straight weeks, a Pilates plan was performed twice a week for 60 minutes. The Health Questionnaire SF-36, Spanish Version 2 (SF-36v2) was employed to assess the quality of existence in the pre and post the intervention. The SF36v2 questionnaire's 8-dimension scores showed statistically significant differences.

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8	Fatma ARSLAN, et. al.,	2012	Experimental Study	66	An Experimental study on "Evaluation of The Effect of Pilates Mat Exercise Program On Some Fitness Parameters And Weight Loss Of Middle Aged Perimenopausal Sedentary Women." 66 middle-aged, overweight, inactive women who experience hot flushes participated in this research as volunteers. Women who were sedentary provided their body weight, body composition (measured by the skinfold calliper), waist hip ratio, waist circumference, and body fat %. In addition, individuals filled out a questionnaire with questions about menopausal bleeding patterns, including vasomotor symptoms. The measurements were taken twice: once prior to and once subsequent to a 6-week set of one-hour exercises performed three days a week as part of a Pilates mat training programme. it was discovered that sedentary women's hot flushes from vasomotor symptoms were greatly reduced by Pilates mat activity. The results validate the impact of Pilates mat workouts on body composition measurements and weight loss. Women going through the menopause transition may benefit over the long run from Pilates mat workouts
9	Meenakshi Kalhan, et. al.,	2020	Cross-sectional Study	400	A Cross-sectional Study, on "Prevalence of Menopausal Symptoms and Its Effect On Quality of Life Among Rural Middle Aged Women (40-60 Years) Of Haryana, India. Data were gathered for sociodemographic parameters, pertinent menstrual history, and other variables. The rating scale for menopause was employed in order to determine the prevalence of menopausal symptoms and the QOL. Menopausal symptoms that were discovered to be 87.7% prevalent. Among the research participants, 70.2% had a reduced QOL. The low QOL was caused by the psychological disorders in 70.8% of cases.
10	Fareha Khatoon, et. al.,	2018	An Observational Cross-Sectional Study	300	An Observational Cross-sectional Study, on 'Assessment Of Menopausal Symptoms Using Modified Menopause Rating Scale (MRS) In Women Of Northern India." For a whole year the research was carried out in the Obstetrics and Gynaecology Department of Era's Lucknow Medical College and Hospital in Lucknow. The Modified Menopause Rating Scale (MRS) was used to evaluate menopausal symptoms. . Joint and muscle soreness (87%), low mood (70%), heart discomfort (60.3%), physical and mental tiredness (60%) and sleep issues (56%) were the greatest often reported symptoms. Hot flushes, the most common menopausal symptom, were reported by 53.3% of women. More symptoms that included additional prevalent in descending order were

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					irritability (46.6%), anxiety (40.3%), bladder issues (26%), vaginal dryness (23%), and sexual issues (20%). women from lower socioeconomic origins and those without a formal education were demonstrated to be more prone to experience symptoms of menopause, and this difference was determined to be statistically significant.
11	M. Rakibul Islam, et. al.,	2014	A Comprehensive & Systematic Literature	MEDLINE, EMBASE, PsycINFO, CINAHL, SCOPUS	A Systematic Review." on June 2013, MEDLINE, EMBASE, PsycINFO, CINAHL, SCOPUS, and Google Scholar were used to obtain all English-language studies that had data on the appearance of menopausal symptoms in women residing in Asian nations. Utilising a risk of-bias technique specifically created for the systematic evaluation of prevalence studies, the risk of bias of the included research was evaluated. criteria were satisfied by 23 independent research. Among psychological, vasomotor, and sexual complaints, physical symptoms were the most frequent. Physical symptoms predominate, followed by psychological problems, vasomotor symptoms, and sexual symptoms. To determine whether the discrepancies in prevalence reporting are a result of methodological problems or because of racial, cultural, or other socioeconomic inequalities, Further investigation with representative samples is required.

12	Sashimalar Mathialagan, et. al.,	2022		321	"menopause Rating Scale (MRS) In Malay Language-Translation and Validation in A Multi ethnic Population Of Selangor, Malaysia." An expert who is multilingual translated the English version of MRS into Malay and then back translated it A panel examined the translated version of MRS to assess its face validity. The Menopause Rating Scale's Malay translation of the English version demonstrated exceptional construct validity, test-retest reliability, and reliability.
13	Peter Francis, et. al.	2019		199	"Age-Group Differences in the Performance of Selected Tests of Physical Function and Association with Lower Extremity Strength." Peak torque (PT) of the knee extensors (KE) was measured from a maximum voluntary isometric contraction. Participants next had 5-repetition and 30-second chair rise tests, a 900-m gait speed test, and 10-m maximum and habitual gait speed tests. Extended physical performance Tests ought to be applied in aging research on healthy older adults.

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14	H. Dwi Susanti, et. al.,	2019		30	Construct Validity of The Menopause Rating Scale in Indonesia. The MRS measures psychological, somaticvegetative, and urogenital symptoms using 11 items collected from participants' regularly symptom logs. According to the findings, the MRS's short sufficient construct validity for the questionnaire for assessing the signs of menopause in Indonesian women.
15	Professor H. P. G. Schneider, et. al.	2017			Accurate health-related quality of life (HRQOL) assessments is essential for clinical practise, research, health treatments, and health planning. This study addresses the important measurement characteristics of HRQOL instruments, factors influencing health status, and the HRQOL measures that are currently accessible. Specifically, each HRQOL measure created for use at the climacteric is addressed in terms of its reliability, validity, and usefulness. Depending on the person or community being examined, it is important to use tools that have undergone validation.
16	Klaas Heinemann, et. al.	2004	A Methodological Review		"The Menopause Rating Scale (MRS): A Methodological Review." In-depth evaluations on the authenticity and reliability of the MRS are based on a large international survey from 2001–2002 that was conducted in 9 countries across 4 continents. To provide a preliminary assessment of test-retest reliability, several little convenience samples were employed. The information was centrally examined. To calculate discriminative validity, information from post marketing HRT research was employed Despite the fact that the test-retest reliability sample size was modest, reliability metrics (consistency and test retest stability) were found to be good across nations. Validity: MRS internal organisation was very consistent across nations, leading experts to believe that the scale accurately reflects the same occurrence in symptomatic women. The methodological data that is now available reveals that the MRS scale has good quality for measuring and comparing HRQoL of ageing women across time and across different geographic locations. It also suggests high reliability and high validity as far as the construct validation procedure could be finished yet.
17	Kloubec, JA.	2010	Experimental study	50	Pilates to enhance posture, balance, flexibility, and muscle endurance. This study sought to ascertain how Pilates exercises affected balance, posture, upper-body muscular endurance, hamstring flexibility, and abdominal endurance. For twelve weeks, two one-hour sessions of a 12-week Pilates program were offered to fifty individuals. According to this research study, people can improve their muscular endurance and flexibility through Pilates at a comparatively modest intensity exercises.

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18	Erick KM, Michael AH, et al.	2004	Experimental Study	47	An experimental study on "Repeated Utilizing Chair Stands to Assess Lower Limb Strength in Older Adults Women". sit-to-stand (STS) For older persons, performance is frequently utilized as a stand-in for strength in the lower limbs. Furthermore, it is unknown how Ankle, knee, and hip joint strength that is bilaterally isokinetic relates to older persons' STS performances. Both the 30-second chair STS test and the 5-chair STS test were the two STS tests used by the authors to assess these associations in sexagenarian women. The majority of STS Difference was not explained showing that significant other variables are also involved in finishing the action, even while the strength of the hip flexor, knee extensor, and ankle plantar flexor are important for executing the STS movement.
19	Kang Hee Cho, et al.	2012	Survey Study	86	A survey study on "Effect of the Lower Limb Power on Falls and Balance of the Elderly To evaluate the impact of the lower limb strength on falls and balance in older people living in a community as determined by lower limb strength and balance assessments and a health status questionnaire. A total of 86 participants (69.8±5.3 years old) were divided into two groups: "Fallers" and "Non-fallers". Thirty-one The group consisted of participants who had at least one incident of an unexpected fall within the previous year. "Fallers", and the remaining 55 those who weren't familiar with a fall within the previous year, "non-fallers According to this research, the "Chair stand test" is a helpful screening method for lower limb strength, which is correlated with elderly people's risk of falls and balance.
20	Lee CW, Hyun J, Kim SG.	2013	Experimental Study	40	An experimental study on "Influence of Pilates Mat and Apparatus Exercises on Pain and Balance of Businesswomen with Chronic Low Back Pain" The objective of the research was to examine the influence of mat Pilates and apparatus Pilates on entrepreneur women with persistent back pain's pain and static balance. Participants were chosen at random allocated to Pilates mat exercises (PME) or Pilates apparatus exercise (PAE), and performed the appropriate Pilates exercises thrice a week for eight weeks. Using the those who weren't familiar with Visual Analogue Scale (VAS), Degree of pain was measured. PME showed greater improvement in pain level and balance compared with PAE in this research.

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Literature Search Methodology

Pedro and Google Scholar are two search engines on the internet that are utilized for journal collection. The articles were identified by the authors using the keywords. The full texts of the articles were gathered. A total of 40 to 45 articles were identified in which 20 articles were selected for the study.

Study Selection

Inclusion Criteria

1. The articles in which there is discussion of the effects of Mat Pilates Exercises were included.
2. The articles which are published in English language are included.
3. The articles with full text from year 2004 to 2023 were included.

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Exclusion Criteria

1. The articles which were in other languages were excluded.
2. The articles which were below 2004 were excluded

DISCUSSION

The most definition indicator of the end of a woman's reproductive cycle is the menopause. For most women, the menopause typically lasts from 40 to 60 years of age. Throughout the course of a woman's life, female sex hormones have a variety of effects on her health and wellbeing. Women experience extraordinary hormonal changes in the middle years as a result of ovarian aging and the menopausal transition on that followed. The menopausal transition on stage includes a rise in the blood concentration on of follicle-stimulating hormone (FSH) and a fall in the concentration on of oestradiol, both of which vary greatly between individuals. As people age, their muscle and bone mass diminish, increasing their chance of developing osteoporosis and sarcopenia in later life. Pilates is a well-known form of exercise that combines control over posture, movement, and breathing. It has been widely used in programs for physical training and rehabilitation on. Pilates embraces a set of exercises that integrate flexibility, breathing, posture, and muscular quality.

The escalating work is adjusted to the abilities and limitations of the patients and can be integrated into an individual or group-based program. Moreover, the current study's findings support Shah's assertion on that Pilates evenly targets each muscle group through a combination on of dynamic and static strength training, thereby strengthening the entire body. Every body part is taken care of. Additionally, we practice all three planes of motion: sitting, laying, and standing. This suggests that despite the absence of using large weights, the muscles are exercised in a variety of ways, resulting in a consistent and extremely deep strength and tone. Pilates develops strength from the inside out, starting with the deep core muscles that support the body during movement and working out to the limbs. Pilates also increases endurance through both individual and group activities.

There was a study in which it was evaluated to see how lower extremity muscular strength and postural stability were affected after eight weeks of core stability training with Pilates. 40 Subjects in good health were split up into two groups at random: twenty members of the core stability training (CST) group and twenty members of the control group. For eight weeks, the CST group an ended three 60-minute Pilates weekly training sessions, whereas the control group got no training at all. We used isokinetic equipment to test lower extremity muscular strength before and after training, and a balancing device was used to measure postural stability. The CST group showed significant post-test increases in postural stability and lower limb muscle strength ($P<0.05$). But in the group under supervision, there was minimal change in either of these metrics' notable variations in the lower extremities.

The total data from these investigations emphasizes the many advantages of Pilates instruction on for the range of demographics and health issues. Pilates is a flexible and effective exercise technique with wide-ranging implications for health promotion and preventing illness, especially in menopausal and middle-aged women, in addition to those who experience chronic low back discomfort or hypertension. It can improve physical fitness criteria, decrease chronic pain, enhance mental well-being, as well as control cardiovascular risk factors. To further understand the underlying mechanisms and enhance the application of Pilates interventions for optimizing health outcomes across a range of demographic populations, more research is recommended.

CONCLUSION

However, it was shown that mat Pilates exercises were useful in enhancing menopausal women's quality of life and physical strength. Many studies suggest that mat Pilates exercises can help reduce menopausal symptoms, which enhances quality of life and increases physical and muscle strength.

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IDENTIFY SEVERAL VARIABLES THAT INFLUENCE THE WELFARE OF THE POPULATION OF INDONESIA

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ABSTRACT

This study aims to determine and examine the influence of road infrastructure, wages, GDP per capita, and MSMEs on the level of population welfare (human development index) through GDP per capita and economic growth using panel data in 34 provinces in Indonesia during 2017-2022. This research uses a path analysis model with dummy variables by grouping the system into 2 parts, namely areas with a natural resource base, called Group 1, and non-SDA-based areas, called Group 2. The results of the study show that road infrastructure has a significant negative influence on the level of welfare. both in Group 1 and Group 2. This variable also has a significant negative effect on GDP per capita in Group 2, but it is not significant in Group 1. Furthermore, this variable has no influence on economic growth in either Group 1 or Group 2.

Wages in Group 1 have a real positive effect on GDP per capita and HDI (welfare). On the other hand, Group 2 had no influence on these two variables. Furthermore, MSMEs in group 1 have a very real influence on GDP per capita and HDI, but have no influence on economic growth. On the other hand, in group 2 MSMEs have no influence on GDP per capita and economic growth, but have a significant positive influence on HDI. Finally, economic growth has a real positive influence on HDI in Group 1, whereas it has no influence in Group 2.

KEYWORDS: *Road Infrastructure, MSMEs, Wages, Economic Growth, GDP per capita and HDI*
JEL Classification: *B55, C01, L60*

INTRODUCTION

One of the parameters used for successful development in describing community welfare is the human development index (HDI) which measures human development achievements based on a number of basic components of quality of life. HDI with a basic three-dimensional approach that includes long and healthy life, knowledge, and a decent life. The United Nation Development Program (UNDP) in 1990 originally introduced an HDI indicator that it had developed, namely an indicator that can describe the development of human development in a measurable and representative manner. The HDI number ranges from 0 to 100. The closer to 100, the better the indication of human development (Androgue, 2010). HDI itself was first introduced by a Pakistani economist in the 1970s named Mahbub Ul Haq (Khodabakhshi, 2011).

Human development results vary in 34 provinces in Indonesia, showing that prosperity is far from expectations, especially in terms of equality. DKI Jakarta has the highest HDI reaching 81.65 and the lowest is Papua province with an index score of 61.39 in 2022. Specifically, the acquisition of human development index scores in provinces resulting from expansion with the hope of achieving a higher score is not fully proven. The success of the Riau Islands province was by passing the HDI achievement of Riau province, while other provinces showed the opposite results, namely that the province of North Kalimantan was not higher than the province of East Kalimantan, likewise the province of West Sulawesi had no higher score than South Sulawesi. So the results of the expansion of provinces do not guarantee higher welfare than the parent province, in fact many of them will be lower. Variations in Human Development Index (HDI) scores can be seen in Figure 1.

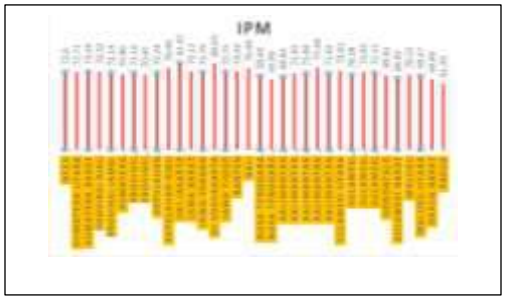


Figure 1. Provincial HDI in Indonesia in 2022

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One indicator of success in economic development in a region is economic growth. Economic growth is a process of increasing the productive capacity of goods and services from an economy as a whole and continuously or sustainably over time, resulting in increasing levels of income over time. Rapid economic growth has attracted the attention of economists, politicians and policy makers because economic growth is considered the main prerequisite for achieving a better standard of living for the entire community (Nafziger, 2006). Economic growth is influenced by investment in a broad sense which consists of several production factors in the form of capital, labor, skills and technology (Todaro and Smith, 2020; Branson, 1992). Likewise, instructors, especially road infrastructure, is one of the economic tools that can determine the level of economic growth and community welfare (Syafira and Triani, 2021).

Infrastructure is development capital that will produce output, both directly and indirectly. It can be seen directly that infrastructure capital is one of the production factors that will cause economic growth, directly as a third input in the production function and indirectly by influencing total factor productivity (Agenor and Moreno-Dodson, 2006). Furthermore (Mohanty, at al., 2016) states that infrastructure helps overall human productivity and development of a country and also the quality of life of its people. Infrastructure, especially roads, has a tremendous impact on the socio-economic activities of society. The development of road and bridge infrastructure is the lifeblood of community mobility. The infrastructure development program is part of supporting programs in other sectors. Infrastructure development is an indicator of a country's progress (Ministry of PUPR, 2018). Rural infrastructure, especially roads and electricity, can reduce transportation costs, connect villages with markets, facilitate worker mobility and increase access to schools and health clinics (United Nations Development Program, 2016). In particular, road infrastructure plays a crucial role by providing mobility for the efficient movements of people, goods and services as well as providing accessibility to land and a wide variety of commercial and social activities (Meyer and Miller, 2001). Furthermore (Ng, C.P., at al, 2019) found that the growth in road length per thousand population would facilitate export growth. Thus it can be concluded that road infrastructure can lead to economic growth.

Wages are compensation received by workers in accordance with existing provisions and regulations. Economic activities can run smoothly because of the contribution of workers. Thus wages are directly related to production or economic growth. However, wages do not guarantee increased production. Research (Dan Lupu and Mihaela Ifrim, 2023) found that GDP increases cause wages to increase at different frequencies; there is a positive correlation between GDP growth and wage growth; the effects of wage-led growth policies were weak and only on short periods. Furthermore, it was also found that estimates cast a high degree of uncertainty on the effectiveness of wage increase policies promoted by some national authorities to achieve economic growth. Wages and the unemployment rate have a positive relationship. The size of the wages offered will influence people's interest and desire to enter the job market. If wages rise, then someone will tend to enter the job market (Mankiw, 2011). Thus, labor, which is one of the production factors measured by wages, will be able to encourage economic growth.

The increase in wages spearheaded by the government means that industry will inevitably pay higher wages. This will encourage the workforce to improve performance which in turn will have an impact in the form of increasing industrial productivity. Increasing productivity will lead to an increase in business scale which in turn will increase people's income so that the level of welfare can also increase. Apart from wages which can encourage increased productivity, per capita income is an indicator or benchmark in measuring the level of social welfare in a country.

According to BPS(2023), per capita income Indonesia increases every year, while the rate of per capita income fluctuates every year. Per capita income in Indonesia increased in 2020 by US$ 3,912 while in 2021 it reached US$ 4, 291 or an increase of 9.69%. Furthermore, in 2022 it will reach US$ 4,783.9 or an increase of 11.47% and in 2023 it will reach US$ 5,108 or an increase of 6.77% compared to the previous year. Increase in per capita income in 2023 accompanied by an increase in electricity consumption. If we observe the pattern of change, the increase in nominal and real per capita income in Indonesia has almost increased from year to year. The increase in real per capita income shows two things, namely: (1) an increase in the production of goods and services that exceed the increase in the general price level, and (2) an increase in real income that exceeds the increase in population.

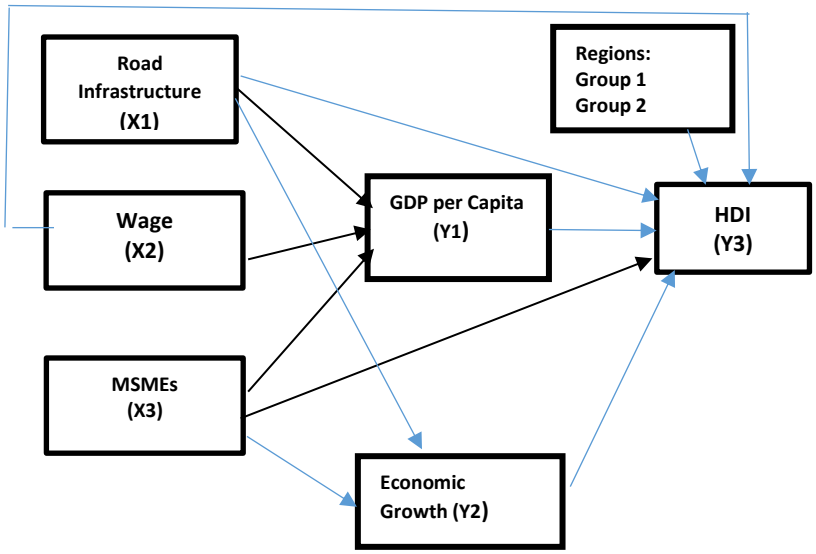
One of the important sectors that uses the most electrical energy is MSMEs because they have a large quantity. This sector has a strategic role in improving the country's economy. This can be seen from the large number of workers working in this sector, the high contribution to the formation of the national economy's gross domestic product (GDP), and helping to reduce public unemployment. Furthermore, this sector has proven its resilience in facing the economic crisis that hit the Indonesian economy when many large companies went bankrupt. However, this sector experiences weaknesses in the form of: limited capital, difficulties in marketing and providing raw materials, minimal knowledge about the business world, limited mastery of technology, low quality of human resources (formal education), poor financial management, lack of proper division of tasks. clear, and often rely on family members as unpaid workers (Tambunan, 2009). Thus requiring various types of assistance, especially in the financial sector. At the heart of the government's strategy lies a commitment to providing vital financial assistance to MSMEs, enabling them to weather the storms of economic uncertainty and emerge stronger. Through initiatives like the People's Business Credit (KUR) and Micro Business Productive Assistance

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(BPUM), small businesses receive much-needed financing support, empowering them to invest in their operations, expand their reach, and seize new opportunities. By alleviating financial constraints and facilitating access to capital, these programs pave the way for sustainable growth and resilience in the MSME sector (Amartha, 2024).

The role of MSMEs in economic development is very strategic because they provide the largest contribution, the majority or 99% of businesses in Indonesia are at the MSME level, contributing 61.9% to the total gross domestic product (GDP) and absorbing approximately 97% of the local workforce so that they can be used as a means of alleviating poverty. Micro, small and medium enterprises (MSMEs) have an important role in driving Indonesia's economic growth, especially in the regions. This is proven by data which shows that the number of MSMEs continues to increase from year to year. In 2019, there were 65.47 million MSME units recorded in Indonesia. The contribution of MSMEs to gross domestic income also reached 61.07% or IDR 8,573.89 trillion. Apart from that, MSMEs are able to absorb 97% of the total workforce in Indonesia and collect 60.4% of total investment (BPS, 2023). Thus, an increase in the quantity of MSMEs can cause energy demand, especially electrical energy because basically MSMEs, like other large companies, have production factors that will produce output which has an impact on increasing energy demand, so that it can encourage economic growth. MSMEs have an important role in driving Indonesia's economic growth.

Steady economic growth and adequate labor absorption will have an impact on community welfare or can increase the HDI. Economic encroachment in various economic sectors can have an impact on energy absorption in various sectors because of the positive relationship between output and employment opportunities, thereby creating employment opportunities through employment opportunity multipliers (Miller and Blair, 2012). If high growth and adequate employment opportunities are created, overall societal prosperity can be achieved, even though inequality still exists. Economic growth can be determined by the length of roads, wages, the number of MSMEs and GDP per capita. Furthermore, economic growth and GDP per capita are expected to have an impact on the welfare of society in general, Figure 2. Thus, this study aims to find out and study:



Region with natural resource base (Grup 1)
Region without natural resource base (Grup 2)

Figure 2. Framework

1. Effect of road infrastructure on GDP per capita, economic growth and HDI
2. The effect of wages on GDP per capita, economic growth and HDI
3. The influence of MSMEs on GDP per capita, economic growth and HDI
4. Compare the influence of road infrastructure variables, wages and MSMEs on GDP per capita, economic growth and HDI in Group 1 and Group 2.

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LITERATURE REVIEW

National Income

Per capita income is a measure of the amount of money earned per person in a country or geographic area. Per capita income can be used to determine the average income per person for an area and to evaluate the standard of living and quality of life of the population, so this concept is one of the main indicators in measuring welfare. GDP is the total amount of remuneration received by production factors participating in the production process in a region/region within a certain period of time, usually one year. Based on this understanding, NTB is the sum of wages and salaries, land rent, capital interest and profits, all before deducting income tax and other direct taxes. This approach method is called the income approach. Apart from that, GDP calculations can also be done using national income, namely adding up all household consumption expenditure and non-profit private institutions, government consumption expenditure, gross domestic fixed capital formation, changes in inventory and net exports (net exports are exports minus imports), within a region/region within a certain period, usually one year. With this method, the NTB calculation is based on the final use of the goods and services produced. Another approach is the production method, which sums up the added value of all economic sectors.

If GDP is divided by population, per capita income is obtained, which is the main measure in determining the level of welfare of a country. GDP is an input to economic growth calculated from the difference between two years of total GDP divided by final year's GDP where Y is GDP. Economic growth is an increase in the long-term capacity of the country concerned to provide various economic goods to its population which is determined by progress or adjustments in technological, institutional and ideological adjustments to various demands of existing conditions (Todaro, 2006). Furthermore, Mankiw (2003) stated that economic growth is a very popular macro performance indicator, used as macro analysis to measure the level of a country's economy. GDP calculations can be done using three (3) approaches: production approach, income approach, and expenditure approach. GDP using a production approach is carried out by summing up the output or added value of all sectors in an economy. GDP using the expenditure approach is to add up the components of final demand including those expressed by Y= C + I + G + X-M where C is household consumption, I represents investment, G is government expenditure, (X-M) is net exports. The income approach includes components of remuneration received from production factors such as wages/salaries, land rent, capital interest. So in this case we pay attention to the income from each factor of production. Capital provides income in the form of interest; labor produces income in the form of salary or wages; wealth provides income in the form of rent and management or skills generate income in the form of profits. By adding up the income from the four factors of production, GDP is obtained. Based on the three approaches above, it appears that economic growth originates from growth on the aggregate demand side (AD) and/or aggregate supply side (AS) and/or on the aggregate production side.

Welfare

The Government of the Republic of Indonesia defines welfare as the condition of fulfilling the material, spiritual and social needs of citizens so that they can live a decent life and are able to develop themselves so that they can carry out their social functions.

In essence, welfare requires the fulfillment of human needs which include primary needs, secondary needs and tertiary needs. Meanwhile, according to Law No. 11 of 2009, articles 1 and 2 concerning welfare, welfare is defined as a condition where people's adequate needs are met, so that they are able to develop themselves and can carry out their social functions.

According to Pigou (1960) economic theory of welfare is a part of social welfare that can be linked directly or indirectly to the measurement of money. Welfare can be approached based on two things, namely: (1) subjective welfare and (2) objective welfare. Well-being is addressed at the individual, family and community levels. At the individual level, feelings of happiness or sadness, mental peace and anxiety, and satisfaction or dissatisfaction are subjective indicators of quality of life. At the family level, the adequacy of housing conditions, such as whether there is clean water, is an example of an objective indicator. NASW (National Association of Social Workers), a social work organization in America, defines social welfare as a country's system of programs, benefits and services that help people meet the social, economic, educational and health needs that are the basis for survival. their lives (Zhastrow, C., 2010). Thus, the level of human welfare can be measured by physical and non-physical needs, such as per capita consumption levels, crime rates, labor force, economic level, and access to mass media. Apart from that, the level of community welfare can also be measured by the HDI (Human Development Index) which consists of three combined dimensions, namely: age dimensions, educated people and decent living standards.

HDI is an index that can describe the level of social welfare. A country that has a high HDI shows that the level of social welfare is high. Per capita income is one of the components of developing the HDI, in addition to the health level and education level of the community. The Human Development Index (HDI) or Human Development Index (HDI) is a comparative measurement of life expectancy, literacy, education and living standards for all countries throughout the world, a measure applied by the United Nation Development Programmer (1990) in the human development index theory, namely an approach used as a benchmark for the high and low levels of human development.

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The Human Development Index (HDI) is an indicator measuring the comparison of life expectancy, literacy, education and living standards set by all countries in the world, which classifies a country as a developed, developing or underdeveloped country so that it can measure the impact on economic policy on quality of life. The Human Development Index (HDI) measures human development achievements based on a number of basic components of quality of life. As a measure of quality of life, HDI is built using a basic three-dimensional approach. These dimensions include a long and healthy life; knowledge, and a decent life. These three dimensions have a very broad meaning because they are related to many factors. To measure the health dimension, life expectancy at birth is used. Furthermore, to measure the dimensions of knowledge, a combination of literacy rate and average years of schooling is used. Meanwhile, to measure the dimensions of a decent life, indicators of people's purchasing power for a number of basic needs are used which are seen from the average amount of expenditure per capita as an income approach that represents development achievements for a decent life (BPS, 2023).

Economic Growth

Economic growth as a process of increasing output over time is an important indicator for measuring the success of a country's development (Todaro, 2005). There are several theories that explain economic growth, including: 1). Classical theory, according to the views of classical economists, exists four factors that influence economic growth, namely: population, stock of capital goods, land area and natural resources, level of technology used.

According to the classical view, the law of diminishing returns will affect economic growth. 2). Harrod-Domar theory, in analyzing the problem of economic growth, this theory aims to explain the conditions that must be met so that an economy can achieve steady growth in the long term. Harrod-Domar's analysis uses the following examples: capital goods have reached full capacity, savings are proportional to national income, the capital output ratio remains in value and the economy consists of two sectors, 3). Neo-Classical Growth Theory, this theory looks at it from a different point of view, namely from the supply perspective. According to this theory, which was developed by Swam and Solow in 1956, economic growth depends on the development of production factors. This theory states that the most important factor that brings about economic growth is not an increase in capital and an increase in labor, but the most important factor is technological progress and an increase in the skills and expertise of the workforce. According to the neo-classical view, technology does not depend on economic forces or is exogenous. Later, Romer (1986), Lucas (1988) and Grossman-Helpman (1991) argued that technological progress cannot be considered exogenous, but rather, endogenous. Thus, technological progress results from, among other things, innovation, trade, competition and education. The endogenous growth model emphasizes human capital and research and development (R&D) as the main drivers of economic growth. There are many empirical studies that support the ability of endogenous growth models to explain economic growth in developing countries (Ang and Madsen, 2011)

THE METHOD

This type of the research is quantitative, take the type of study of comparative causality that processes numerical data that can be calculated using statistical formulas. The data analysis technique used in this study is path analysis which estimates of the direct and indirect influence of exogenous variables on endogenous variables. This study uses secondary data, namely data that is already available and collected by other parties and it was panel data. The data was taken from the Indonesia Central Statistics Agency (BPS) which covers 34 provinces in Indonesia. The data used is 2017-2022 yang berasal dari dua kelompok, kelompok pertama adalah wilayah dengan basis sumber daya alam dan kelompok kedua adalah wilayah non-basis sumber daya alam. The statistical analysis technique used is path analysis using the Amos 18 statistical application program.

Based on the conceptual relationship in the framework of thinking, mathematically functional relationships can be written as

$Y_1 = f(X1, X_2, X_3)$
$Y_2 = f(X1, Y_1)$
$Y_3 = f(X1, X_2, X_3, Y_2, Y_3, D, DX1. DX2, DX3)$

Whereas:
X1 = Road infrastructure (length of state, provincial and district roads, km)
X2 = Wage (minimum wage of provinces)
X3 = MEMEs (number of small and medium enterprises)
Y1 = GDP per capita (ratio of GDP to population, rupiah)
Y2 = Economic growth (increase in production expressed as a percentage)
Y3 = Welfare (Index score from HDI)
D = Dummy variable, D = 0. Region with non-SDA basis, and D=1 region with SDA basis)
The structural equation can be rewritten:

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$$\ln Y_1 = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \mu_1 \quad \text{.....(3.1)}$$

$$Y_2 = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_3 + \mu_2 \quad \text{..... (3.2)}$$

$$Y_3 = \varphi_0 + \varphi_1 \ln X_1 + \varphi_2 \ln X_2 + \varphi_3 \ln X_3 + \varphi_4 \ln Y_1 + \varphi_5 \ln Y_2 + \varphi_6 D + \varphi_7 D \ln X_1 + \varphi_8 D \ln X_2 + \varphi_9 D \ln X_3 + \mu_3 \quad \text{.....(3.3)}$$

Substituting the value of dummy variable
D=0 in the equation (3.3), HDI which is expressed mathematically in Group 1 can be explained

$$Y_{31} = \varphi_0 + \varphi_1 \ln X_1 + \varphi_2 \ln X_2 + \varphi_3 \ln X_3 + \mu_4 \text{ .....(3.4)}$$

and D=1 in the same equation, HDI which is expressed mathematically in Group 2 can be explained

$$Y_{52} = (\varphi_0 + \varphi_4) + (\varphi_1 + \varphi_7) \ln X_1 + (\varphi_2 + \varphi_8) \ln X_2 + (\varphi_3 + \varphi_9) \ln X_3 + \mu_5 \text{ ...(3.5)}$$

RESULTS AND DICUSSIONS

Model Fit Test

Chi-square statistic, as stated earlier, is the most fundamental test to measure overall fit, it is very sensitive to the size of the sample used. The model is considered good if the Chi-square value is small. The smaller the value, the more feasible the research, meaning that the more it describes the match between the variance of the sample taken and the research population. The results of data processing that have been carried out using the AMOS 18 program are as shown in Table 1.

Tabel 1. Goodness of Fit Index,

No.	Goodness of fit Measure	Cut-off Criteria	Estimation (cut off Value)	Fit Situation
1	Chi-Square (χ^2) Significance Probability (p)	smaller the better $\geq$ 0.05	6.498 0.165	Fit
2	RMSEA (the Root Mean Square Error of Approximation)	$\leq$ 0.05	0.056	Fit
3	NFI (Normed of Fit Index)	$\geq$ 0.95	0.983	Fit
4	IFI (Incremental Fit Indices)	$\geq$ 0.95	0.993	Fit
`5	CMIN/DF (the minimum Sample Discrepancy Function)	$\leq$ 2.00	1.625	Fit
6	TLI (Tuckler Lewis Index)	$\geq$ 0,95	0.946	Marginal
7	CFI (Comparative Fit Index)	$\geq$ 0,95	0.993	Fit
8	Hoelter's Index	$\geq$ 200	296	Fit

Sumber: Malkanthie, 2015; Wan, 2002. and Amos Result

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Furthermore, the analysis results show:
Region with natural resource base (Grup 1), Group I

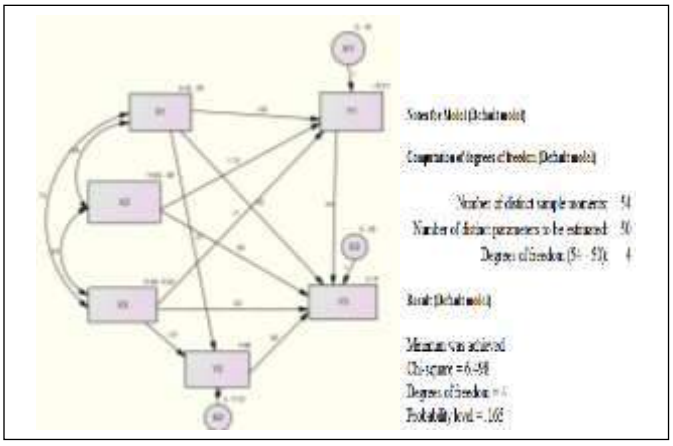


Figure 3. Variable Coefficients before the Pandemic

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
GDPPerCapita	<---	RoadInfrastructure	-.033	.051	-.634	.526
GDPPerCapita	<---	Wage	1.721	.156	11.026	***
GDPPerCapita	<---	MSMEs	.108	.018	5.972	***
EconomicGrowth	<---	RoadInfrastructure	.211	.537	.394	.694
EconomicGrowth	<---	MSMEs	-.229	.174	-1.314	.189
HDI	<---	MSMEs	.016	.001	11.613	***
HDI	<---	RoadInfrastructure	-.024	.004	-6.733	***
HDI	<---	GDPPerCapita	.037	.006	6.180	***
HDI	<---	Wage	.051	.015	3.456	***
HDI	<---	EconomicGrowth	-.001	.001	-2.041	.041

Gambar 4. Koefisien of the Independent Variable to dependent variable in Group 1

The estimation results shown in Figure 2 can be written as a regression equation in the pre-pandemic period:

$$\ln \hat{Y}_1 = -15.510 - 0.033 \ln X_1 + 1.721 \ln X_2 + 0.108 \ln X_3 \quad \text{.....(3.6)}$$

Sig.: 0.000 0.526 0.000 0.000

$$\hat{Y}_2 = 4.963 + 0.211 \ln X_1 - 0.229 \ln X_3 \quad \text{..... (3.7)}$$

Sig.: 0.280 0.694 0.189

$$\ln \hat{Y}_3 = 3.141 - 0.024 \ln X_1 + 0.051 \ln X_2 + 0.016 \ln X_3 + 0.037 \ln Y_1 - 0.001 \ln Y_2$$

Sig.: 0.000 0.000 0.000 0.000 0.000 0.041

……(3.8)

Region without natural resource base, Group 2

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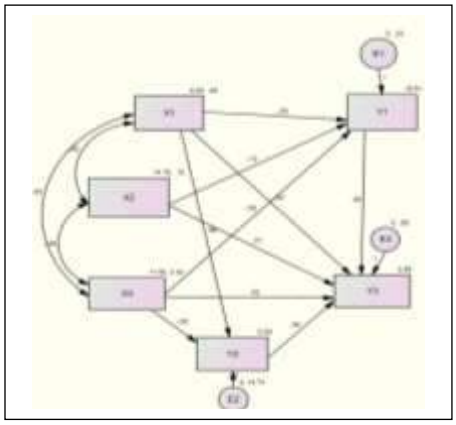


Figure 5. Variable Coefficient in The Pandemic Period

Maximum Likelihood Estimates

Regression Weights: (Group number 2 - Default model)

			Estimate	S.E.	C.R.	P
GDPPerCapita	<---	RoadInfrastructure	-.242	.113	-2.147	.032
GDPPerCapita	<---	Wage	-.123	.183	-.676	.499
GDPPerCapita	<---	MSMEs	-.023	.037	-.618	.537
EconomicGrowth	<---	RoadInfrastructure	.663	.896	.741	.459
EconomicGrowth	<---	MSMEs	-.078	.292	-.266	.790
HDI	<---	MSMEs	.022	.003	6.374	***
HDI	<---	RoadInfrastructure	-.025	.011	-2.344	.019
HDI	<---	GDPPerCapita	.051	.011	4.711	***
HDI	<---	Wage	.008	.017	.489	.625
HDI	<---	EconomicGrowth	-.001	.001	-1.050	.294

Gambar 6. Koefisien of the Independent Variable to dependent variable in Group 2

Meanwhile, from Figure 3, it is obtained

$$\ln \hat{Y}_1 = 15.509 - 0.242 \ln X_1 - 0.123 \ln X_2 - 0.023 \ln X_3 \quad \text{.....(3.9)}$$

Sig.: 0.000 0.032 0.499 0.573

$$\hat{Y}_2 = -2.577 + 0.663 \ln X_1 - 0.078 \ln X_3 \quad \text{..... (3.10)}$$

Sig.: 0.781 0.495 0.790

$$\ln \hat{Y}_3 = 3.563 - 0.025 \ln X_1 + 0.008 \ln X_2 + 0.022 \ln X_3 + 0.051 \ln Y_1 + 0.001 \ln Y_2$$

Sig.: 0.000 0.019 0.000 0.625 0.000 0.294

……(3.11)

RESULTS AND DISCUSSION

Based on equations (3.6), (3.7) and (3.8), it is known that road infrastructure has a significant negative influence on HDI, but has no influence on GDP per capita and economic growth in group 1. If road infrastructure increases by 1% then HDI decreases by 0.0.02 % at the confidence level α= 0.05%. This fact is relatively more in line with research conducted by (Kusharjanto and Kim, 2011) which stated that improvements to several types of infrastructure including roads in the long term will have a lower impact on increasing HDI compared to improving infrastructure in general. On the other hand, in group 2 with (3.9), (3.10) and (3.11) road length has a significant negative effect on GDP per capita and HDI, but has no effect on economic growth. If road length increases by 1%, GDP per capita will decrease by 0.24% and HDI by 0.02% at the confidence level α= 0.05%. The fact that road infrastructure does not have an influence on economic growth is in accordance with research conducted in South Sumatra by (Kaupa, 2015).

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The results of this research show that road infrastructure has not in fact provided the expected benefits for the welfare of society in general. This is because many of the roads created by regional governments still consist of dirt roads which are difficult for vehicles to pass smoothly. The condition of this road is so bad that the dirt road is still muddy in the rainy season. It should be noted that the types of central and provincial government roads relatively did not increase every year during this research period, so if there was an increase in road length, only district roads increased.

Wages are remuneration received by workers which is determined and paid according to an agreement or regulation. Based on equations (3.6), (3.7) and (3.8), it is known that in Group 1, wages have a very real positive influence on GDP per capita and HDI. On the other hand, Group 2 had no influence on these two variables. If wages increase by 1% in Group 1, it will cause an increase in GDP per capita of 1.77%, which is elastic GDP per capita to wages. Furthermore, if wages increase by 1%, HDI will increase by 0.05%. In connection with this fact, research conducted by (Karim at al, 2021) found that the level of wages affects the increase in HDI in Sulawesi Island. On the other hand, research conducted by (Zhidan Shi and Xiao Tang, 2020) states that in marginal conditions, a decrease in HDI is accompanied by an increase in wages.
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Paying attention to the regression equations (3.9) and (3.11), it is known that in Group 2 wages have no influence on GDP per capita and HDI. It is hoped that the greater the wages received by workers, the level of prosperity will increase and vice versa, if the wages of workers are lower, the level of prosperity of workers will also be lower because wage-earning labor is one of the main factors of production. The research results show that wages have no effect on GDP per capita in Group 2 because the wages received by workers are not commensurate with the needs of society in general, especially in this study using the UMP as a variable. So the facts show that there is a conflict between Group 1 and Group 2 in terms of wages. So it can be concluded that Group 1 is more prosperous than group 2 in terms of the effect of wages on GDP per capita and HDI.

MSMEs are individual businesses that are created by individuals or business entities that have certain characteristics and criteria. SMEs in group 1 have a very real influence on GDP per capita and HDI, but have no influence on economic growth. On the other hand, group 2 has no influence on GDP per capita and economic growth, but has a significant positive influence on HDI. If MSMEs increase by 1% it will cause an increase in GDP per capita of 0.11% in Group 1. In group 2 if wages increase by 1% it will cause HDI to increase by 0.02%.Pertumbuhan Ekonomi memberikan pengaruh negatif yang nyata pada Grup 1, sebaliknya pada Grup 2 tidak memberikan pengaruh terhadap HDI. Jika pertumbuhan ekonomi naik 10 % maka akan menyebabkan kenaikan HDI sebesar 0,01%. So the elasticity of economic growth towards HDI is very small and is inelastic with a negative sign. The research facts are contrary to research conducted by (Maulana at. al, 2013) which states that economic growth has a positive influence on HDI.



Gambar 7. Perkembangan berbapa Variabel Penelitian.

As an illustration of national developments, several variables in the research can be seen in Figures 7a - 7d, each of which shows the development of GDP per capita (Figure 7a), the rate of economic growth (Figure 7b), the development of HDI (Figure 7 c) and the

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development of provincial minimum wages (Figure 8c). The most prominent thing is the development or rate of growth of the Indonesian economy, where in 2020 it experienced growth of minus 3.03%, while wages continued to experience positive development.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the analysis and the results of the previous discussion, the following conclusions are drawn:

1. Road length has a significant negative effect on HDI, but has no effect on GDP per capita and economic growth in Group 1. On the other hand, in Group 2, road length has a significant negative effect on GDP per capita. GDP per capita and HDI have no significant effect on economic growth.
2. In Group 1, wages have a real positive influence on GDP per capita and HDI. On the other hand, Group 2 had no influence on these two variables.
3. SMEs in Group 1 have a real influence on GDP per capita and HDI, but do not have an influence on economic growth. On the other hand, group 2 has no influence on GDP per capita and economic growth, but has a significant positive influence on HDI
4. Economic growth has a real positive influence on Group 1, whereas Group 2 has no influence on HDI.

Recommendation

The suggestions to be put forward based on the discussion and conclusions that have been stated, among others:

1. Local governments should prioritize road improvements, not increasing the length of roads because length has a negative influence on GDP per capita and HDI
2. The increase in wages in Group 2 must receive attention and be calculated carefully, especially its impact on inflation because it has no effect on GDP per capita and HDI
3. MSMEs need continuous guidance from both the government and the private sector so that small businesses can move up from small to medium and from medium to large businesses.
4. The government should make efforts to ensure that economic growth is maintained or increases from year to year because it turns out that this variable has had a negative influence, which means there is a decline in economic growth.
5. In efforts to increase HDI, the government should pay attention to and prioritize improving the quality of road infrastructure, growth of MSMEs, GDP per capita and wages.

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DEVELOPMENT OF CRIMINALISTICS DURING THE TWO WORLD WARS

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ANNOTATION

In this article we are talking about the fact that in the period between the two world wars for domestic criminology, the volume of accumulation of empirical material was increased, the task of disseminating forensic knowledge among specialists of professional bodies, practically creating manuals and manuals, was solved. And also the issue of the independent nature of forensic science was positively resolved, which, however, met with objections from some scientists.

KEY WORDS: *world wars, domestic criminalistics, crime investigation methodology, interrogation, interrogation investigation, criminal investigation, detective, criminal technique, sign, identification.*

The development of forensic science in Western countries mainly consisted in the development of tools and methods for studying open evidence. Only in Germany, attention was paid to theoretical issues and problems of forensic tactics and methodology.

E. Lokar's fundamental study «Guide to Forensic Science», the last (seventh) volume that arrived on the eve of the Second World War (an abbreviated one-volume translation into Russian was published in 1940), was widely known. Locard, by discovery, for the first time studying dust and other micro-objects, developed a method of identification by pores (poroscopy), for many years he was the head of the Lyon police laboratory, founded by the forensic doctor Lacassagne.

In Germany, Hans Schneikert, head of the Berlin Department of Investigation, developed questions of describing the appearance of criminals and methods of working with traces. His books «Teaching about Signs for Identification» and «Introduction to Criminal Technique» were published in Russian in 1925 and 1926. Together with V. Stieber, he publishes the «Practical Guide for Investigation Positions» (Russian edition, 1925). In 1924, Schneikert, infected by the Berlin Bureau for the Identification and Teaching of Forensic Science in the Berlin Study above, publishes the book «The Mystery of the Criminal and Ways to Reveal It», published in Russian translation the following year.

In the same years, the works of another German criminologist, Robert Heindl, are widely known: “Criminal technique”). Erich Annushat in the book «Artificial Inflammation of Crime and Gas Logic» (translated 1927) the problems of using examples of inferences, rules for constructing and testing assumptions by investigators.

This period of development of domestic criminology is characterized by a pronounced practical bias, based on the urgent tasks of combating crime, setting the work of the investigative apparatus, the employees have neither desire, nor desire, nor experience. In the forensic literature at the beginning of the period, translated works predominate in order to somehow observe and arm young investigators and experts. But even in these years, in the first domestic works, marked by more exceptions to Western forensic science, there are a number of original lawyers. They are found in the work of G. Yu. Manns (1921) and P. S. Semenovsky (1923). I. N. Yakimov in the first study on the investigation of crimes (1924) N. P. Makarenko considers the theoretical foundations of fingerprinting, some general issues of inspection tactics (1926). Even in such cases, in essence, a reference manual, such as the work of P.P. Mikheev and N.N. features of the subject of criminalistics, goals, objectives and system of this science, its main parts.

Undoubtedly, the most important and at the same time the most important for the formation and development of domestic criminology was the task of determining its subject and content.

Four subjects of definition exist under the clear exception of the views of Western and pre-revolutionary Russian criminologists. So, G. Yu. Manne, enriched in 1921 by the subjects of forensic science, believe that they are, «firstly, the commission of crimes, professional characteristics and domestic crimes (their jargon, their definition of superstition, etc.) and , secondly, the methods of investigating crimes, including the identification of criminals «[1] In the first series of criteria for criminology, proposed in 1925 by I.N. specific, considered and adopted decisions on the investigation of crimes and accusations of the moral personality of the offender, and the goal pursued is to help justice in relation to material justice in a criminal case»[2].

G. Yu. Manne, I. N. Yakimov, and later V. M. Natanson evaluated criminology as an applied, auxiliary discipline. According to the latter, the subject of criminology is the methods of collecting and fixing evidence of guilt, and its purpose is to study the methods of solving crimes [3]. N.D. Voronovsky called the methods of registering criminals, the

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technique of conducting inspections and methods of examining material evidence as the subject of forensic science [4].

The influence of the views of Western criminologists was partially overcome in the first collective Russian textbook on criminology for law schools, published in 1935. The science of how to apply the data of the natural sciences to the investigation of crimes, the best methods for conducting individual investigative actions and the most appropriate mutual arrangement of these actions, the system and planning of the investigation process, and the specific methods of investigating certain types of crimes.

For the stage of formation of domestic criminology is characterized by a view of it as a technical or natural science. It seems that the reason for such an assessment of the nature of forensic science was the desire to dissociate itself from the classical legal criminal procedural science. Emphasizing that forensic science is an applied technical discipline, the supporters of this concept thereby wanted to prove the need to delimit forensic and procedural knowledge. From such positions, this concept played, in our opinion, a progressive role.

A similar point of view in the 20s. Adhered to and G. Yu. Manne [6]. Later, M. S. Strogovich argued that forensic science is a non-legal discipline that studies the scientific and technical methods of collecting and examining evidence, an auxiliary technical tool [7].

Along with the formation of the concept of the subject, opinions were expressed about the system of forensic science. IN Yakimov believed that it consists of two parts – criminal technique and tactics. True, in the composition of the latter, he distinguished «the general part, in content reminiscent of the forensic tactics of a later time, and the special part (the scientific method of investigation), which basically coincides with modern ideas about the forensic methodology» [8].

In 1929, V. I. Gromov published a manual for police and criminal investigation agencies, which he called «Methodology for Investigating Crimes». In the introduction to it, he wrote: «… criminal judicial practice and past experience make it possible to draw generalizing practical conclusions about the methods of work available to every person with some training, the use of which can facilitate the work of investigating crimes, for every average worker, without regard to his personal individual qualities and abilities … Such conclusions, containing practical instructions or rules tested by experience, relating to the most rational use of all methods of work permissible by law in the process of investigating crimes, set out in a certain system, naturally, can to a large extent facilitate the work of investigating crimes … The success of the investigation of criminal cases almost always depends on the ability to methodically correctly build and carry out work, the ultimate goal of which is to solve crimes « [9].

V. I. Gromov introduced the term «method of investigating crimes», along with which the term «private technique» later began to be used. True, in the same work he often confused methodology with methodology, using these concepts as equivalent, but the essence of the matter did not change from this: he wrote precisely about methodological recommendations.

Introducing a new term into science, V. I. Gromov did not propose to change the system of forensic science. However, its publication caused precisely these consequences, and already in the textbook of 1935, the method of investigation began to be called an independent section of forensic science, the system of which, thus, became a tripartite one.

This system was also consolidated in the second part of the textbook on criminalistics for law schools (1936), which is specially devoted to the methodology of investigation [10].

The chronological boundaries of each of the stages in the development of forensic theory, as in any periodization, are very arbitrary. Therefore, already at the stage of accumulation of empirical material, we can talk about the appearance of works that belonged to the next stage in the development of the theory – the development of private forensic theories or doctrines. This is a series of works by S. M. Potapov, V. I. Gromov.

Assessing the significance of the stage of accumulation of empirical material and the role of the first domestic forensic scientists in the development of forensic science, it seems to us that it is necessary to proceed from the following provisions.

The emergence and development of forensic theory became possible only due to the fact that science had at its disposal a huge amount of empirical material – both positive and negative about attempts to use forensic tools and methods. It was in this way that the empirical premises of the forensic theory arose both in the form of individual data and in the form of certain empirical patterns. A special role in the development of domestic forensic science was played by the work of this period by two outstanding forensic scientists - I. N. Yakimov and V. I. Gromov, whose work we consider it necessary to dwell on. Ivan Nikolayevich Yakimov was born in 1884 in Novgorod, into the family of a retired officer. In 1906, he entered the law faculty of St. Petersburg University, from which he graduated in 1911. He was enrolled as a candidate for judicial positions in the district court, and then became an assistant barrister in Warsaw. In 1914, as a reserve officer, I. N. Yakimov was drafted into the army, but in 1916 he was demobilized due to illness, he returned to the bar as a barrister at the Moscow Court of Justice. From 1917 to 1919 Ivan Nikolaevich works in the bodies of the People's Commissariat of Food. In 1919 he was drafted into the Red Army as a military specialist. For five years he has been teaching at higher educational institutions: at the Higher School of Communications, at the Higher School of Chemistry, at the Academy of the Air Fleet. Zhukovsky. Regarding the subsequent period of I. N. Yakimov's life, one of his biographers, M. V. Shvetsov, writes: "After the end of the civil war and the transition of the Soviet state to peaceful construction, when the country faced the task of strengthening the rule of law, one of the important conditions for the implementation of this The task was to train qualified personnel

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of Soviet lawyers.In accordance with this, the further activity of Ivan Nikolayevich Yakimov for 13 years took place in two directions: the first of them was practical work in the organs of the NKVD; work in the field of criminalistics"[11]. In 1924-1937. Ivan Nikolayevich works in the Moscow Criminal Investigation Department and in the Central Directorate of Criminal Investigation of the NKVD. Ivan Nikolaevich combines practical work in the criminal investigation department with teaching activities: he teaches forensic science at the Higher Police School of the NKVD and at Moscow State University - at the Faculty of Social Sciences and at the Faculty of Law, and after the closure of the latter - at the Law Academy. In 1935-1941. he is an assistant professor, and then a professor at the Moscow Law Institute. During the Great Patriotic War, Ivan Nikolayevich worked as a senior military investigator of the Military Prosecutor's Office of the Moscow garrison. Since 1942, Professor I. N. Yakimov began to lecture at the Faculty of Law of Moscow State University. In 1947 he defended his dissertation for the degree of Doctor of Law, Sciences, and on December 26 he was approved as head of the department of criminology at the Faculty of Law of Moscow State University. He served in this position until his death in January 1954. The creative path of I. N. Yakimov is marked by the creation of a number of capital works on a wide range of problems of forensic science. "Practical guide to the investigation of crimes"[12] was a presentation of a series of lectures to employees of the Central Investigation Department. The book consisted of three parts: criminal technique, criminal tactics and a section called "The application of scientific methods of criminal technique and tactics to the investigation of crimes." Criminal technology was divided into three departments. The first section, "Technical methods of registering criminals," outlined the basics of signaletic photography, verbal portraiture, fingerprinting, and written registration. The second, "Technical Methods for Producing Certain Investigative Actions," dealt with inspections and searches. The third - "Technical methods for detecting and fixing traces of a crime" provided data on the detection, fixation, seizure and study of human traces and other traces (animals, wheels, hacking tools, weapons, fakes and forgeries, combustible substances and incendiary devices during arson), and recommendations were given on the storage of items with traces of a crime. Criminal tactics were divided into four sections: the offender, the means of combating criminals, the prosecution of the criminal, and the use of dogs in the search for criminals. Here, the types of criminals and their classification by type of crimes, behavior in the wild and during detention, methods of secret intercourse of criminals were studied, characteristics were given of the qualities necessary for a criminal investigation agent and his activities, methods of monitoring criminals and their detention were described. In essence, the author called the operational-search activity of the bodies of inquiry a criminal tactic. The third part was divided into two sections: the general method of investigation based on circumstantial evidence (evidence) and the application of the general method to the investigation of individual crimes. The second section contained guidelines for the investigation of crimes against the person, property crimes and crimes against society (counterfeiting, forgery). The book was accompanied by a diagram definition of a crime. Immediately after the publication of the Guide, whose circulation (3000 copies) could not satisfy the needs of practical workers, and the quality, apparently, of the author himself, I. N. Yakimov began preparing a revised and enlarged edition. It came out under the title: "Criminalistics. A Guide to Criminal Techniques and Tactics", and was also approved and recommended by the ESD of the NKVD Central Political Administration [13]. Back in the mid 20 s. I. N. Yakimov conceived the creation of a scientific work covering the entire system of forensic science, as he imagined it, that is, both criminal technique and criminal tactics. For unknown reasons, he could not realize his plan in full and limited himself to publishing only the second volume of this work, which was published in 1929 under the title: "Criminalistics. Criminal Tactics"[14]. I. N. Yakimov divided the content of criminal tactics into general and special parts. He divided the general part into three sections: the modern criminal, the crimes he commits and the fight against them; an employee of the criminal investigation department and his activities in the fight against criminals and crimes; investigative tactics. New (in comparison with the previous edition) were a table of the distribution of criminals by type of crime (ch. 1 sec. 1), the entire second division, including ch. 2 "The activities of detective officers in the prevention and suppression of crimes", section "Psychology of interrogation" in the chapter on interrogation from the third department. It can be stated that I. N. Yakimov was the first of the domestic criminologists to turn to the problem of preventing and suppressing crime and tried to solve it in the operational-search and forensic aspects. The same can be said about the foundations of the psychology of interrogation. Shortly before the publication of the book under consideration, he published a special practical guide on interrogation, the material of which he used in the indicated chapter [15]. The special part of the book consisted of two sections: I. "Scientific investigation" (the scientific method of investigating crimes) and II. "Investigation of individual crimes". The first section was supplemented by a historical essay, in which the author examined the methods of investigation proposed by A. Weinhardt, A. Niceforo and E. Annushat. The second section was supplemented with guidelines for the investigation of sexual crimes, horse theft, pickpocketing, extortion and blackmail. In subsequent years, I. N. Yakimov developed the problems of investigative examination in particular detail. In 1935, his work "Inspection" [16] was published, he wrote the chapters on inspection in forensic textbooks of 1935, 1938 and 1950. His doctoral dissertation, defended in 1947, was also devoted to the problem of investigative examination. He was one of the first to develop identification tactics [17]. I. F. Krylov rightly notes that "even a cursory biographical sketch of I. N. Yakimov speaks of the comprehensiveness of his scientific interests" [18]. The name of Vladimir Iustinovich Gromov, a scientist who made a significant contribution to the formation and development of Soviet criminalistics, has been undeservedly forgotten for many years. Meanwhile, the role of his scientific work in the formation of Soviet forensic science is such that it allows putting V. I. Gromov on a par with such scientists of that time as I. N. Yakimov and S. M. Potapov. V. I. Gromov was born in 1869 in the city of Semenov, Nizhny Novgorod province. In 1894, he graduated from the law faculty of Moscow University, after which for five years he was listed as a candidate for

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judicial positions with the duties of secretary of the Nizhny Novgorod District Court. From 1900 to 1917 V. I. Gromov - judicial investigator. After the revolution, V. I. Gromov worked as an inspector-auditor of the Military Economic Council of the People's Commissariat for Military Affairs and the People's Commissariat for Food (1917-1918), chief legal adviser and manager of the legal department of the State Control and the Workers' and Peasants' Committee (1918-1924). In the next few years - an investigator for the most important cases of the Prosecutor's Office of the RSFSR, a senior inspector and consultant of the Main Economic Directorate of the Supreme Economic Council. From 1926 to 1935 V. I. Gromov devotes himself entirely to research work in the field of forensic science and criminal procedure at the Institute of Soviet Law, the Institute for the Study of the Criminal and Crime, and the Institute of Criminal Policy. In 1935, he returned to practical work as a consultant to the Central Methodological Bureau of the RSFSR Prosecutor's Office, then as a consultant to the Investigation Department of the USSR Prosecutor's Office. From 1938 to 1950 V. I. Gromov - in teaching: first at the Moscow Law Institute, where in 1940 he was awarded the title of associate professor, and then at Moscow State University (department of criminal procedure, classical philology, ancient languages). V. I. Gromov died on March 11, 1952. V. I. Gromov began his scientific activity even before the revolution [19], but his talent as a scientist really manifested itself in the 1920s and 1930s. The first major work that brought him wide fame in the circles of the legal community was the book "Inquiry and preliminary investigation (theory and technique of investigating crimes)", published in 1925 under edited and with a preface by N. V. Krylenko and withstood six editions [20]. The book was divided into two parts. The first dealt with the investigative bodies and the limits of their activities, the general conditions and main tasks of the activities of the bodies of inquiry and preliminary investigation, and the methods of work of the investigating bodies. In the second part, the author analyzed individual acts of investigation and their technique, the organization of investigative actions, described the scientific technique of criminal investigations and its features in relation to certain types of crimes. V. I. Gromov is credited with developing the doctrine of the forensic version and planning the investigation. In 1929, V. I. Gromov's work "Methods for investigating crimes" was published [21]. We have already noted the importance of this work for forensic methodology. But her role was not only that. Constructing his "method of investigation", the author sought to outline the typical methods of investigating certain types of crimes, available to each employee "without regard to his personal individual qualities and abilities", i.e., to turn the art of investigation into the science of investigation. Of course, from the height of the modern level, much in this book looks naive. But it should not be forgotten that it was written when the literature was dominated by dogmatic schemes of the process of investigation. V. I. Gromov in this work outlined the most important stages of the investigation process and formulated the general provisions of the tactics of various investigative actions (inspection, search, examination, etc.). The circle of scientific interests of V. I. Gromov is extremely wide, his creative activity is amazing. Suffice it to say that in addition to these works, in 1929, together with N. Lagovier, he published the book "Criminal Judicial Evidence" [22], in 1931 two of his works were published - "Inspection of the crime scene" [23] and "Techniques for investigating individual types of crimes" [24], in 1932 - "New forms and methods of investigation of official and economic crimes" [25], and in 1934 in collaboration with II. I. Tarasov-Rodionov - "Investigation of theft and abuse in the trading apparatus"[26]. Finally, in 1937, his work of a completely unusual nature was published. This is "Investigative Practice in Examples" [27], about which its editor wrote: "Scipping material from the daily practice of investigative work, the author seeks, using the example of the most common investigative cases, to give not only an analysis of the investigative actions in each case presented by him, but also to make appropriate conclusions and generalizations of a methodological nature that are generally applicable to the investigation of certain categories of criminal cases ... The information reported by the author from the field of forensic science already sounds different: these are no longer paragraphs from a textbook, but technical expediency irrefutably proven on a specific example "(with . 4). Already at the age of 80, in 1949, he took part in the preparation of the Investigator's Handbook. In 1935/36 and 1938/39. the first domestic forensic textbooks for law schools were published, in the preparation of which all the leading criminologists of that time took part: S. M. Potapov, I. N. Yakimov, V. I. Gromov, S. A. Golunsky, A. I. Vinberg , B. M. Shaver, E. U. Zitser and others. In 1940, the first textbook for law schools by B. M. Shaver and A. I. Vinberg was published. Of great importance for the formation of the theory of forensic science were the articles by B. M. Shaver "On the basic principles of private methods" and "The subject and method of Soviet forensic science", as well as the article by S. M. Potapov "Principles of forensic identification", which laid the foundation for the formation of this most important forensic theory. The question of the nature of criminalistics was not specially considered during these years; a three-term system of science was adopted: technique, tactics and methodology, and after the publication of B. M. Shaver's article on the subject of science - a two-term system, consisting of general and special parts. The period between the two world wars for domestic criminology was mainly the time of accumulation of empirical material, the task of disseminating forensic knowledge among law enforcement officers, creating practical guidelines and manuals was solved. At the same time, the scientific foundations of forensic examination were laid (the works of A. I. Vinberg, B. M. Komarinets, B. I. Shevchenko, S. M. Potapov, etc.), foreign experience in the use of scientific tools and methods was studied to a certain extent. detection of crimes, the tactics of investigative actions were formed. The issue of the independent nature of forensic science was positively resolved, which, however, met with objections from some scientists.

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STYLE-BASED STRUCTURAL ANALYSIS OF ENGLISH BORROWINGS IN UZBEK

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ABSTRACT
This article analyzes the newest layer of words that have been adopted from English to Uzbek. The structural analysis of the borrowed words characteristic of the official, literary, colloquial layer of the English language is discussed.

KEY WORDS: *borrowings, bilingualism, borrowed layer, vocabulary wealth, lexical layer.*

Annotatsiya
Mazkur maqolada ingliz tilidan o‘zbek tiliga o‘zlashgan so‘zlarning eng yangi qatlamini tahlil qilinadi. Ingliz tili publististik, badiiy, so‘zlashuv lug‘aviy qatlamiga xos o‘zlashma so‘zlarning tarkibiy tahlili haqida so‘z yuritiladi.
Kalit so’zlar: o‘zlashma, bilingvizm, o‘zlashma qatlam, lug‘at boyligi, lug‘aviy qatlam.

Аннотация
В данной статье анализируется новейший пласт слов, заимствованных из английского языка в узбекский. Речь идет о структурном анализе заимствованных слов, характерных для официально-художественного, разговорного слоя английского языка.
Ключевые слова: овладение, билингвизм, приобретательный слой, словарный запас, лексический слой.

INTRODUCTION

The scientific and technical developments observed on a global scale in recent years have a huge impact on every aspect of our society. Especially, this process is causing rapid changes in our language, which is the main means of communication. Therefore, any changes in life and society, first of all, take place in language and through it. These changes and developments encourage the regular enrichment of the lexicon of the Uzbek language at the expense of external sources. The political, social and cultural changes in the life of the society during the last century accelerated the process of assimilation of many words and some of them going out of use.

At that time, Russian, English, Chinese, French, and Spanish words entered through the Russian language, and today, due to the increasingly widespread globalization process, words and phrases from foreign languages are directly assimilated into the Uzbek language which is so-called the process of borrowing words. In linguistics, a borrowed word, a loan word or borrowing is a word taken over from another language and modified in phonemic shape, spelling, paradigm and meaning according to the standards of the recipient language. There are five primary hypotheses that define the word “neologism”. It has been demonstrated that emergence of neologisms and the processes of globalization and technological advancement are responsible for the expansion of language. The expanding and contracting of a word’s semantics, which is mirrored in neological processes that define the lexical composition of the Uzbek language.

METHODOLOGY

In this research work various scientific methods have been used to analyze the latest borrowings from English to Uzbek. Qualitative research method is used to draw general principles and theories from investigations and documentations that carried out both in the global scale and in local area. Furthermore, since typical characteristics of qualitative methods are subjective, naturalistic, uncontrolled, exploratory and descriptive which are highly informative to investigate the volume of borrowings that may help to come to reliable and valid conclusion.

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Statistic analyze is employed on the base of quantitative research using a deductive method that assists to learn the hypothesis and theories from linguists then searches for evidence to support that hypothesis or theory. The data collected to thoroughly analyze the number, sphere and usage of borrowings.
Experimental research method usually used to find out the strength of relationship between variables and examples which means that new words may be borrowed for different factors like language proficiency, aptitude, motivation, skill, interest and they are examined with this method.

Periodical analyzing the composition of the Uzbek language vocabulary, we can see that most of the acquisitions in the Middle Ages belonged to the Persian-Tajik languages and we state socio-cultural and areal proximity as the main factor of this process. By the 19th and 20th centuries, as a result of the Russian conquest, a great number of words from the Russian language began to enter which led significant changes to the composition of the national vocabulary of our language.

Today, we come across words borrowed from the English language in various areas of our lives. Foreign and Uzbek linguists have notified the results of long-term researches regarding the reasons and factors of words borrowed from foreign languages. While L.P.Krisin says that naming things and concepts is the main reason for borrowing words from foreign languages [3, 142], M.A.Breiter pointed out the lack of a suitable concept in the cognitive base of the receptive language as the primary factor of the process [2, 50].

Notable Uzbek linguist O.Jumaniyozov documented in his book related to borrowed words from the Germanic languages into the Uzbek language that geographical terms, socio-political terms, and national words of the language's owners are concrete cause of word borrowing [1,15]. According to our social observations about the reasons for the appropriation and the scope of use of the words, increasing interest in learning English among youngsters, English-Uzbek bilingualism and the fact that the main flow of information is in English are the prime factors of word borrowings.

RESULTS AND DISCUSSIONS

This research work is devoted to the analysis of the newest layer of words that have been assimilated from English to Uzbek and it is clear that this process is closely related to technological development of over the world. It is more accurate to analyze borrowed words dividing into 3 groups including a) neologisms taken from media materials, b) borrowed words used in literary content and c) loan words used in daily communication (colloquial words).

Undoubtedly, we come across new borrowed words nearly every day which is mainly caused by mainstream media productions, like news and broadcasts run in English as a source language. Three factors account for the emergence of neologisms and borrowings in contemporary media texts: fashion, esoteric influence, and societal necessity. This information is accepted in English language and translated into Uzbek clearly and concisely in a short period of time which means that great deal of English words can be borrowed in Uzbek as a result of this process. According to the recent researches in the field of neologisms, the following categories may be used to classify a variety of English borrowings that are employed in Uzbekistan's public media: 1) mastered borrowings; 2) internationalisms; 3) barbarisms; 4) exoticisms; 5) foreign inclusions and 6) tracing paper. "Boundaries between exotic vocabulary and "ordinary" ones borrowings - that is, words whose semantics and use not specific to a particular country (territory). At under certain circumstances, exoticism can turn into a word, although retaining signs of foreign language, but naming the reality that instilled in the lives of native speakers of the recipient language" [4,24]. They are some words mainly used in the means of mass media:

Borrowed words	Original	Meaning
Dayjest	Digest	Short information
Kampus	Campus	The area of the university
Reyting	Rating	A level on a scale
Gibrid	Hybrid	Mixture of two or more things
Smart	Smart	Clever, self-controlled
Zona	Zone	Area
Stiker	Sticker	Label
Avtomatik	Automatic	Work without needing someone

Furthermore, some borrowed words are well- associated with Uzbek words to make collocations in which **guest** words can indicate the grammatical signals of **host** language. Even though they have less word forming power, they are regarded as wide collocability, high frequency and stylistically neutral. In fact, according to the classification of borrowings in mass media industry there are three ways of borrowing:

1) Directly, without change, such as **smart, nepotism, messenger, art, coffee break, video hosting, media, smart TV**.
2) Word by word translation, for example, **photo zona, tehno zona, avto zona**.
3) Mixed, forming collocation - delivering to the public on the mixture of resource and native language, namely, **eko**-bozor, davlat **aktiv**lari, yordam **paket**i, **smart** soat, **robot** tarvuz, **open** budjet, **energo**samarador.

"When learning some terms, the constituent elements of the word are replaced by Uzbek suffixes. This is the process when it is possible to separate the stem of the word being learned

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from the word-forming suffixes, it is independent in Uzbek occurs when expressing a certain concept".

Even though, the usage of borrowings and neologisms in media texts shows how a culture has integrated into a globalized one is through their positive utilization, overuse of neologisms in media texts without an obvious explanation of their meaning might cause readers to misinterpret the content. The definitions of neologisms employed in the text are not always clear to readers. Specifically, this is relevant to the elder generation majority of who do not speak any foreign languages. Therefore, it may be said that it is crucial to apply a variety of new linguistic techniques in current media texts in a balanced manner.

As regards literary layer of word-stock, there are a number of words appearing in literary contexts in which words are connected through translated literature. In this process, direct communication between representatives of both languages does not occur, due to objective need, the borrowed words appear in the written speech.It is clear from the above that bilingualism is the most important in wide spread of borrowings which can be practiced both orally and in writing.

In ongoing globalization period, Uzbek readers have an access to read a range of book by world writers either in original language or translated version. In turn, this process opens the way to borrow more words from other languages. There are some examples taken from various literary context: "**absurd** va isyonkor odam falsafasini oldinga surgan" (Fridrix Nitshe. "Zardusht tavallosi"), "yuzlab talabalar bosh **kampus**ning (campus) maysazoriga qator qilib terilgan yig'ma yog'och kursilarda o'tiribmiz", "Morrining darslarida **radikal** (radical) talabalar ko'p edi" (Mich Elbom. "Morrining seshanba darslari"). Moreover, we can frequently come across the words like, **parti** (party), **kretiv** (creative), independent in various literary contexts.

There are a number of extralinguistic factors that affect word borrowing in **colloquial layer**. The most important of these are: political, economic and cultural relations between two languages; science development, expansion of mass media activity, advertising and texts in visual aids, widely usage of social networking sites and increasing demand for learning foreign languages.

As a result of abovementioned factors, daily conversation of Uzbek people is being filled with range of English words, for instance, **klub (club), layk (like), kontent (content), parti (party), taym (time), real, feys (face), aktual (actual), luk (look), stori (story), chat, koll sentr (call centre), kofe brek (coffee break), super, mega, byuti boks (beauty box)**.

These words are actively used in colloquial style in the phenomenon of narrowing of the meaning. Take the words **luk** and **layk** as an example, "**look**" is a verb which means to turn the eyes towards something in order to see it and noun with the meaning of the act of looking but this word is borrowed to the Uzbek language with the meaning of "appearance". Likewise, the word "**like**" is mainly used as the meaning "similar" (preposition), "to enjoy something" (verb), "favorites" (noun), as well as, adverb, conjunction and adjective form. However, it expresses just the act of the thumbs up in the Uzbek language.

CONCLUSION

To conclude, the growth and development of social life and production in the modern world and the rapid penetration of the scientific and technical revolution into all corners of the world show that it is impossible for people and languages to live separately from each other. Naturally, all this is manifested in and through language. Analyzing newly borrowed words that have appeared in our language in the last 5 years, we can see that our national vocabulary is expanding due to external factors. According to the statistic information, while about 80 English borrowings are included in the old edition of "Explanatory dictionary of the Uzbek language", more than 500 neologisms from English are explained in the newly edited version. Furthermore, "English borrowings to the Uzbek language" provides explanation for more than 350 words used in the mass media, as well as, more than a thousand lexemes have been stated as borrowings in "English-Uzbek-Russian information technologies and internet short term dictionary". In turn, this process, on the one hand, has a positive effect on the vocabulary of the Uzbek language if users of these borrowings utilize word appropriately; on the other hand, it creates urgent problems related to misuse and application that have been analyzed by linguists.

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DEMOGRAPHIC AND PSYCHOGRAPHIC STUDY AND DEMAND ANALYSIS OF RURAL CONSUMERS IN POST LIBERALISATION ERA

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ABSTRACT
The economic situation of rural residents has changed since economic liberalization, and they are no longer considered impoverished individuals. Rural residents' income has increased significantly during the past few years. The information revolution and rural residents' rising educational levels have made them aware of many of the newest product offerings. Cultural disparities with their urban counterparts began to fade in a market that was semi-homogeneous for many durable and non-durable businesses. Reduce and attitude had significantly shifted. Teenagers from rural areas try to act like their metropolitan counterparts. A significant shift in lifestyle has occurred, with a growing number of people becoming self-conscious. Social class lines become less distinct. Rural consumers could now easily get commodities thanks to the extensive distribution network of various businesses, which contributed to the rise of rural consumerism. In summary, the paper covers various psychographic and demographic studies as well as an analysis of rural customers' demand throughout the post-liberalization era.

KEY WORDS: *Demand Analysis, Economic Liberalization, psychographic and demographic studies, Rural Consumer*

India made a complete 180-degree turn in its approach to market ideology and economic strategy in 1991. Up until that point, Jawaharlal Nehru's socialistic ideology dominated economic policy. The state had a very strong emphasis on controlling everything. In India, the legacy of Mahatma Gandhi was characterized by a high level of protection, local production, and self-reliance. Business was under the jurisdiction of the government. There were expensive and high taxes, and commodities were hard to come by in many areas. International brands nearly exclusively use Anna due to strict duty regulations. Dominant businesses in the majority of industries continued to be wholly uncompetitive by global standards.

Following Indira Gandhi's resignation as prime minister in the middle of the 1980s, Rajiv Gandhi began to implement several reforms in government regulations. He absorbed some shaky advice on economic liberalization. But it wasn't until 1991—during an unparalleled balance of payments crisis—that India was compelled to take the route of economic reform. Since then, India's GDP has grown rapidly, and the country's socioeconomic structure has drastically changed in both its urban and rural areas.

SHIFTS IN DEMOGRAPHY

The distribution of income was one of the most notable shifts brought about by liberalization. The income distribution measure for rural consumers, or the percentage of the population at each income group level, is shown in the following chart.

Exhibit 1 : Rural – Percentage of Each Income Group

Income Group	2010-11	2015-16	2020-21	2023-24
Upper	2.1	3.6	5.2	8.1
Upper Middle	3.1	4.1	5	6.5
Middle	8.6	10.1	13.7	22.3
Lower Middle	29	39.5	43.5	42.5
Lower	57.2	42.7	32.5	20.6

Source : Marketing White Book, page 27

This graph demonstrates how rural India's income distribution has improved over time. If we plot it graphically, we can clearly see that, in 2001–2002, the triangle transformed from being bottom-heavy to a better proportionate triangle. It began to take on the shape of a diamond in 2005–2006. This is a useful measure because it shows how changes in consumption patterns affect the shape of the income distribution and, consequently, how average consumer behaviour itself changes. The

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distribution of income is a powerful and advantageous catalyst in determining other changes in the population.
The fact that rural customers are no longer reliant on agriculture may be one of the causes of the changes in the distribution of rural income. Their reliance on agriculture left them vulnerable to the monsoon's boom and bust cycle. Furthermore, the agricultural sector had declined by 1.9% over time. However, as of right now, agricultural activity in rural India accounts for little less than half of the GDP in rural areas and is nearly equivalent to other agricultural activities. The rapidly expanding non-agricultural sector has more disposable income. Furthermore, those in non-agricultural sectors are naturally driven individuals. Their spirit of entrepreneurship allows them to question the status quo and existing conditions. In rural India, the number of self-employed individuals is rapidly increasing, primarily in the service industry, which requires very little initial capital. Status quo is the pre-liberalization mindset that persists in rural India today. The mantra of the rural self-employed becomes, "I can and I will." Ninety percent of rural homes in 2023 are headed by self-employed individuals. In addition, dual households are becoming more common in rural India. This has led to the emergence of other consumption drives.

Consumer confidence and comfort levels when borrowing were key factors in determining how consumers behaved in rural India. The future-oriented expectations of consumers determine their level of confidence. If people believe the future will be better than the present, they will spend money. Consumer trust is greatly increased when consumers witness the advancements made in research over the past few decades in their own homes and the homes of those in their immediate vicinity. Furthermore, there is an increase in the confidence to borrow. Indian psychology has always placed a great deal of discomfort around death. Indian mythology, religion, and society have all long-condemned debt as a means of acquiring goods. In the Mahabharata, Yudhistir gave his opinion on what makes a happy man in response to Dharma's query about what makes a happy man: "whoever ekes out the day without taking loan, going abroad." However, a few of the variables also altered the rural consumer's perspective on loans. The first is my unwavering belief that tomorrow will be better than today; the second is the low interest rate regime; and the third is the EMI facility, which allows me to use loans as pre-planned means of expenditure.

In rural India, consumption results from the widespread desire for rice. Three independent variables, namely literacy, determine aspiration. Increase communication and connectedness. In many of the states you admire, both urban and rural, literacy had taken a serious hit. Even if the achievement was not noteworthy in many states, it touched the nearly full literacy level in others, but India had nonetheless propelled itself to a new league in the post-liberalization period of literacy. Just 24% of people in the twenty to twenty-five age range lack literacy. Merely 13% of individuals aged 12 to 19 lack literacy. Over half as many people in the aforementioned age categories are illiterate. Furthermore, in the case of India, the methods and resources used to spread consciousness had beyond the conventional framework of universities and schools. Indeed, those are the most important routes for distributing knowledge, but they cannot ensure the development of consciousness. Herein lies the opportunity for the media to contribute positively. In rural India, television was widely distributed, which led to the creation of much-needed social consciousness. In India, the revolution in communication has had a profound effect on rural households. There is a telephone in practically every village. The internet is visible in many locations, and mobile devices are gaining ground at an astounding rate. The potential of IT, whether it be for problem-solving, enhancing daily life, or generating jobs, has even permeated rural India. With the correct amount of exposure, even rural households can be tech-savvy, as demonstrated by the ITC e-choupal campaign. The aspiration level had altered due to all of these reasons. Notable anthropologist Arjun Appadurai described it as "Imaginational is not about the individual escape." It is the social activity done in groups. In order for people to construct a narrative and screenplay around themselves, envisage a prospective existence, and arrange products in an evolving sequence, they require access to information resources. Though it may not always lead to action, imagination serves as a catalyst for it. The age cohort has been correlated by the imagination of reaching anything. An age cohort is a collection of individuals from various generations. In rural India, there are three distinct generations to consider while discussing the age cohort. First, there are the youth, defined as those under the age of twenty-five. They've been referred to as "the children of liberalization." Next are the parents of children who have been liberalized; Salman Rushdie refers to these parents as "Midnight's Children." Additionally, there is a generation that originated in the years prior to independence.

Less than 10% of Indians are from the pre-independence generation, while 35% are from the post-liberalization generation. Of the population, 26% are children of midnight, while the remaining 30% were born between the liberalization of the 1970s and the year 1970. Gandhi's philosophy of 'Live simply, think high' had a great influence on the generation that lived before independence. They uphold the virtues of thrift, simplicity, honesty, abstinence, and self-reliance. The children of Midnight and Midway have witnessed the devastation caused by the process of nation-building. They frequently have a strong inclination to save. Yet, the liberalization children exhibit a strong consumerist trend. They do not have a national preconception that opposes materialism in general. The generation of the liberalization era does believe in consumption, even though the pre-independence age group is comprised of dissatisfied customers and Midnight's Children are guilty consumers. While their fathers' lack of access to transportation prevented them from leaving their villages, this generation has lived in cities from an early age. Transportation has always been essential to the spread of consumerism, whether it is in Japan, America, or another country. It turned out to be a beneficial stimulus for both the supply and demand sides. In addition to lowering barriers to mobility, it fosters a convergence of consumer test, lifestyle, values, and attitude. The line separating rural and urban areas is no longer real. Conversely, businesses seeking to service a sizable portion of the underserved or underprivileged market drove the creation

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of the supply side revolution. Products that were within easy reach of customers were made possible by the distribution revolution, which was spearheaded by some Indian corporations. The children of liberalization are essentially contributing to the rapid diffusion of the consumerism trend. Now, in addition to discussing age cohort, we should additionally discuss ethnicity at India is essentially a notion rather than a physical place, according to a statement made by Sashi Tharur. If we attempt to investigate the idea a little bit, we have to keep in mind the vast differences among individuals when it comes to language, culture, eating habits, etc. Is there anything that we can categorize as pan-Indian or pan-rural? The answer may be no, but in the post-liberalization era, a more forceful no. India's television viewing options prior to deregulation were limited to national networks. There is a strong sense of regionalism in every aspect of life due to the abundance of regional language channels. This has prompted numerous businesses to modify their operational marketing strategies in a way that better accommodates ethnic preferences.

The role of women in society has changed, though, and this is the biggest shift brought about by liberalization. Similar to the US following World War II, there has been a significant shift in the gender makeup of the working population. However, when compared to working women in cities, the proportion of rural working women is startlingly high. In India's rural areas, 42% of women work outside the home, compared to 23% of urban women. In addition, a brand-new group of working women known as Micro Entrepreneurs is on the rise. Shakti Amma of Hindustan Unilever's project Shakti propagates the woman emancipation of rural India. They not only take care of the mundane needs of the family, but also the economic needs. The cascading effect of the self -help group and the project like Shakti has created an entrepreneur spirit among the women in rural India.

Rural SEC (Socio Economic Classification) System : The rural SEC system is categorized in four classes. Categorization is based on the educational level and the kind of house the family lives in. Exhibit 2 describes the rural SEC R1 & R2 are the major consuming classes in rural India, while R3 and R4 are the poor classes. A little more than 5% rural households are R1 and little over 10% are R2. Together they account for about 22 million households or about 110 million people. In scale term, it is tantamount to one side of the India urban India. But nearly half of the rural India is R4, while R3 and R4 combined together contributed to whopping 85% of rural India. The distribution of R1, R2, R3 and R4 are skewed in certain states in favor of R1 ending certain states in favor of R4.

Exhibit 2 : The Rural SEC

	Type of House		
Education	**Pucca**	**Semi Pucca**	**Kuchcha**
Illiterate	R4	R4	R4
Literate but no formal schooling	R3	R4	R4
Upto 4th Standard	R3	R3	R4
5th to 9th Standard	R3	R3	R4
SSC/HSC	R2	R3	R3
Some College but not graduate	R1	R2	R3
Graduate/Post Graduate (General)	R1	R2	R3
Graduate/Post Graduate(Professional)	R1	R2	R3

Source : Bijpurkar Rama,'We are like that only' 1st edition page 136.

About 60% of R1 and R2 own a television of which half is black & white. About the one fourth of R4 households are having a television set. Therefore, the fact that 30 million of R3 and R4 households having television set is a strong indicator of cultural change in rural India because television is a major source of exposure to the world and also the source of aspiration.

PSYCHOGRAPHIC CHANGES OF RURAL CONSUMER

Culture is the most dominant as well as most important pillar in psychographic variables. Virginia Valentine, the founding partner of Semiotic Solution puts it "culture is not inert, it's pretty 'ert'. If it is not working for you, then it is probably working against you".

Understanding a culture becomes more difficult as a society experiences changes in its social, political, economic, and technological settings. The boundaries of authentic Indian culture remain unclear as a result of the culture's subterranean total of significant changes. It will take some time for the powerful force that seeks to combine the old and the new, the eastern and the western, to produce a definitive outcome. Every national event has an impact on a country's culture and psychographic characteristics; liberalization is no exception. In contrast to the pre-liberalization period, modern Indian rural customers do not accept their lot in life. Instead of settling for less, they aim and reach higher. They do not wish to limit themselves to a little area of land that ends at the edges of their villages or the communities next door. They desire exposure and experience. They give up practicing abstinence. Their requirements have evolved from being basic to being particular and sophisticated, matching or surpassing those of their metropolitan counterparts. This is the result of aspiration's social validity. In her book "We are like that only," Rama Bijapurkar cited Santosh Desai, who discusses breaking free from the social and economic constraints that define daily existence. It is no longer true, he claims, to teach our children to "know your place," "this is our place in the world, this is who we are not," or any similar sentiment from the past. Rural India might now consider visiting places that no one in their

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community has been before. Stories of adversity turned wealth are cherished. Prior to now, the only way to give dreams legitimacy was via education. Currently, a wide range of goals enjoy social legitimacy. However, the most intriguing aspect of rural consumers' psychographic behavior in the context of post-liberalization India's rural areas is the extent to which these areas have absorbed Western culture. We can conclude with confidence that there is still a long way to go before western values like egalitarianism, clarity, linearity, respect for opposing viewpoints, individualism, impatience, assertion, never give up attitude, novelty seeking, wealth accumulation, and respect for youth are fully assimilated with rural Indian values. Indian values include patriarchy adaptability, low dissonance, socially defined roles, patience, passivity, traditional, self-harmonious, happiness, and respecting the age. Even while popular or interactive media has helped spread some western values, most rural households still don't believe in them. One of the western ideas that permeated both rural and urban India is pragmatism. It causes some changes, such as parents being more democratic and amiable in even rural India. Everything materialistic is greatly prized. However, the fundamental element of the rural Indian psyche is its unwavering devotion in traditional religion, which accounts for the rejection of most western values. There's really no comparison to the nihilistic West. Furthermore, there is a strong mistrust of western attitudes and sex views in rural India.

DEMAND ANALYSIS OF RURAL INDIA

As of 2007, more than 60% of consumer expenditure in India comes from rural India. The rate of Expenditure growth in rural India remains to be 7%, which is not for behind of its urban counterpart. Though per capita income of rural India at $530 is far below urban India, but the mere size which has three times more people as in urban India, makes rural market bigger in many categories. This is because of mere numbers. Mrs. Bijapurkar has given a convincing statistics "the attractiveness of rural India is provided by a simple Matric of NCAER data. While the percentage of middle income households (that is, those earning between Rs.45000 and Rs.215000 per annum) in rural India, is about 18% the corresponding age of urban India is 58%. The number of medal income households in rural India, however, is 27 million, while the number in urban India has grown at exactly the same rate as in urban India for past ten years". The Indian Readership Survey Data for 2006 revealed that there has been considerable improvement in cable and satellite television access level. There are several emerging Technology -based services that enable rural services like banking, daily medicine and e- governance to become commercially viable.

Spending pattern of rural India vouches its preference for food-related expenditure. The food-related expenditure contributes to the 58.3% of total expenditure. For the top 5%, food vs non-food is fifty-fifty. For the bottom 5%, food's contribution is 65%. But the growth of food-related expenditure has been much slower than the growth of non-food the expenditure. The fastest growing non- food expenditure categories are education and healthcare. Consumer durable is also growing fast, but FMCG expenditure share, however remains constant through 2017-2023.

The biggest dilemma about rural demand pattern is that it has some consumer doesn't and oases within it. Huge heterogeneity prevails over rural India. The following Exhibit 3 may illustrate the context in a lucid way.

In 37% villages having population up to 500, there is hardly any shop. On the contrary, 17% villages, having population from 2000 to 10000, account for 50% of the rural population and 60% of the rural wealth.

The major challenge before the companies is to manage the heterogeneity and creative long term sustainable growth opportunity out of rural India.

Exhibit 3 : Profile of Villages

	Distribution of villages	
Population	**No. of Villages**	**Percentage of Total Villages**
Less than 200	92541	15.6
200-500	127054	21.4
501-1000	144817	24.4
1001-2000	129662	21.9
2001-5000	80.13	13.5
5001-10000	18758	3.2
Total No. of Villages	593154	100

Source : Census 2001

(*Paramita Sarkar is an MBA (in marketing) with around six years of experience with companies like Kingfisher, Revlon in the capacity of Business Development Manager, Regional Franchisee Executive etc. She is well conversant with sales management, brand promotion management etc. Currently, she is working with ICICI bank as Asst. Manager*)

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A CONCEPTUAL STUDY ON TRAINING AND DEVELOPMENT FOR EMPLOYEES IN THE ORGANIZATION

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ABSTRACT

Training is meant to instil good improvements in knowledge, skills, and attitude, and it has a significant role to play in this regard. This research is conceptual in nature. Employees pay for training to develop new abilities that will either better prepare them for their current position or for a higher-level one with more responsibility.

KEYWORDS: *personnel, organization, human resource management, training and development.*

INTRODUCTION

Initiatives for human resource development frequently incorporate training. The purpose of the human resources department is to improve organizational effectiveness by providing staff members with the necessary information, abilities, and mind sets to support them in their current positions or in future ones.

Human Resources Development

The importance of human resource development (HRD) in an organization's growth plan is becoming more widely acknowledged. The success of HRD or training programs depends on how well the institutional frameworks and supporting instruments are built, which guarantees that the programs achieve their intended objectives. The process of creating such policies is complex and full with obstacles. These rules will only be successful if the necessary precautions are taken to anticipate probable roadblocks and develop solutions. HRD is inextricably tied to other human resource factors that are pertinent to a certain period of time, such as hiring practices, employment trends, and the age and skill level of the workforce. As a result, HRD policies need to be reviewed on a regular basis in order to stay current with the changing organizational environment. Thus, HRD encompasses a spectrum of activities such as training, education, mentoring, coaching, and other forms of professional development that contribute to the growth of both employees and the organization itself.

Objectives

- To enhance employees' proficiency in their existing roles.
- To equip employees for potential future positions.
- To ensure employees are well-informed and up-to-date.

Training and Development of Employees

The importance of human resource development (HRD) in an organization's growth plan is becoming more widely acknowledged. The success of HRD or training programs depends on how well the institutional frameworks and supporting instruments are built, which guarantees that the programs achieve their intended objectives. The process of creating such policies is complex and full with obstacles. These rules will only be successful if the necessary precautions are taken to anticipate probable roadblocks and develop solutions. HRD is inextricably tied to other human resource factors that are pertinent to a certain period of time, such as hiring practices, employment trends, and the age and skill level of the workforce. As a result, HRD policies need to be reviewed on a regular basis in order to stay current with the changing organizational environment.

The essential features of training:

- In order for new personnel to carry out their duties in an efficient manner, training is essential. With the right guidance, coaching, and mentoring, people can effectively and competently handle their tasks.
- Providing current staff with advancement training is essential to preparing them for promotions and higher roles.
- Given the rapid rate of technology improvements, it is vital that current staff members get continuous education in order to stay up to date on changes in work tasks.
- It's crucial to provide flexibility training to staff members so they can be assigned to various tasks based on the needs of the company.

  When employees go from one role to another, transitional training is crucial because it helps them adjust quickly, improve their performance, and easily accomplish their career goals.

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- Training to close the skills gap is required to match workers' abilities to the particular requirements of their positions.
  • The goal of productivity training is to raise employees' value and long-term efficiency inside the company.
  • By rapidly grasping their tasks and making valuable contributions to the team, employees who receive peer integration training gain the respect of their peers

Employee training is intended to improve skills or add to existing knowledge, preparing staff members to succeed in their current tasks or advance to more responsible ones. The growth trajectory of an organization is closely linked to the personal development of its members. Activities included in training are largely designed to help staff members absorb and apply the knowledge, skills, abilities, and attitudes that the company determines are essential. Training is essentially the process of increasing a worker's knowledge and skill set for a certain position. In light of the ever-changing nature of today's corporate environment, learning is the most important way to adapt. Workers are the driving force behind an organization's successes and failures because they are a source of creativity.

Employee Perception

The cognitive process by which people form and analyse their sensory observations in order to create an understanding of their environment is known as employee perception. This impression could not correspond with reality; rather, it is a person's personal interpretation of a situation. Perception plays a crucial role in organizational behaviour because it shapes conduct based on how an individual interprets reality rather than the actual facts. Perceived reality is the one that shapes behaviour. Human nature has layers of complexity, even though it can seem simple at times. Acknowledging and appreciating this complexity is critical to promoting positive employee perception at work, which is necessary for competent management and leadership. It is commonly known that organizational operations would cease to exist in the absence of perception. It is necessary for all staff members to have the same perspective in order to complete any assignment. Managers can utilize this shared knowledge to motivate team members and improve organizational productivity. For the organization to be successful, a variety of viewpoints must be present. To perform their duties, organizations need staff that are knowledgeable and experienced. If potential or present employees already fit these requirements, training becomes unnecessary. When there is a disparity, nevertheless, it is crucial to teach the staff members to improve their skill levels. Training includes the following:

- Evaluating present skill levels and projecting future growth.
- Expanding a person's repertoire of abilities.
- Developing technical know-how. Gaining a competitive advantage.
- Increasing confidence.
- Promoting the growth of the company.
- Increasing the organization overall capability in the end, it helps bring about a revolutionary change in behaviour, which results in a favourable attitude adjustment.

Motivation

The process that encourages people to use their abilities and put forth effort in a way that advances both the accomplishment of organizational goals and their own needs is known as motivation. The success of training initiatives is significantly influenced by the fervour with which employees embrace them. Studies have indicated that an employee's willingness to participate in training and development initiatives is highly influenced by their perception of the job's significance and the possibility of career progression. Effectively motivated workers typically have a positive perception of the training environment at their company, which is correlated with a higher level of participation in training initiatives. Research has also shown that those who are eager to learn are better at using new abilities in their work-related duties.

The resultant advantages foster a sense of goodwill towards the organization, thereby reinforcing their emotional commitment. When it comes to training and development, research indicates that workers are more likely to participate in learning when they understand the importance of these programs in achieving their goals for improved performance as well as the possibility of benefits like incentives and possibilities for growth. Individuals who perceive training as beneficial are more likely to exhibit increased commitment to their company.

Furthermore, it has been observed that the best result of training is an increase in task execution ability. It takes a combination of incentives and rewards, constructive criticism, unambiguous direction, and the required work resources to get the best performance out of people. This suggests that workers who believe that training is a useful instrument for meeting requirements at all levels, including self-actualization and self-esteem, tend to be more proficient in their roles.

Workers are the backbone of any business, and they make a substantial contribution to its success. Therefore, in order to maximize job performance and equip them for the demands of the contemporary, cutthroat business environment, it is imperative to invest in their growth through focused training. Although a lot has been written about HRM, there hasn't been as much written about employee training, especially when it comes to poor countries

Organizations are fighting for dominance and trying to surpass their industry rivals on a global scale. Effective human resource deployment and acquisition are necessary to achieve this. Companies have to face the fact that they need to keep their workers informed and up to date. Because of this, managers need to take into account the fundamentals of human resource management, which are important in a variety of organizational, societal, and economic contexts. These components play a major role in accomplishing corporate goals and maintaining the organization's ongoing market presence. This study goes on to look at employee training—one of the core components of human resources—and how it affects output.

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Methods of Training

On Job Training

The development of a manager's ability can take place on-the-job. The four techniques for on the job development are :

- Coaching
- Mentoring
- Job rotation
- Job instruction technique (JIT)

Coaching

Coaching is a type of training that is used to address areas where performance is lacking.

It involves direct, one-on-one engagement and is regarded as the best kind of instruction. It can be carried out through chat rooms, email, or phone calls.

Mentoring

Senior and junior staff members engage in a long-term mentor-mentee relationship through mentoring. It provides guidance and a clearer understanding of the strategic objectives of the company.

Job Rotation

Taking on different positions allows managers to gain expertise and understanding of a range of difficulties. It equips workers at lower levels to advance to roles at higher levels.

The Job Instruction Technique (JIT)

JIT is an approach that emphasizes the development of attitudes, abilities, and knowledge (both procedural and factual).

Off-the-job training

Training received outside of the workplace Employees can learn a variety of management development strategies on the job. The few widely used techniques are:

● Transactional analysis
● Sensitivity training
●Straight lectures/lectures

Sensitivity Training

Developing social awareness and behavioural flexibility is the foundation of this approach, which aims to help people better comprehend both themselves and other people.

Transactional Analysis: This method provides a practical way to analyse and understand other people's actions. According to this theory, each encounter has an initiator whose actions cause a response from a follower, creating a "transaction."

The Lecture as a Training Method:

Lectures provide a theoretical framework for a subject or broaden the listener's knowledge base. They are an essential part of an all-encompassing training course.

Organizations provide training programs (ex)

Training programme in Infosys

Infosys' training program Enabling options and developing talent are two of Infosys' talent strategy themes, and career development practise is a vital programme that tackles these issues. It offers details on job streams, rolls, career counselling, and chances for professional growth.

Concentrated Instruction

Concentrated Instruction Specific demands are addressed by the career programs meant for different stages of a career lifecycle. They adhere to a rights-based learning repository founded on the globally recognized best learning model, the "Learn, Practice, Apply" framework. Harvard Business Publishing is owned by Infosys. Your strings will be identified with the aid of their career coaching programs and the leadership managerial 360 Degree feedback endeavour. A few of these initiatives have been acknowledged as best practices on a global scale.

● Training and assessment in education
● Talent enabling
● Infosys Leadership Institute

Training Programs in Satyam

Satyam Management Consultants' training division specializes in offering sales and soft-skills training that is specifically designed to help clients thrive in the highly competitive market environment. Our specialty is developing and executing cutting-edge training initiatives. Making use of an extensive network of partners, we respond quickly to client demands by providing solutions that are not only relevant but also customized to their unique goals and results-oriented.

Increasing productivity leads to a more efficient organization, which is the foundation of good staff training. Satyam Management Consultants provides a wide range of educational possibilities for staff members through need-based training programs, all of which are designed to improve performance at work. We provide flexible scheduling to meet the specific needs of any business, whether it's on campus, in the field, or on the client's property. Our programs are dynamic and tailored to meet the unique requirements of each client's company. Each participant receives a certificate upon successfully completing these customized training programs, demonstrating their dedication to providing exceptional customer service.

Among the competences covered by the training courses are the following:

• Leadership Engagement: Developing leaders who are dedicated to fostering team success and actively involved in it.
• Fostering a High-Performance Attitude: Promoting a frame of mind focused on excellence and maximum output.
• Mentoring: Encouraging growth and development by offering direction and assistance through seasoned professionals.
• Customer Service Excellence: Educating staff members to provide exceptional customer service and raise client satisfaction levels.
• Creating High-Performance Teams: Assembling a group of people who work well together and continually produce better outcomes.

Essentially, the goal of our training programs is to impart constructive behavioural and attitude modifications that enhance the organization's overall performance and competitive advantage.

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CONCLUSION

In conclusion, it is clear that improving job performance requires personnel training and development. Enhancing a worker's knowledge and skill set for a particular job function is called training. Learning is the main outcome of this kind of training. An individual improves their job performance by learning new skills, refining existing ones, and gaining insightful knowledge during training.

As a result, training plays a critical role in raising job satisfaction, lowering staff turnover, cutting errors, and enhancing productivity. It also gives workers the tools they need to adjust to changes in the company as well as more general societal and technical changes.

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