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THE POLITICAL DYNAMICS OF SOUTH KOREA-UZBEKISTAN RELATIONS SINCE 1992

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ABSTRACT

All interactions involving independent countries, their officials, and their citizens that serve the interests of the citizen and the greater goal of world peace are considered to be part of diplomacy. The Republic of Korea and Uzbekistan have been diplomatically linked since 1992. Since then, they have worked together more closely in many areas, which has set the stage for stronger political ties between the two countries. The primary objective of this article is to discuss the historical evolution of political ties between South Korea and Uzbekistan. The two countries worked together closely and respected each other's political interests, especially from the late 1990s to the early 2000s. Uzbekistan has also admired South Korea's model of a democracy. So, in this context this article seeks to analyze the role of Korea-Central Asia Cooperation Forum in maintaining strong political engagement between South Korea and Uzbekistan.

KEYWORDS: Political dynamics, South Korea, Uzbekistan, Korea-Central Asia Cooperation Forum.

INTRODUCTION

All interactions involving independent countries, their officials, and their citizens that serve the interests of the citizen and the greater goal of world peace are considered to be part of diplomacy. Although they should have some degree of cohesion and a sense of collective identity in order to be considered diplomatic actors, private entities or transnational groupings without official status, as well as such groups themselves, may engage in diplomatic activities. Therefore, diplomacy is the expression of one actor pertaining to another in order to create a relationship that will work across a territory; or, in the event that this is unsuccessful and a break in the peace occurs, to manoeuvre and manipulate one another's political assets and relationships in order to gain a strategic or tactical advantage (Weisbrode 2016).

Upon the Soviet Union's collapse in 1991, South Korea started political and diplomatic efforts to strengthen its relationship with the newly created CARs. In 1991, Uzbekistan was acknowledged as a sovereign state for the first time in the Asia-Pacific region by South Korea. While the South Korean Embassy in Kazakhstan has been operational in Tashkent since 1993, it maintains a representative office in Almaty as well as its Embassy in Astana. Similarly, since 1995, the Uzbek embassy has been operational in the Republic of Korea. The Embassy of South Korea in Tajikistan has been operational since 2008, but the Tajik Embassy in Seoul began to operate much later in 2015. Most interestingly, South Korean citizens can visit Kazakhstan, Kyrgyzstan, and Uzbekistan without a visa for up to 30 days. South Korea and Central Asia have amicable relations based on mutual trust in a variety of areas. Korean aid and investment have potentially been helping in fortifying the autonomy of Central Asian countries. Uzbekistan and Kazakhstan have the highest level of interaction with South Korea, while Tajikistan has the lowest level of interaction (Gussarova 2018).

The earlier links and contacts were swiftly severed by South Korea in the early 1990s. Central Asian nation such as Uzbekistan was naturally included in such relationships. The Central Asian nations maintained their diplomatic links with North Korea, but they improved and increased their relationships with South Korea. Since then, South Korea has progressively increased its presence and sphere of influence in Central Asia. Seoul did not place a high priority on Central Asia in the beginning, instead choosing to concentrate on academic collaborations as well as providing assistance to Koryo-saram (Fumagalli 2013).

HISTORICAL EVOLUTION OF POLITICAL ENGAGEMENT

After the collapse of the Soviet Union, Korea's diplomacy with Central Asia was promoted centering on Kazakhstan and Uzbekistan, where many ethnic Koreans reside, and both have great political, economic, and diplomatic importance. It has pursued expanding diplomacy. In fact, in November 2006, Korea adopted a comprehensive plan to advance into Central Asia and has been implementing it. First, active use of bilateral cooperative relations is established through summit diplomacy. Second is the promotion of differentiated access policies considering the characteristics of each country. The third is the strengthening of synergies in related industries and active entry into industries with comparative advantage. Fourth is the strengthening of legal and institutional foundations and expanding cooperative infrastructure and fifth is establishing strategic development partnerships with Central Asia, which has great growth potential, through sharing economic development experiences (Dadabaev 2019).

South Korea quickly established diplomatic relations with the newly independent Central Asian countries nearly in 1992, but failed to conduct summit diplomacy. The Roh Tae-Woo



government established diplomatic relations with Uzbekistan on 29 January 1992, invited President Islam Karimov to hold a summit in June 1992, and contributed to Korean companies' investment in Uzbekistan, including Daewoo Motor. In conclusion, Roh Tae-Woo's government normalized diplomatic relations by promoting a northern policy using post-Cold War diplomacy based on Russian leader Mikhail Gorbachev's new thinking. They established the foundation for rapid diplomatic normalization and bilateral cooperation with Central Asian countries. President Kim Young-Sam visited Uzbekistan in June 1994. President Kim Young-Sam, who emphasized globalization and internationalization policies at the time, visited Uzbekistan, where many Koreans lived after a summit with President Yeltsin in Moscow, and had a summit with President Islam Karimov. Central Asian countries paid great attention to economic cooperation with Korea, and as a result, President Karimov visited Korea in February 1995 and Kazakh President Nursultan Nazarbayev in May 1995. It may be noted here that President Kim Young-Sam established the foundation for summit diplomacy with Central Asian countries through his visit to Uzbekistan and conducted summit diplomacy by inviting the presidents of Central Asian countries. The Kim Dae Jung administration did not seek any summit diplomacy with Central Asia due to the financial crisis in December 1997. Nevertheless, President Islam Karimov visited Korea for the second time in October 1999 and contributed to strengthening the foundation for cooperation between Uzbekistan and South Korea (Yong 2019).

The Korean government's summit diplomacy with Central Asia has been restarted due to the heightened interest in energy security since 2003. While actively promoting policies to strengthen energy and resource diplomacy, President Roh Moo Hyun visited Uzbekistan in May 2005 to hold summit meetings. The Roh Moo Hyun government invited leaders of Central Asian countries to visit Seoul, and President Karimov was the first to respond and visited South Korea in March 2006. In December 2005, the Roh Moo Hyun government formed a "Central Asia Advancement Council" with about 20 people representing government and private institutions to prepare "Comprehensive Measures for Central Asia," including Azerbaijan, which was passed by the Cabinet on 7 November 2006. South Korea's Foreign Ministry was responsible for implementing the comprehensive measures to advance into Central Asia and supporting the implementation of the measures to advance into politics and diplomacy (Saidazimova 2006).

The frequent visits by the Korean government to Central Asia are the result of the Lee Myung Bak (2008-2013) government's full-fledged promotion of energy and resource diplomacy and "New Asian Cooperation Diplomacy." During his presidency, the government designated the Prime Minister as the person in charge of energy and resource diplomacy, presenting the national goal of further strengthening energy and resource diplomacy. As a result, in April 2008, shortly after the inauguration of the Lee Myung Bak government, a preliminary investigation team led by Minister Lee Je-Hoon was dispatched to Central Asia, followed by Prime

Minister Han Seung-Soo in May 2008 to visit three Central Asian countries (Kazakhstan, Uzbekistan, and Turkmenistan). The South Korean minister's trip to three Central Asian countries has achieved significant results. President Lee Myung Bak visited Uzbekistan and Kazakhstan further in May 2009 and made diplomatic efforts to strengthen economic and energy cooperation as well as embodying "New Asia Cooperation Diplomacy." In particular, during his visit to Kazakhstan, the President of Lee Myung Bak upgraded the relationship to a "strategic partner" that expanded comprehensive cooperation in various fields (The Korea Times 2009).

South Korean President Lee Myung-Bak provided an opportunity to expand collaborations by enhancing understanding and further strengthening trust with the presidents of the two countries, taking this summit meeting as an opportunity. President Lee Myung-Bak's diplomacy tour to Central Asia provided an opportunity to further expand cooperation in economy and trade between Korea and Central Asia, which had shown a steady increase every year in recent years. Considering that ethnic Koreans play a role as a bridgehead in introducing Korean dramas and Korean culture and arts, which are popularly aired in these two countries, this summit has resulted in expanding the foundation of the Korean wave culture network through ethnic Koreans residing in Uzbekistan. This bilateral summit provided an opportunity to expand the Lee Myung-Bak administration's New Asian diplomacy initiative to all of Central Asia. Therefore, the momentum of comprehensive cooperation established in the wake of President Lee Myung-Bak's visit to two Central Asian countries was the momentum to establish and expand cooperative relations with other Eurasian countries, including South Caucasus countries such as Azerbaijan, as well as three other Central Asian countries (Ministry of Foreign Affairs, Republic of Korea 2011). Meanwhile, President Islam Karimov also visited Korea three times in August 2008, September 2010, and September 2012, making summit-level efforts to expand economic cooperation between the two countries (Graubner 2012 & The Korea Times 2012).

Ms. Park Geun Hye's government which ruled over South Korea from 2013 to 2017 promoted the Eurasia Initiative (one continent, one continent of peace, and one continent of creation) to promote cooperation with Central Asian countries. This is a cooperation initiative and a grand national strategy put forward by Ms. Park to achieve sustainable prosperity and peace in Eurasia. She was the first Korean leader to visit three Central Asian countries namely Kazakhstan, Uzbekistan, and Turkmenistan in 2014. President Park expanded the diplomatic and economic cooperation base for Central Asia by visiting three Central Asian countries for the first time, but the three major economic cooperation projects ended in failure and consequently dampened the engagement. This relationship got a boost during former Uzbek President Islam Karimov's visit to South Korea (Rakhimov and Ki 2016). Islam Karimov's visit opened an era of engagement and cooperation at a regional and international forum. There has been a change in the scenario of international



relations with the shift in power in Uzbekistan after 2015, which brought Shavkat Mirziyoyev at the helm of affairs. According to him, Uzbekistan changed its policy of engagement with South Korea and a new economic roadmap of Uzbekistan with East Asian nations was brought to the fore (Dadabaev 2021).

The state visit of Uzbekistan President Shavkat Mirziyoyev to South Korea in 2021 marked the beginning of a new era of special strategic cooperation that strengthened friendly ties between the people of both nations. During this state visit, Shavkat Mirziyoyev and his counterpart Moon Jae-in signed a Joint statement on the deepening of a 'Special Strategic Partnership'. The main focus was given to achieving the goals of comprehensive development of mutually beneficial cooperation. The 30th-year commemoration of the establishment of foreign relations between Uzbekistan and South Korea was discussed threadbare. Several bilateral agreements, including one establishing engagement between the justice ministries of the two nations, were signed during this visit (MOFA, South Korea 2021).

It is important to note here that since establishing diplomatic relations, the leaders of South Korea and Uzbekistan have met 16 times until 2019, and have developed a tight working relationship in every sphere. South Korea and Uzbekistan developed friendly and cooperative relations after establishing diplomatic ties in 1992. Uzbekistan and South Korea established a "Strategic Partnership" in 2006, and President Moon Jae-In and Shavkat Mirziyoyev at the summit on April 19, 2019, decided to upgrade it to a "Special Strategic Partnership" and signed the "joint declaration on special strategic partnership between Uzbekistan and South Korea (Putz 2019).

In addition, seven agreements and MOUs were signed under the leadership of both countries, including a 'revised investment guarantee agreement' to promote mutual investment, a double taxation agreement to reduce the tax burden on local companies and workers, and a joint research MOU on the validity of the Korea-Uzbekistan FTA (Free Trade Agreement). After the signing ceremony, the two leaders explained the main achievements of the visit in a joint press release. President Mirziyoyev held an official welcoming ceremony for South Korean President Moon and his wife. The event was held in the order of personnel exchange between the leaders of the two countries and the performance of the two countries. Negotiations on trade agreements are also underway to expand trade and investment cooperation. With the opening of new areas of cooperation in recent years, various joint projects are being promoted in areas such as the oil and gas industry, energy, health-medical, education, information technology, engineering, and chemical industries (The Korea Herald 2018).

The South Korean government proposed the 'New Northern Policy' as a national task in July 2017, adopted regulations on the establishment and operation of the 'Northern Economic Cooperation Committee in August of the same year and the first meeting was also held the same year. President Moon's visit to Central Asia marks the third year of the New Northern Policy,

laying the foundation for activating and full-fledged promotion of the New Northern Policy for key cooperative countries, including Turkmenistan. South Korean government drew support from the leaders of the three Central Asian countries by explaining the government's willingness and policy toward the peace process through peaceful resolution of North Korea's nuclear issue through summit talks, parliamentary speeches, compatriots' meetings, and interviews (Botto 2021).

KOREA-CENTRAL ASIA COOPERATION FORUM

Besides, the initiatives taken up by the leadership of both Uzbekistan and South Korea, there are a few other efforts by both countries. For example, 'The Korea-Central Asia Cooperation Forum' was launched in 2007 with the objective to upgrade Korea-Central Asia relations and establish comprehensive cooperative relations such as economic, cultural, and education through multilateral forums with Korea and five Central Asian countries. Every year, government delegations from five Central Asian countries, as well as key figures from the economic, academic, and cultural sectors, are invited to establish human networks and discover public-private joint cooperation projects (Park 2016).

Since its inception in 2007, the 'Korea -Central Asia Cooperation Forum' has served as a new model for regional and cross-regional cooperation. 'The Joint Declaration on Strategic Partnership' between Uzbekistan and South Korea was signed during Uzbek President Islam Karimov's visit to South Korea in 2006. Therefore, the Ministry of Foreign Affairs promoted the "Korea-Central Asia Cooperation Forum" in which vice foreign ministers from five Central Asian countries participated as chief delegates, and held the first forum in Seoul on 15 November 2007. This Declaration marked a watershed moment in bilateral relations as it provided a new window for cooperation and investment activities that reached beyond industrial development and the energy sectors (Peyrouse 2010). Since its inception, it has been held 11 times until last year. In 2017, the secretariat of the 'Korea-Central Asia Cooperation Forum' was established in Seoul. South Korea achieved significant results through it. First, it created many platforms for dialogue channels and expanded comprehensive cooperation with the five nations; Second, it established a pan-government multilateral forum with the participation of relevant ministries, and diplomatic cooperation was strengthened, such as enhancing mutual understanding and establishing a network of friendly personnel to the central government through industrial and cultural inspections. Thirdly, the first multilateral dialogue body between Korea and Central Asia was established. Fourthly, it provided an opportunity to expand Korean companies' entry into Central Asia; Fifthly, it contributed to building a human network between Korea and Central Asia and public-private trust, and sixthly, it strengthened diplomatic cooperation by holding a bilateral meeting at the vice-ministerial level. This also resulted in holding a vice minister-level bilateral council (Gussarova 2018).



In addition, South Korea actively promoted diplomacy to obtain cooperation from Central Asian countries on the international stage and achieved significant results. Uzbekistan first openly supported Korean leader Ban Ki-moon in the process of preparing for the election of the UN Secretary-General in 2006, and in 2007 supported the hosting of the Yeosu Expo. Uzbekistan and South Korea support one another's viewpoints on several crucial regional and global issues. Uzbekistan particularly praised the outcomes of the Seoul Nuclear Summit and the G20 summit held in Seoul in November 2010. These incidents have provided evidence of Korea's growing influence and position in the international community. As the country that spearheaded the creation of the Nuclear-Weapon-Free Zone state, Uzbekistan is a major proponent of the nuclear-free Korean Peninsula (Koh 2016).

It has been 11 times since the first forum began in 2007 under the leadership of the Korean Ministry of Foreign Affairs and has been institutionalized as the first vice-foreign minister-level dialogue platform covering various cooperation issues between Korea and five Central Asian countries. South Korean President Moon Jae-In shared the strong essence of bilateral relations by developing public-private dialogue and concrete cooperation projects on various and important areas of cooperation between the two sides. In 2017, Korea and five Central Asian countries established the Korea-Central Asian Cooperation Secretariat in the International Exchange Foundation to expand cooperation. This Cooperation Forum was held twice in Central Asia, again holding the 12th 'Korea-Central Asia Cooperation Forum' in Nursultan (formerly Astana), the capital of Kazakhstan, this fall with the first minister-level representative attending (MOFA 2019).

The 17th Central Asia-Republic of Korea Cooperation Forum, which took place on November 4, 2024, was a big step forward in the bilateral relationship between South Korea and the Central Asian countries. A high-level group from Central Asia met at the meeting, which was led by the South Korean Foreign Minister. Over 300 people, including government officials, business leaders, and experts, attended the event. It was a place to talk about and move forward the strategic relationship between the two areas. This year's meeting was especially important because it happened at the same time as South Korea's K-Silk Road program, which is a broad political plan to improve relations with Central Asia. At the meeting, people talked about the forum's part in finishing up important projects and making plans for the first Korea-Central Asia Summit, which will happen in South Korea the following year. The meeting is meant to strengthen the strategic relationship even more and take cooperation between the two countries to a whole new level (Sakenova 2024).

CONCLUSION

The two nations have established cordial and mutually beneficial ties in various fields based on reciprocal cooperation and trust since establishing diplomatic relations in 1992. The two leaders welcomed the fact that the development of bilateral relations has also contributed greatly to the promotion of Korea-Central Asia

cooperation, which was started in 2007, and has established itself as a successful multilateral consultative body. The main objective is to upgrade Korea-Central Asia relations and establish comprehensive cooperative relations such as economic, cultural, and educational through multilateral fora with Korea and five Central Asian countries. Every year, government delegations from five Central Asian countries, as well as key figures from the economic, academic, and cultural sectors, are invited to establish human networks and discover public-private joint cooperation projects.

Central Asian countries are slightly different from country to country, but they have been promoting industrial innovation strategies such as infrastructure construction projects such as transportation and communication, and fostering the petrochemical and IT industries, so they are highly likely to emerge as new investment destinations for Korean companies. Therefore, Korea should carry out the current comprehensive plan for entering Central Asia by establishing an inter-departmental cooperation system and supervision system, taking into account the economic and industrial policies of Central Asian countries and the stabilization and instability factors of the domestic situation. In addition, it is necessary to establish an information bank related to Central Asia by activating regional research on the Central Asian region.

The South Korean leadership considers Uzbekistan as a good partner amidst the changes and dynamics of the international situation such as the US-China and US-Russia conflicts, and the revolutionary changes in the economy and industrial structure brought about by the Covid-19 pandemic. However, in order to turn Uzbekistan into a land of opportunity, the Korean government's more specific, meticulous, and systematic strategy for entering Central Asia is needed above all else. Above all, a holistic approach, including politics, diplomacy, economy, and culture, that can properly understand the characteristics of Central Asian countries and respond appropriately must be mobilized.

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DEVELOPMENT OF AN ALGORITHM FOR CREATING SOFTWARE USING THE METHOD OF CALCULATING THE FORCES AND MEANS REQUIRED TO EXTINGUISH A FIRE BY A VOLUMETRIC METHOD

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ANNOTATION

The article provides information about scientists who conducted scientific research on the development and implementation of methods for calculating the forces and means required to extinguish a fire, creating a control system for forces and means at the scene of a fire. Furthermore, the data used in the development of the algorithm for creating software is presented. "The developed algorithm for creating software using the method of calculating the forces and means required to extinguish fires related to the release of flammable and flammable liquids to the ground is presented. The methodology for calculating the forces and means required to extinguish a fire by a volumetric method and the sequence of its inclusion in the software are also shown on the example of the performed computational operations.

KEYWORDS: fire, emergency, computer programs, methods for calculating forces and resources,

INTRODUCTION

Today, large-scale scientific research is being conducted all over the world to find scientific and technical solutions to existing problems in improving firefighting. In this regard, various modern firefighting techniques, equipment and devices, liquid and powder fire extinguishing agents obtained from local raw materials are being used in firefighting practice. In order to eliminate the fire in a short time with minimal losses, great attention is paid to the correct and rapid calculation of the forces and means required for extinguishing the fire.

LITERATURE REVIEW

In-depth scientific research is being conducted abroad on the development and practical implementation of computer programs for calculating forces and means for eliminating emergency situations and extinguishing fires. Research on the development and practical application of methods for calculating the forces and means required for extinguishing a fire was carried out by Ivannikov V.P., Klyus P.P., Terebnev V.V., Podgrushniy A.V., Grachev V.A., Terebnev A.V., Smirnov V. A., Semenov A.O. and others [1-8]. Research on the creation of a system for controlling forces and means at the scene of a fire was carried out by Kimstach I. Y., Devlishev P. P., Yevtyushkin N. M., Blinov S.N., Saulova T.A., Terebnev V.V., Bondarenko M.V., Danilenko A.S., Povzik Y.S. and others [9-14].

Research on the development and implementation of computer programs for calculating forces and means for eliminating emergencies and extinguishing fires, methods for calculating the forces and means required for extinguishing fires, and the creation of a system for controlling forces and means at the

scene of a fire were carried out by A.H. Kulodoshev, E.E. Sabirov, S.S. Sultanov, M.B. Musakhodzhiyev, K. Nortillayev, S.T. Zuparov and others [15-20]. As a result of these studies, certain positive results were achieved in the direction of improving the methods for calculating forces and means for eliminating emergencies and extinguishing fires. However, research on the creation of software using the method of calculating the forces and means required for extinguishing fires in a volumetric manner using information technologies has not been carried out to a sufficient extent.

RESEARCH METHODOLOGY

The algorithm for creating the software was developed using the following data: the required consumption of the foaming agent mixture, the number of GPS-600 medium-duty foam generators required to provide the amount of foaming agent mixture, the required amount of foaming agent, taking into account the reserve for the successful elimination of burning petroleum products, the number of fire trucks delivering the foaming agent to the fire scene, the total amount of water required to extinguish the fire, the number of protective devices to be deployed to prevent the fire from spreading to other adjacent buildings and structures, the total water consumption required for fire extinguishing and protection, the water supply of the enterprise, the number of personnel and crews required to extinguish the fire, and other information.

Conducted research and their discussion. Air-mechanical foam has the necessary amount of stability, fine particles, viscosity, cooling and insulating properties to extinguish solid materials and liquids, volumetric filling of the burning room (with medium and high-expansion foam) and surface fire extinguishing. SVP (SVPE) air-foam nozzles are used to



deliver low-expansion foam, and GPS foam generators are used to deliver medium and high-expansion foam. Volumetric fires are characterized by the rapid impact of heat fluxes on obstacles. For fires controlled by ventilation, a gas layer consisting of smoke gases is formed between the torch flame and the surface of the obstacle, the combustion process develops under an excess of oxygen in the air and approaches the conditions of fires in open space. For fires controlled by a combustible load, there is no gas layer consisting of smoke gases between the flame and the obstacles.

Therefore, air-mechanical foam is used to extinguish the fire in a volumetric way. Medium-density air-mechanical foam has the necessary stability, fine particles, viscosity, cooling and insulating properties to extinguish solid materials and liquids, fill the burning room volumetrically (with medium and high-density foam) and extinguish the fire along the surface, and GPS foam generators are used to deliver this foam.

The volumetric fire extinguishing method is used in pumping stations, cable tunnels, subways, basements with a complex structure, and to fill a burning reservoir with foam. The calculation of the required number of forces and means is carried out based on the volume of the room and the standard time for extinguishing the fire, using a coefficient that takes into account the deformation of the foam as it moves through the room.

The method for calculating the forces and means required for extinguishing a fire by the volumetric method was introduced into the software in the following sequence, and the software performs the calculation operations in the same sequence:

1. The number of generators required for extinguishing a fire by the volumetric method is determined:

$$N_{\text{GPS-600}} = V_{\text{yerto'la}} / V_{\text{o'chir.GPS}},$$

here: V_{basement} - length, width and height of the basement section, m; $V_{\text{delete.GPS}}$ - volume filled with foam using one GPS-600 generator [16; 146-p.].

2. The amount of foaming agent required to extinguish a fire is determined by:

$$V_{\text{khqm}} = N_{\text{GPS-600}} \cdot Q_{\text{khqm.GPS}} \cdot 60 \cdot \tau_{\text{o'chir.vaqti}},$$

here: $N_{\text{GPS-600}}$ - Number of GPS-600 generators required to extinguish the fire; $q_{\text{GPS.khqm}}$ - The foaming agent transfer consumption of the GPS-600 generator, l/s [16; 146-p.];

$\tau_{\text{o'chir.vaqti}}$ - Estimated time to extinguish the fire, minutes [16; 77-78-p.]; $k_{\text{zaxira.khqm}}$ - reserve coefficient of foaming agent required to extinguish a fire, hours [16; 76-77-p.]; 60 - Convert minutes to seconds.

3. The actual water consumption required to extinguish a fire is determined:

$$Q_{\text{in practice}}^{\text{water}} = N_{\text{GPS-600}} \cdot Q_{\text{GPS}}^{\text{water}},$$

here: $q_{\text{GPS-600}}^{\text{water}}$ - Water transfer consumption of GPS-600 generator, l/s [16; 146-p.].

4. The water supply of an enterprise is determined in 2 ways:

Method 1: If there are fire hydrants on the premises of the enterprise:

$$Q_{\text{pipe}}^{\text{ring}} = (V_{\text{water}} \cdot d_{\text{branch}})^2.$$

Here: V_{water} - speed of water movement through the pipe, m/s [16; 159-p.]; d_{branch} - diameter of water pipe, mm.

If it is $Q_{\text{pipe}}^{\text{ring}} > Q_{\text{general}}^{\text{water}}$, the object is considered to be supplied with water, if it is the opposite, it is considered not supplied with water.

Method 2: if there are water pools on the premises of the enterprise:

$$W_{\text{demand}} = Q_{\text{delete request}} \cdot 60 \cdot \tau_{\text{shutdown time}} \cdot K_{\text{reserve}}.$$

Here: $Q_{\text{delete request}}$ - amount of water required to extinguish a fire, l/s; 60 - convert minutes to seconds; $\tau_{\text{shutdown time}}$ - Estimated time to extinguish the fire, minutes [16; 77-78-p.]; $k_{\text{reserve}}^{\text{water}}$ - Water reserve coefficient in relation to the calculated amount for extinguishing a fire [16; 76-77-p.].

If $W_{\text{demand}} < 0,9 W_{\text{demand}}$, then there is enough water to extinguish the fire, otherwise there is not enough water to extinguish the fire.

$$W_{\text{demand}} < 0,9 \cdot W_{\text{(reservoir)}}.$$

Here: 0,9 - coefficient indicating that the remaining 10% of the water in a pond cannot be withdrawn [16; 205-p.].

5. The number of personnel required to extinguish the fire is determined:

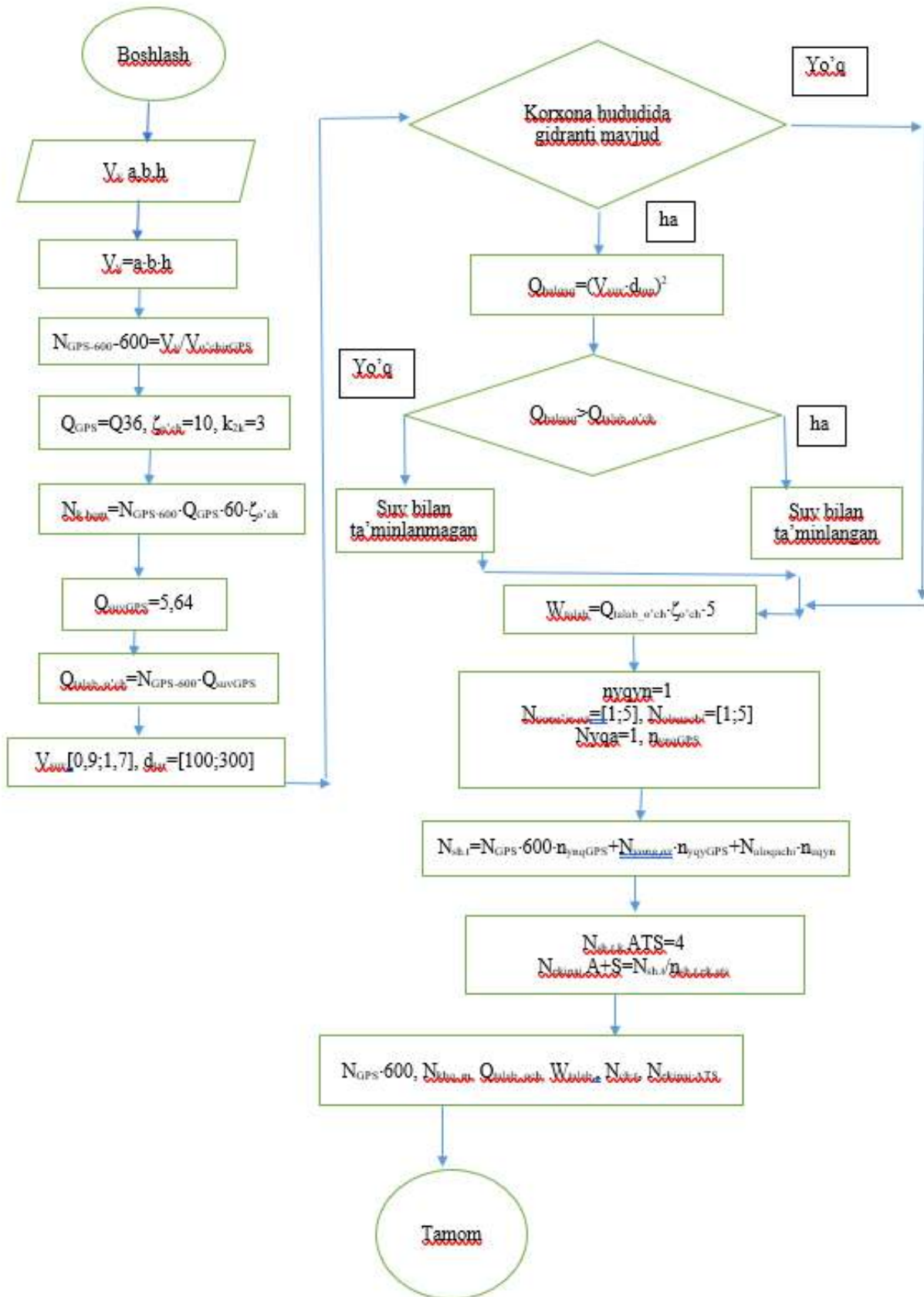


Figure 1. An algorithm developed to create software using the method of calculating the forces and means required to extinguish a fire using a volumetric method



$$N_{sh.t.} = N_{GPS-600} \cdot n_{human} + N_{yeng.naz.} \cdot n_{odam} + N_{communicator} \cdot n_{human}.$$

Here: $N_{GPS-600}$ – Number of GPS-600 generators required to extinguish the fire; n_{human} – number of personnel working with the lever [16; 208-p.]; $n_{yeng nazorat}$ – The number of personnel, forces, and assets controlling the lanes is determined by the number of lanes in the lane. [16; 208-p.]; $n_{communication}$ – the number of communicators [16; 208-p.].

6. The number of crews required to extinguish the fire is determined:

$$N_{ekipaj\ ATS} = N_{sh.t.} / n_{sh.t.\ ek\ ATS}.$$

Here: $n_{sh.t.\ ek.\ ATS}$ – The number of personnel in a tanker truck, the garrison's combat budget is mainly concentrated in firefighting tanker trucks, therefore the average number of personnel in one crew is assumed to be 4 people. [16; 210-p.; 1; 91-p.].

An algorithm was developed based on the above formulas. The algorithm is shown in Figure 1.

CONCLUSION

In the fourth paragraph, entitled “Development of software using a method for calculating the forces and means required to extinguish fires associated with the spillage of flammable and combustible liquids on the ground,” an algorithm for developing software based on a method for calculating the forces and means required to extinguish fires associated with the spillage of flammable and combustible liquids on the ground and software based on it are created.

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ANALYSIS OF THE TRANSLATION OF JAPANESE CLASSICAL GRAMMAR: A CASE STUDY OF JAPANESE-TO-CHINESE TRANSLATION

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ABSTRACT

This paper examines the process of translating Japanese texts with classical grammar into Chinese, focusing on two forms of Japanese literature: waka poetry and novels. By providing examples and analyses, the study explores the challenges of rendering Japanese classical grammar into Chinese under the guidance of Hans Vermeer's Skopos theory. It discusses translation strategies, stylistic choices, and the practical significance of these translations. The goal is to enhance readers' interest and engagement with Japanese literary works, thereby deepening their understanding and appreciation of Japanese classical literature.

KEYWORDS: Japanese classical literature; Japanese translation; Skopos theory

1. INTRODUCTION

Literature, as a vital component of human social life and spiritual culture, carries profound emotional and cultural significance. Classical literary works, in particular, are imbued with rich historical and cultural contexts and intricate emotional expressions. However, the highly historical and cultural nature of classical literary texts results in diverse and unique linguistic forms across different contexts and cultural backgrounds. In the case of Japanese texts with classical grammar, their translation poses significant challenges. Specifically, in cross-cultural contexts, the effective conveyance of the original emotional and cultural content to a target audience unfamiliar with the source culture becomes a critical issue.

For readers lacking relevant cultural or historical knowledge, even a translated text may fail to evoke emotional resonance due to linguistic differences and cultural barriers. This can render the reading experience cumbersome or unengaging, thereby diminishing interest in and attention to these classical works (Jeremy, 2007; Liu, 2019). Accordingly, this study focuses on analyzing the process of translating Japanese texts with classical grammar into Chinese. It aims to explore translation strategies that align more closely with the "horizon of expectation" of Chinese readers. The objective is to produce translations that, while faithful to the content and style of the original text, also resonate aesthetically and culturally with the target audience.

In translation practice, especially when dealing with Japanese classical literary works and their adaptations, translators must balance the cultural context of the source text with the cultural

expectations of the target audience. This requires not only a deep command of the Japanese language and its cultural nuances but also sharp cross-cultural sensitivity and creative linguistic expression. By combining translation theory with practical application, this study adopts the theoretical framework of Skopos theory to analyze and translate content from Japanese classical literature with classical grammar. The goal is to investigate translation strategies and stylistic choices in detail to ensure that the translated text faithfully conveys the literary value and cultural meaning of the original work. This, in turn, seeks to inspire a deeper understanding and interest in Japanese classical literature among Chinese readers.

This audience-oriented translation approach enhances both the readability and cultural adaptability of the translated text. It also broadens the avenues for disseminating Japanese classical literature in China. Moreover, it facilitates Sino-Japanese cultural exchange and understanding while uncovering the modern relevance and contemporary significance of classical literary works. Through an in-depth analysis of the challenges and practices in translating Japanese classical grammar, this study aims to provide Chinese readers with more engaging and culturally relatable translations, thereby fostering greater attention to Japanese literature and East Asian classical culture as a whole (Jeremy, 2007; Liu, 2019).

2. RATIONALE FOR THE TOPIC

In the current wave of globalization and cultural exchange, the translation of literary works is not merely a linguistic transformation but also a crucial medium for cultural



understanding and dissemination. This is especially true for classical literature, whose unique cultural and historical context, along with its distinct linguistic expressions, poses significant challenges for translation. Consequently, balancing fidelity to the original text with adaptation to the target culture has become a critical issue in translation studies. This paper focuses on Japanese texts with classical grammar, adopting Skopos theory as a framework and integrating translation practice to provide new perspectives and methodologies for addressing this challenge.

2.1 Background of the Topic

In recent years, as research in translation theory has deepened, the paradigms of translation studies have diversified. This evolution not only reflects the progressive refinement of the theoretical framework within the discipline but also highlights the increasing diversity of social and cultural needs. However, in the contemporary context of highly advanced information technology, interest in and attention to classical literary works have declined to a certain extent. Alongside this trend, the quantity and quality of adaptations of classical literature have significantly diminished. This phenomenon has spurred widespread academic concern regarding the effective dissemination and preservation of classical literature.

Scholars both domestically and internationally have made substantial contributions to the field of classical literature translation, exploring various aspects ranging from linguistic features to cultural interpretation. However, research that delves into the translation process itself—specifically in relation to the needs and preferences of target readers—remains relatively insufficient. In particular, the translation of Japanese classical literature with classical grammar has received limited attention. Translators in this field must address not only the complexity of the linguistic structures but also the challenge of accurately conveying the cultural connotations and emotional nuances of the original text. Simultaneously, they must consider the cultural background and reading habits of the target audience.

Given these challenges, this paper aims to apply Skopos theory to the study of Japanese texts with classical grammar, exploring how to better meet the needs of target readers and optimize the presentation of translated texts. Guided by Skopos theory, translation strategies can be devised more flexibly, allowing for the selection of appropriate stylistic forms and expressions. This ensures that the translated text remains faithful to the original while also resonating with the target culture to evoke interest and empathy among readers (Wang, 2012). This perspective highlights the potential of translations to inspire greater appreciation for Japanese classical literature and to facilitate its transmission and development in diverse cultural contexts.

2.2 Challenges in Translation

The translation of Japanese texts with classical grammar involves three primary challenges. These difficulties not only highlight the

linguistic complexity of such texts but also demand high levels of cultural sensitivity and linguistic expertise from translators.

(a) Understanding Japanese Classical Grammar and Translating into Chinese

One of the foremost challenges in translating Japanese classical literature, particularly *waka* from *Man'yōshū* and *Shinkokin Wakashū*, is understanding its grammar. These texts, written in archaic Japanese, significantly differ from modern Japanese in terms of grammatical features, often including obscure archaic vocabulary and intricate grammatical structures. Moreover, differences in cultural contexts and historical settings between Japan and China make certain grammatical phenomena difficult to interpret accurately, even with the aid of reference dictionaries.

To address these challenges, translators must consult parallel texts and consider the creative context of the *waka*. It is also essential to grasp the overall atmosphere and meaning of the text. Additionally, to align with Chinese readers' "horizon of expectation"—that is, their reading habits and aesthetic preferences—translators often render *waka* into Chinese verse. This approach not only enhances readability and acceptability but also retains the historical depth and ambiance of the original, showcasing the profound aesthetic unique to classical literature (Guo, 2006).

(b) Understanding and Expressing Culturally Loaded Terms

Japanese classical literature frequently employs culturally loaded terms, particularly those written entirely in kanji, which pose significant challenges for translators. Although these kanji terms may appear visually similar to Chinese characters, their meanings and usage often diverge from modern Chinese and can sometimes be entirely contradictory. This phenomenon of "false friends" requires translators to possess extensive cultural knowledge and linguistic sensitivity.

In practice, translators must repeatedly consult dictionaries to confirm the meaning of such terms. Additionally, they need to analyze parallel texts to deeply understand the cultural context in which these terms are used, ultimately determining the most accurate way to express them in Chinese. This process, though time-intensive and meticulous, is critical for ensuring that the translation accurately conveys the cultural information embedded in the original text.

(c) Translating Long, Complex Sentences with Ellipses

The peculiarities of Japanese syntax are particularly pronounced in classical literature, especially in sentences with complex structures and numerous ellipses. Japanese classical texts often omit subjects, objects, or other critical components of sentences, making the intended meaning more elusive. Translators must first thoroughly understand the vocabulary and identify the sentence components before employing strategies such as merging sentences, splitting them, or adding supplementary elements to complete the translation.



It is important to note that translation is not merely a mechanical process of converting words and grammar but a creative act of interpreting and reconstructing meaning. In this process, translators must remain faithful to the source text while flexibly applying the expressive tools of the target language. This ensures that the translation aligns with modern Chinese linguistic conventions while accurately conveying the original intent and emotional nuances. Achieving this requires not only strong linguistic skills but also a solid grasp of translation theories and meticulous practical execution (Si, 2010).

In conclusion, the translation of Japanese texts with classical grammar is a highly specialized and challenging task. It demands a high level of proficiency in language, cultural understanding, and translation techniques. By combining theoretical guidance with practical approaches, translators can gradually overcome these challenges and more effectively present the unique charm of Japanese classical literature to Chinese readers.

3. ANALYSIS OF TRANSLATION EXAMPLES

To address the practical issues in translating Japanese classical literature, this study focuses not only on the reproduction of linguistic forms but also on exploring the dynamic interplay between language and culture through the analysis of specific examples. In selecting examples, particular emphasis is placed on their representativeness and inherent challenges to facilitate an in-depth investigation of the translation characteristics and methods for various texts. Additionally, by applying Skopos theory, this study examines how to balance fidelity to the source language with the readability of the translated text, thereby ensuring that the translation aligns more closely with the needs of the target audience.

3.1 Translation of *Waka*

Example 1

Original Text

田子の浦にうちいでて見れば白たへの富士の高嶺に雪はふりつつ

Translation

田子浦处抬眼望 富士山巅雪纷纷

Analysis

This *waka* is drawn from *Shinkokin Wakashū*. The grammar in this *waka* entirely employs classical Japanese forms, making it inherently challenging to translate. Following the Skopos theory's principle of fidelity, the translator aimed to preserve the classical charm of the *waka* while also considering the reception of Chinese readers. To achieve this, the *waka* was translated into a seven-character parallel verse format.

"田子の浦" refers to a coastal area near the mouth of the Fuji River in Suruga Bay, Shizuoka Prefecture, a historic scenic spot for viewing Mount Fuji. This place name is retained and

translated as "田子浦". The phrase "田子の浦にうちいで" (arriving at Tagonoura) depicts a static state, which is matched by the action of "抬眼望" (raising one's gaze) in the translation, resulting in "田子浦处抬眼望". The expression "ふりつつ" (snow continuously falling) is translated as "雪纷纷", vividly portraying the dynamic image of snowflakes fluttering down. This combination of motion and stillness creates a picturesque scene of gazing at snow-covered mountain peaks from the fields, capturing the subtle elegance typical of *waka* in *Shinkokin Wakashū*.

Example 2

Original Text

笹の葉はみ山もみよにみだるなり我は妹思ふ別れ来ぬれば

Translation

山间竹叶沙沙响 思妻情切随声涨

Analysis

This *waka* is also from *Shinkokin Wakashū*. "笹の葉" refers to small or slender bamboo leaves, which is directly translated as "竹叶". The adverb "みよ" here describes the sound of wind rustling through bamboo leaves, translated as "沙沙" to convey the auditory imagery. The phrase "山" is placed as the subject in the first half of the translation, resulting in "山间竹叶沙沙响".

The term "妹" in this context refers to a wife, and the sentiment of "missing one's wife due to prolonged separation" is translated as "思妻情切随声涨". The seven-character parallel verse structure maintains rhyming between "响" and "涨", enhancing the fluency and rhythmic quality of the translation. This approach, combining direct translation and paraphrase, seeks to align with the original's serene and balanced tone while adapting to the aesthetic preferences of Chinese readers.

Example 3

Original Text

よそにのみ見てややみなん葛城のたかまの山の峰の楠。

Translation

欲破葛城难攻陷，遥望高间山之楠。

Analysis

This *waka* originates from *Taiheiki*, Volume Seven, specifically the "Military Siege of Chikata Castle" section. It depicts the scene where the Hojo forces surrounded Chikata Castle but were unable to capture it due to the strategic brilliance of Kusunoki Masashige. The event was satirized in a *waka*, "よそにのみ見てややみなむ葛城や高間の山の峰の白雲" (Waka No. 990), which appears in *Shinkokin Wakashū*, Volume Eleven, under "Love Poems I." Notably, in this *waka*, the term "楠" (kusunoki) is metaphorically reinterpreted as "白雲" (white clouds) at the end.



At first glance, “楠” might be mistaken for “camphor tree.” However, by referencing the story in *Taiheiki*, it is confirmed that “楠” here symbolizes the Japanese general Kusunoki Masashige. Consequently, while translating the *waka*, it is critical to carefully analyze grammar and format and scrutinize culturally loaded terms with specific meanings. Adhering to the fidelity principle of Skopos theory, the translator preserved the implicit beauty of the original without explicitly naming the general, opting instead to retain the poetic reference to “楠”.

3.2 Translation of Sentences with Classical Grammar

Example 4

Original Text

少年の春惜しめども留らぬものなりければ、三月も半ば過ぎぬ。御前の木立、何となく青みわたれる中に、中島の藤は、松にとのみ思ひ顔に咲きかかりて、山ほととぎす待ち顔なり。

Translation

少年之春，虽惜却难留，阳春三月已过半。御前的树木青翠丛生，浮岛的紫藤在松枝上绽放，盼望杜鹃鸟的到来。

Analysis

This excerpt comes from the Japanese classical novel *The Tale of Sagoromo*. Its translation is particularly challenging due to its elaborate style and cultural nuances. Unlike *waka*, which is relatively concise and adheres to fixed formats, the style of such prose allows for greater flexibility in rendering. To enhance readability and reflect the richness of the original, the translator adopted a hybrid style combining elements of modern and classical Chinese.

For instance, the term “ども” indicates concession, meaning “although” or “even if”, and is translated as “虽惜却”. “山ほととぎす” refers to both “mountain cuckoos” and “azalea flowers.” Initially, the phrase “山ほととぎす待ち顔なり” was translated as “杜鹃花也含苞待放” to correspond with “藤” (wisteria). However, upon further research and context analysis, it was found that “山ほととぎす待ち顔なり” was inspired by the *Kokin Wakashū* poem: “わが宿の池の藤波咲きにけり山ほととぎすいつか来鳴かむ” (Wisteria blooms by the pond of my house; when will the mountain cuckoo come to sing?). Thus, the translation was revised to “盼望杜鹃鸟的到来” to maintain fidelity to the original reference and its literary allusion.

This careful balancing of linguistic precision, cultural resonance, and textual fidelity demonstrates the complexity and artistry required in translating classical Japanese prose.

Example 5

Original Text

人は生て居る内は陽気盛んにして正しく清く 死ねば陰気盛んにして邪に穢れるものだ 夫ゆゑ幽霊と共に偕老同穴

の契を結べば 縦令百歳の長寿を保つ命も 其為めに精血を減らし必ず死ぬるものだ

Translation

人活着的时候阳气旺、周正无邪；而死后会变得阴气重、邪气肮脏。只要和鬼魂结下“生则同衾，死亦同穴”的誓言，纵令百岁长寿的生命也会因此而减少精血，必死无疑。

Analysis

This excerpt is from the Japanese adaptation novel *Kabyo-shi*, which was itself based on the Chinese classical novel *Jian Deng Xin Hua*. The overall tone and content closely resemble Chinese literary styles, prompting the translator to prioritize the use of idiomatic expressions and maintain structural symmetry in the translation, aiming for elegance and fluency (Lu, 2015).

The term “盛る” conveys meanings such as “abundance,” “prosperity,” or even “animal in heat.” When paired with “陽気” (positive energy), it was translated as “阳气旺” (abundance of yang energy). However, translating “陰気盛んにして” as “阴气旺盛” would feel inconsistent within the context. Thus, it was extended to “阴气重” (heaviness of yin energy), which aligns with the term's essence while maintaining parallelism between the phrases.

The original text lacked punctuation, so the translator segmented the sentences according to logical structures. This ensured the translated text followed modern Chinese writing conventions, enhancing clarity and readability. This approach exemplifies the balance between linguistic accuracy and aesthetic considerations, preserving the meaning of the original while adapting it to suit the target audience.

4. RESEARCH METHODS AND SUMMARY

To effectively address the challenges of translating Japanese texts with classical grammar, this study adopts a theory-guided, practice-based approach. By systematically analyzing the translation process, the research explores optimal strategies for overcoming linguistic barriers. The findings indicate that theoretical guidance helps translators define translation objectives and strategies, while practical applications provide actionable solutions to specific problems. By integrating theory and practice, the translation process can better balance fidelity to the source text with the adaptability required for the target audience.

4.1 Research Methods

This study primarily employs case analysis and literature review methodologies to delve into the translation challenges posed by Japanese classical grammar. These methods emphasize the integration of theory and practice, focusing on identifying issues from specific translation cases and seeking appropriate solutions.



In the translation process, this study draws on the Skopos theory proposed by Hans Vermeer as a theoretical framework, integrating translation objectives and audience characteristics (Wu, 2023; Zhang, 2004). Skopos theory posits that translation activities should be guided by clearly defined objectives, with the form and content of the translation tailored to serve these goals—particularly in terms of meeting the needs and cultural expectations of the target audience. Guided by this theory, the study analyzes specific translation examples to identify practical challenges in translating Japanese classical grammar, including difficulties in grammatical interpretation, cultural terms, and complex sentence structures. The case analysis approach clarifies the specific manifestations of these challenges and provides concrete references for their resolution.

Additionally, the study leverages literature review methods to collect and synthesize extensive research on Japanese classical grammar and translation strategies. These resources not only provide a robust theoretical foundation but also offer essential references for the analytical process. By bridging theory and practice, the study explores how Skopos theory can be applied in translation to enhance cultural adaptation and audience receptivity. Ultimately, through the detailed analysis of specific examples, the study aims to develop translation strategies that align with the aesthetic preferences and reading expectations of Chinese readers. This approach facilitates the dissemination and reception of Japanese classical literature in China and offers valuable insights for cross-cultural translation.

4.2 Translation Summary and Significance

The translations in this study aim to align with the "horizon of expectation" of Chinese readers, employing forms such as seven-character parallel verse or idiomatic symmetry to enhance the rhythmic beauty and cultural affinity of the translated text. However, the essence of translation lies not merely in achieving formal equivalence. Insisting on word-for-word correspondence at the expense of textual coherence and the linguistic and cultural background of the target audience may undermine the translation's effectiveness. Such an approach risks failing to faithfully convey the original's intent and diminishes the readability of the translated text.

Therefore, the form of the translation must be handled flexibly, focusing on conveying the meaning and spirit of the original rather than rigidly adhering to literal equivalence. In translation practice, the translator must remain highly faithful to the content and essence of the source text. The translation should accurately transmit the original information while adhering to the linguistic habits of the target language, ensuring the text flows naturally and aligns with the grammar and style of the target language. Additionally, specialized terms and cultural concepts in the text must be consistent throughout, avoiding arbitrary modifications to ensure the translation's professionalism and logical coherence.

Achieving these objectives requires the translator to accurately comprehend the source text and precisely grasp the cultural information and emotional expression embedded within it. Translation is not merely a linguistic conversion but a deep understanding and recreation of foreign cultures. To faithfully convey the source text, the translator must possess profound cultural insight and respect for the source culture while mastering the expressive norms and cultural nuances of the target language. This bidirectional understanding of cultures and skillful language control forms the foundation of high-quality translation.

When dealing with Japanese texts featuring classical grammar, the translator must not only be faithful to the information conveyed in the original but also apply appropriate translation theories and strategies to flexibly choose suitable forms of translation. For instance, when translating highly metaphorical sentences or culturally loaded terms, the translator should fully leverage the guidance of Skopos theory, considering the target audience and cultural context to maximally recreate the original's imagery and cultural depth.

Through such cultural adaptation and artistic recreation, translations can more effectively broaden their audience, increasing readers' interest in Japanese classical literature. This not only expands readers' literary horizons but also deepens their understanding of Japanese literature and its cultural connotations, injecting new vitality and meaning into cross-cultural exchanges.

5. Conclusion

This study systematically analyzed the translation of Japanese texts with classical grammar from both theoretical and practical perspectives. Using Skopos theory as the framework, the research explored translation strategy choices and operational challenges, particularly in the translation of *waka* and classical literary sentences. Special attention was given to addressing key difficulties, such as the translation of culturally loaded terms and the handling of complex sentence structures. The findings reveal that achieving a balance between fidelity to the original text and adaptation to the target culture is essential for conveying both cultural connotations and linguistic forms. This balance significantly affects the cultural adaptability and audience receptivity of the translated text.

The translation of Japanese texts with classical grammar is not a simple linguistic transformation but a process of reproducing the emotional and cultural information of the source text. Through the analysis of translation examples, the study demonstrated that translation must respect the literary value and artistic features of the original while creatively adapting to the expressive characteristics of the target language. For instance, the use of seven-character parallel verse in *waka* translation not only preserves the rhythmic beauty of the original but also enhances the artistic appeal of the translation, providing the target audience with a culturally relatable reading experience. This innovation



underscores the critical role of translation as a tool for cross-cultural communication.

The guidance of Skopos theory is of great importance in selecting translation strategies. The ultimate goal of translation should focus on the dissemination effect of the translated text and its acceptance by the target audience. This requires flexible adjustments in language form and content expression. In practice, when translating culturally loaded terms, translators need to rely on parallel texts and contextual knowledge to find expressions that accurately convey the original meaning while remaining comprehensible to the target audience. For the complex sentence structures in classical Japanese, strategies such as sentence division, combination, or paraphrasing are employed to clarify obscure sentences and ensure the readability and coherence of the translated text.

The findings of this study enrich both the theoretical and practical aspects of Japanese classical literature translation and provide a reference model for literary translation in cross-cultural contexts. By applying Skopos theory and analyzing specific translation examples, the research further highlights the importance of a translator's cross-cultural competence and creative linguistic skills. Only by deeply understanding the cultural connotations and literary value of the original text can translators fully recreate its essence in practice.

The translation of Japanese texts with classical grammar is a complex yet meaningful endeavor. Guided by theory and informed by practice, translators can act as cultural bridges in cross-cultural exchanges, effectively presenting the unique charm of Japanese classical literature to target readers. This effort not only facilitates deeper Sino-Japanese cultural exchange but also provides new approaches for uncovering the modern relevance of classical literature, laying a foundation for future research in this field.

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INTERPRETATION AND UNDERSTANDING OF MARX'S THOUGHT ON THE DIVISION OF LABOR IN THE ARTIFICIAL INTELLIGENCE ERA

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ABSTRACT

Marx's thought on the division of labor in the era of artificial intelligence requires new interpretation and understanding. The development of artificial intelligence technology has profoundly changed the mode and nature of the division of labor, leading to the disappearance of traditional labor methods and the lowering of occupational barriers, providing a realistic path for the "elimination of division of labor" proposed by Marx. Through the analysis of the concept and historical evolution of the division of labor, drawing on Marx's thought on the division of labor, this article explores in depth the refinement and transformation of the division of labor in the era of artificial intelligence. The article argues that the development of artificial intelligence technology helps to solve the problems brought about by the division of labor in the industrial era, promote the reform of the social division of labor, and promote the free and comprehensive development of human beings.

KEYWORDS: Artificial Intelligence, Marx; Division of Labor, Labor Force, Productivity

1. INTRODUCTION

The development of artificial intelligence technology has given a new perspective on the interpretation and understanding of Marx's thought on the division of labor. In works such as *Capital*, Marx elaborated on the impact of the division of labor on social production and the labor process, arguing that the division of labor leads to the specialization of labor, which in turn leads to restrictions and alienation of people. With the rapid development of artificial intelligence technology, the mode and nature of the division of labor is undergoing profound changes. The gradual disappearance of traditional labor methods and the continuous lowering of occupational barriers will make the division of labor present a new situation. Artificial intelligence is changing the labor process in various industries, not only greatly improving productivity and production efficiency, but also providing a realistic path for the "elimination of division of labor" proposed by Marx. Marx's thought on the division of labor should be given new understanding and interpretation in the era of artificial intelligence.

2. THE CONCEPT AND HISTORICAL EVOLUTION OF DIVISION OF LABOR

The division of labor has been a key factor in shaping human societies and economies, adapting over time to changes in productivity and social needs. To understand its significance, it is essential to explore its conceptual roots and historical evolution.

2.1 The Concept of Division of Labor

Division of labor refers to the division and allocation of labor. "In a sense, division of labor is simply the coexistence of labor, that is, the coexistence of different kinds of labor expressed in different kinds of products (or, more precisely, commodities)" (Marx & Engels, 2013, p. 245). The English term "division of labour" is directly translated as the division of labor. "Division" is derived from the Latin "divisionem", meaning the act of dividing things into parts or shares, the part separated or distinguished from the rest. The word "labour" is derived from the Latin "labor", meaning "toil, effort; fatigue; a work, the product of labor". And starting from 1839, "labour" also refers to "the working class as a group of laborers". In the English context, the term "division of labour" first appeared in the work *The Wealth of Nations* published by the classical economist Adam Smith in 1776. Smith emphasized the importance of specialized division of labor in improving production efficiency and promoting economic development at the beginning of the book, and since then, the division of labor has become a clear concept in economics.

The development of human society depends on the continuous development of material production activities. When the scale of production activities is large enough to require more and more people to participate, the labor process cannot be separated from the socialized combination mode. Division of labor is a socialized combination mode that improves production efficiency through specialization, that is, "the cooperation of many workers engaged in different parts of the production of the same commodity under the command of one capital" (Marx & Engels, 1998, p. 301). The



division of labor is reflected in the division of different types of labor and work. It was initially manifested as different groups or individuals undertaking specific work tasks, that is, the division of labor at the individual level. As the scale of labor continues to expand, the division of labor is also manifested as the differentiation of work areas between different industries and departments, such as agriculture, industry and other different industrial fields. The division of labor is an important phenomenon in social and economic activities, and it also presents different forms of expression in different historical periods and social environments.

2.2 The Origin of the Concept of Division of Labor

The use of the concept of division of labor has a long history. As early as ancient Greece, Democritus (Demokritos) recognized the inherent connection between the division of labor and the distribution of resources, and was the first scholar to point out that resource allocation can bring superior efficiency. He believed that the division of labor and resource allocation can provide stronger incentives for productive activities (Gordon, 1975). Xenophon similarly believed that the more refined and specialized the division of labor, the higher the efficiency of production and the better the quality of products. He pointed out: "Spending all one's time and energy doing a small thing, one must be able to do it best" (Xenophon, 2007, p. 421). Plato was a representative figure of the division of labor thought in ancient Greece. He believed that in order to meet people's different needs, people had to engage in specialized industries to produce things, clothes, build shelters, etc., and in order to facilitate their mutual assistance, people gathered together, forming the embryonic form of the city. Moreover, Plato combined people's talents with the division of labor, believing that people are born with different talents and are good at doing different jobs. He proposed: "As long as each person does the work suitable for his character at the appropriate time and gives up other things, specializing in one line, then everything will be produced in large quantities and well" (Plato, 2023, p. 60). Therefore, in Plato's view, the division of labor originated from the different needs and talents of individuals, emphasizing the positive role of the division of labor in improving production efficiency and urbanization. Plato's discussion of the division of labor had a significant influence on later scholars. Marx once pointed out: "Plato's exposition in the *Republic* was the direct basis and starting point for some British writers who wrote on the issue of division of labor after Petty but before Adam Smith" (Marx & Engels, 1998, p. 321).

At the same time in China, philosophers also recognized the phenomenon of division of labor improving production efficiency. In the early Spring and Autumn period, Guan Zhong, a famous politician and philosopher of the Qi state, proposed in a dialogue with Duke Huan of Qi: "The scholars, farmers, artisans, and merchants are the four pillars of the country", "Therefore, the ancient kings enabled the four groups of farmers, scholars, artisans, and merchants to exchange their abilities and work, and the benefits of the whole year had no way to surpass each other" (Jiang, 2009, p. 178), dividing the people into four groups:

scholars, farmers, artisans and merchants, and emphasizing the exchange between the four groups, so that each industry is relatively stable and the country can be prosperous and the people at peace. This shows that Guan Zhong had already recognized the role of the division of labor in promoting the social economy and the importance of exchange between different divisions of labor. The famous philosopher Mencius of the Warring States period once proposed: "There are affairs of great men, and there are affairs of small men. Moreover, the needs of one person's body are provided by the work of a hundred craftsmen. If one must make things for oneself before using them, it is to lead the world on the road" (Meng & Meng, 2021, p. 101). That is to say, the needs of one person are provided by the work of a hundred craftsmen, and one person cannot be self-sufficient for his own needs. If one forces oneself to do so, one must be exhausted. From this, the concept of division of labor of "those who labor with their minds govern others, those who labor with their strength are governed by others" is derived.

The classical political economist Adam Smith was the first scholar to systematically analyze the systematic logic, causes and modes of operation of the division of labor, and the first scholar to discuss the division of labor in the category of political economy. He formally established the division of labor as a basic category of political economy. First, Smith believed that the reason for the division of labor was exchange, and believed that exchange was a basic characteristic of human beings, and that this basic characteristic was not possessed by any other animal. The division of labor was generated precisely because of the need for exchange. However, Smith did not give a clear answer to the reason for the emergence of exchange, but only regarded it as a unique nature of human beings. In this regard, Smith's thought on the division of labor had an obvious idealistic color. Second, Adam Smith formally proposed that the division of labor is an important way to promote the progress of social productivity, and pointed out three reasons why the division of labor improves labor productivity. Moreover, Smith's discussion of certain aspects of the division of labor was essentially different from that of Plato. Unlike Plato's view that the diversity of people's talents leads to the division of labor, Smith believed that the differences in people's talents are much smaller than we realize, and it is precisely the division of labor that leads to the differentiation of talents and abilities among individuals. This also led Smith to further propose the negative effects of the division of labor. While affirming that the division of labor improves labor productivity, he also pointed out: "Almost every kind of craftsman, in their special business, often develops special diseases due to overwork" (Smith, 1972, p. 35). Because most of human intelligence is formed from daily occupations, and the division of labor limits people to fixed positions, making it difficult for them to exert their talents, they will eventually become "the most stupid and ignorant people" (Smith, 1972, p. 362).

2.3 The Evolutionary Logic of Division of Labor

Human civilization is essentially built on the continuous development of production activities (Lü, Liu, & Song, 2017, p.



1), and material production practice is also the most basic practice of human beings. With the expansion and development of the scale of social production, the importance of the division of labor began to gradually emerge. The division of labor changes with the development and changes of the times and the innovation of technology, and human history develops in the continuous evolution of the division of labor.

"Division of labor" plays a very critical role in the development of economic systems and organizations. Friedrich Engels stated in *The Origin of the Family, Private Property and the State* that three major social divisions of labor have occurred in human history. The first major social division of labor occurred in the late primitive society, when nomadic tribes separated from savage groups, resulting in the separation of animal husbandry and agriculture. The second major social division of labor was marked by the separation of handicrafts from agriculture, with handicrafts becoming an independent production sector. The third major social division of labor refers to the first appearance in society of a class that does not engage in production but only in the exchange of products - merchants. After three major social divisions of labor, the division of labor model in the economic and social fields of human civilization was basically formed (Zhang, 2024). Before the first major social division of labor, human society mainly relied on activities such as hunting and gathering to maintain survival, and there was almost no surplus labor. Later, humans began to domesticate and breed livestock, enabling nomadic tribes to break away from savage groups and give rise to specialized animal husbandry. At the same time, agricultural technology began to develop. The invention of an agricultural production method centered on planting greatly improved agricultural production efficiency. With the use of metal tools, especially bronze and iron tools, human labor methods were enriched, the objects of labor were expanded, and the production efficiency of handicrafts was improved. Moreover, the use of iron tools promoted the development of agriculture and laid the material foundation for the prosperity of handicrafts, leading to the separation of handicrafts from agriculture, and the second major social division of labor was thus formed. After the separation of handicrafts and agriculture, laborers had to exchange their products with each other and exchange what they needed. The development of transportation and navigation technology at the same time greatly increased the transportation range and speed of commodities, and merchants began to appear as an independent class. It can be seen that the division of labor and the stages of the division of labor depend on the level of development of productivity at that time (Marx & Engels, 2009, p. 587). Looking at the three major social divisions of labor, the changes in the basic division of labor model in society are all based on the contradictions between social productivity and relations of production caused by the improvement of technical means. "The driving force for the evolution of the division of labor is the development of new material resources, the birth and death of new and old market scales, and the oscillation of structural transformation under external shocks caused by scientific and technological inventions" (Chen, 2004, p. 2).

First, the improvement of technical means most intuitively improves production technology and production tools, making human labor methods, labor scope and labor efficiency all improved, and social productivity greatly improved. The improvement of production technology and production tools promotes the improvement of production efficiency and increases the time that humans can freely dispose of. At the same time, technological progress deepens the degree of human practice in the unknown world. Previously undeveloped material resources are utilized, the scope of labor is expanded, the objects of labor are increased, and the division of labor model also changes accordingly. Second, the development of social productivity puts forward new requirements for social relations of production, and in turn requires changes in the division of labor model. Productivity determines the relations of production and institutional structure through the division of labor organization within society (Xie & Cheng, 2016). Third, changes in social relations of production in turn react to productivity. The result of the movement of this basic contradiction between productivity and relations of production is the generation of new relations of production to adapt to new productivity. And new relations of production will also have a certain impact on the division of labor model. After the completion of the three major social divisions of labor, human society transitioned from the public ownership of primitive society to a private ownership society, generating new social classes and new social modes of production to adapt to the development of productivity. In ancient Sumerian culture, the concept and implementation of the division of labor, along with the rise of trade and economic interdependence, promoted the growth of total output. The rise of agriculture and animal husbandry brought about by the Neolithic Revolution provided a more reliable and abundant food supply, which in turn promoted population growth and labor specialization, giving rise to new classes of artisans, warriors and elites.

Therefore, from the perspective of the basic contradiction between productivity and relations of production, exploring the basic logic and laws of the evolution of the division of labor, it can be seen that the revolution of human production technology is often accompanied by a substantial increase in social productivity. The improvement of social productivity will inevitably put forward new requirements for relations of production, and the division of labor model of human society will inevitably change accordingly. In general, whether it is technological innovation or social institutional change, they all stem from the pursuit of improving productivity and production efficiency in human society, and from the basic contradiction between productivity and relations of production. As the driving force of economic interdependence and trade, the division of labor promotes the development of specialization, improves productivity, and promotes social and economic progress. Its evolutionary logic reflects the continuous pursuit of efficiency and coordination in human society, and also demonstrates the importance and universality of the division of labor in multiple fields.



3. THE TIMELINESS AND CRITICALITY OF MARX'S THOUGHT ON THE DIVISION OF LABOR

Marx's critique of the division of labor reflects both its contributions to productivity and its role in human alienation. This duality highlights the need to examine its development during the industrial era and its broader societal impact.

3.1 The Division of Labor in the Industrial Era

The transition of human society from primitive society and agricultural society to industrial civilization society is related to the social conditions and era conditions at that time, and is a historical process with complex influencing factors. Before the advent of the industrial era, the division of labor model dominated by agriculture experienced a relatively long historical stage in the long history of mankind. From the slash-and-burn cultivation of primitive society to the men plowing and women weaving of agricultural society, although the labor tools and social structure of the division of labor model may be different, fundamentally, they are all labor allocations based on natural factors such as gender, age and geography. The result of this division of labor is the formation of a self-sufficient production model based on the family unit. Although this production model still drove the progress of productivity, it is undeniable that this production model has natural disadvantages. It cannot meet the expanded reproduction of the commodity economy, nor can it meet the requirements of productivity development to expand the market scope. At the same time, due to the underdeveloped technological means and practical conditions at that time, social production and exchange always remained within a relatively small scope. Therefore, agricultural production was unable to achieve a qualitative breakthrough for a relatively long historical stage, and its division of labor model also remained at a relatively simple stage.

In the 18th century, the outbreak of the Industrial Revolution sounded the horn for human society to enter the industrial era, and the invention of the steam engine made social productivity grow exponentially. Factories sprang up like bamboo shoots after a spring rain, and large-scale mechanized production replaced traditional manual labor. The agricultural production model originally based on the family unit was quickly broken, and a large number of farmers poured into cities, becoming factory workers, and a new division of labor model emerged. On the one hand, due to the large-scale use of machines, social productivity was greatly improved, the scale of production was unprecedented, meeting the growing market demand, and the different production sectors of the whole society exchanged what they needed and complemented each other, promoting the improvement of social production efficiency. On the other hand, the division of labor within the factory was no longer based solely on natural factors for labor allocation, but was finely divided according to production processes and professional skills. A complex production line could be broken down into dozens or even hundreds of different processes, with each worker only needing

to focus on one specific link, thus greatly improving production efficiency and promoting the development of productivity.

Marx believed that the social division of labor is inextricably linked to social productivity. "The level of development of a nation's productivity is most clearly manifested in the degree of development of that nation's division of labor" (Marx & Engels, 1960, p. 24). The division of labor has the attribute of productivity. From primitive society to agricultural society and then to industrial civilization society, the change of social division of labor originates from the need to improve productivity and labor efficiency. In the opening chapter of *The Wealth of Nations*, Adam Smith proposed that "the greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labour" (Smith, 1972, p. 2), fully affirming the role of the division of labor in promoting labor efficiency. Marx believed that the division of labor is not only an economic and ethical phenomenon that improves labor productivity and promotes the development of social communities, but also more profoundly reflects the power relations between people in capitalist society. Marx pointed out that in capitalist society, the productivity brought about by the division of labor actually belongs to the capitalists rather than the laborers, leading to the coexistence of wealth accumulation and poverty. In addition, the division of labor also leads to the alienation of labor. The labor results of the workers are occupied by the capitalists, and the workers themselves are reduced to slaves of capital. Marx emphasized that the division of labor in capitalist society cannot achieve the organic unity of individual special interests and universal interests of society, but instead intensifies social contradictions and class opposition. Starting from the power domination relations behind the real connections between people and materials, he revealed the domination of labor by capital and the domination of the proletariat by the proletariat in capitalist society (Zhang, 2019).

3.2 Critique of the Division of Labor

In the *Economic and Philosophical Manuscripts of 1844*, Marx discussed the duality of the division of labor, proposing that "the division of labor increases the productive power of labour, the wealth of society, and the many-sided development of society, but at the same time it makes the worker fall into poverty until he becomes a machine" (Marx & Engels, 1998, p. 305). On the one hand, Marx fully affirmed the role of the division of labor in improving social productivity and promotion. He believed that when society is in a state of wealth growth, two situations must occur: one is the accumulation of a large amount of labor, and the other is the mutual promotion of capital and the division of labor. On the other hand, with the accumulation of capital and the expansion of the division of labor, workers become more and more dependent on mechanized and one-sided labor, engaging in fixed and subdivided work, which directly leads to the workers becoming "machines" in both spirit and body, intensifying the confrontation between workers and even the confrontation between machines and people. In the *Manuscripts*, Marx's most



important discussion is undoubtedly the issue of alienation, and it was when exploring the root causes of alienated labor that "division of labor" gradually entered Marx's research scope. Moreover, Marx also analyzed the externalization of the two human activities and essential powers of division of labor and exchange. He linked the division of labor with private ownership and private property, proposing that economists inadvertently spoke of scientific contradictions while boasting of their own scientificity. Although Marx did not elaborate on the logical relationship between division of labor and exchange in the *Manuscripts*, he also clearly pointed out that "the division of labor and exchange are the forms of private property, a situation that precisely contains a double proof: on the one hand, human life once needed private property for its own realization; on the other hand, human life now needs to abolish private property" (Marx & Engels, 2002). From this argument, it can be seen that Marx's research focus on political economy still lies in people, laying the foundation for Marx's proposal to "abolish the division of labor" in order to realize the free and comprehensive development of people in his later works.

In *The German Ideology*, Marx answered the question of the root causes of alienated labor, shifting his research focus from the concept of labor alienation to the division of labor, shifting the analysis of the relationship between workers and labor to the changes in social forms in the entire process of social development. "The mark of this shift is to elevate the economic concept of 'division of labor' to the first place, elevating it to the position originally occupied by the philosophical concept of 'labor alienation'" (Han & Qin, 1987). Starting from the division of labor, Marx further revealed the relationship between the division of labor and private ownership. He believed that different stages of the division of labor are different forms of ownership. On this basis, he further clarified a series of historical materialist views such as the contradictory relationship between productivity and relations of production. Étienne Balibar believed that Marx developed the model of the division of labor to the greatest extent in *The German Ideology*, "finding another path" (Balibar, 2007, p. 46). Secondly, Marx examined the relationship between mental production and the division of labor. He proposed that it is precisely due to the emergence of a real division of labor, that is, the separation of mental labor and material labor, that consciousness begins to have relative independence, but its origin is still material production activities. Moreover, Marx further refined the study of "division of labor", starting from analyzing the activities and product distribution of the division of labor, concluding that the result produced by the activities of the division of labor is alienated labor, and the result produced by the distribution of products of the division of labor is private property. Therefore, the issue of eliminating private property and alienated labor turns into the issue of eliminating the division of labor. "The above three factors, namely productive forces, social conditions and consciousness, may and will necessarily come into contradiction with each other, because the division of labor not only makes it possible for material activity and mental activity, enjoyment and labor, production and consumption to be

undertaken by various different individuals, but also makes it a reality, and to prevent these three factors from contradicting each other, division of labor must be abolished" (Marx & Engels, 1960, p. 36).

However, although Marx clearly proposed the argument of abolishing the division of labor, he did not explain what kind of division of labor should be abolished and how to abolish the division of labor in *The German Ideology*, or in other words, Marx did not further distinguish the division of labor at this time. This problem was not solved until *Capital*. "A. Smith did not distinguish between two meanings of the division of labor. Therefore, the latter type of division of labor does not seem to be something unique to capitalist production in his view" (Marx & Engels, 1998, p. 305). In *Capital*, Marx clearly distinguished the division of labor into "two types of division of labor", namely "division of labor within society" and "division of labor within the workshop". He believed that "the first type of division of labor is the division of social labor into different labor sectors; the second type of division of labor is the division of labor that occurs in the production of a commodity, and is therefore not the division of labor within society, but the social division of labor within the same factory" (Marx & Engels, 1998, p. 305). In Marx's view, these two types of division of labor are completely different. The division of labor within society and the division of labor within the factory are significantly different in various aspects such as the nature of the products produced and the relations of production. In general, "the division of labor within the whole society, whether mediated by commodity exchange or not, is common to various socio-economic formations, while the division of labor in the workshop is a unique creation of the capitalist mode of production". The first type of division of labor, that is, the division of labor within society, is an inevitable phenomenon in the development process of human society, and it develops continuously with the improvement of social production efficiency and the degree of socialization. It is a spontaneous and free form of division of labor within the whole society. The second type of division of labor, that is, the division of labor within the factory, is a division of labor unique to the conditions of capitalist private ownership, and is a "division of labor within the factory that characterizes capitalist production, completely eliminates the independence of the workers, and makes the workers a part of a social institution under the command of capital" (Marx & Engels, 1998, p. 309). It is precisely because of this form of division of labor that people are limited to fixed jobs, hindering the free and comprehensive development of people. It can be seen that the essence of Marx's proposal to abolish the division of labor is to abolish the second type of division of labor, that is, the division of labor within the factory under the conditions of capitalist private ownership, and to abolish the division of labor that hinders the free and comprehensive development of people.



4. FURTHER REFINEMENT AND TRANSFORMATION OF THE DIVISION OF LABOR IN THE ERA OF ARTIFICIAL INTELLIGENCE

Artificial intelligence is transforming the division of labor, reshaping traditional roles and creating new opportunities. This shift requires a closer look at how labor structures adapt to these technological advancements.

4.1 Reconstruction of the Division of Labor Model

Since the Industrial Revolution opened the precedent of machines replacing human labor, the impact of artificial intelligence on human labor patterns and division of labor methods has always been a hot topic. Against the background of the rapid development of artificial intelligence technology, artificial intelligence can replace almost all necessary physical labor and the vast majority of mental labor. As the subject of labor, humans' material labor and mental labor exhibit characteristics different from any time in the past. Artificial intelligence breaks the limitations of traditional division of labor on laborers, reconstructs material labor and mental labor, and changes the behavioral patterns of labor, providing a realistic path for the elimination of the old division of labor and the promotion of free and comprehensive human development.

On the one hand, intelligent technology tends to unify material labor and mental labor. Marx proposed that the division of labor only begins to be a real division of labor from the time when material labor and mental labor are separated (Marx & Engels, 1960, p. 35). Alfred Sohn-Rethel pointed out that the separation of material labor and mental labor is an alienation phenomenon, "existing throughout the entire history of class society and economic exploitation" (Sohn-Rethel, 1989). The separation of material labor and mental labor makes the laborers engaged in material labor alienated into objects, and their mental labor is not required nor can it be reflected in the entire production process, while the laborers who are completely engaged in mental labor are an extreme phenomenon in the division of labor, and mental labor in a pure sense does not exist. The widespread application of artificial intelligence technology has enabled laborers who are limited to repetitive and mechanical labor positions to be released and engage in multi-disciplinary undertakings and work that integrate material labor and mental labor. They are not only producers of products, but also creators and applicators of technology. Moreover, unlike previous technological means, artificial intelligence is able to mimic human thinking, and it can possess the attributes of human labor, becoming an integration of labor tools and laborers (Ouyang, 2019). Therefore, in the process of using artificial intelligence technology for labor, it is also a vivid embodiment of the integration of mental labor into the process of material labor.

On the other hand, artificial intelligence causes changes in the structure of the division of labor. In the history of human social development, the division of labor is a model of "specialized"

work generated to pursue the improvement of productivity and production efficiency, allowing different people to specialize in fixed jobs in order to achieve the goal of improving social production efficiency. This model reached its peak in the industrial era. With the emergence of the factory system and the formation of refined division of labor, the improvement of production efficiency and the free and comprehensive development of people came into conflict. Laborers were bound in a complex social division of labor system, engaging in mechanized work. Artificial intelligence has caused changes in the structure of the entire social division of labor. With the progress of science and technology and the deepening of human practice, the complexity and diversity of problems arising in various fields have also deepened. In order to meet the multi-faceted needs of human social development, laborers in different fields need to break barriers and form a multi-field, all-round division of labor structure. Moreover, the development of artificial intelligence technology has greatly strengthened the connection between the labor process and laborers in different labor fields, subverting the linear connection of materials and information in the past production process, and turning to a more complex and diverse network connection structure. The objects, content and forms of labor all present more diversified characteristics. Each labor process and each laborer are connected to different labor processes and laborers, and even to labor processes and laborers in different production fields.

4.2 Skill Transformation of the Division of Labor

Looking at the history of each improvement in technological means, they will all cause significant changes in labor positions and changes in labor market demand. While replacing some old occupations, technological means will also give rise to new labor occupations. Artificial intelligence is fully entering and reshaping production and living spaces, stimulating the transformation of the labor market structure by rewarding with greatly improved production efficiency, putting forward new requirements for the employment market. General Secretary Xi Jinping also specifically mentioned in his congratulatory letter to the World Artificial Intelligence Conference in 2018 that we should properly handle the new issues raised by artificial intelligence in terms of employment.

The impact of artificial intelligence on the labor market is mainly reflected in the decline of old occupations and the emergence of new occupations. Artificial intelligence can use tool carriers to exert efficiency far exceeding manual labor in the production process, and its impact is particularly evident in the manufacturing industry. Industrial robots and automated production lines and other intelligent technologies have profoundly changed the production structure of the manufacturing industry. A large number of repetitive and mechanical jobs have been replaced by intelligent technologies, causing the disappearance of a large number of labor positions established since the industrial production model, and Acemoglu and Restrepo studied the impact of industrial robots on the US labor market. The study shows that for every additional robot per



thousand workers, the employment population ratio decreases by 0.2%, and it is inferred that the number of manufacturing jobs lost due to the use of industrial robots from 1990-2007 reached 360,000-670,000 (Acemoglu & Restrepo, 2020). Moreover, with the rapid development of artificial intelligence technology, the number of labor positions that it can replace will inevitably increase, and it will inevitably affect other industries. The rise of intelligent technologies such as Xiaomi's unmanned processing plants and Radish Run's unmanned vehicles has proven that more and more labor fields and labor positions are being replaced by artificial intelligence. However, while causing the decline of some old occupations, artificial intelligence will also cause increased demand in certain labor fields, such as personal care, housekeeping, catering services and other service industries. Automation and artificial intelligence technology currently still cannot replace their main work, and "manual" tasks require people to complete them with physical flexibility or communication (Qiu, Wu, & Yang, 2019). Moreover, the increase in the utilization rate of artificial intelligence will give rise to a large number of labor positions related to artificial intelligence, and the research and development, production, and use of intelligent technology all require a large number of laborers.

To further analyze, the reshaping of the labor market by artificial intelligence is essentially reflected in the characteristics of human-machine cooperation in positions and the bipolarization of employment. On the one hand, changes in the social division of labor model have led to changes in labor position demand, and the labor market in the era of artificial intelligence has put forward a demand for the skill transformation of laborers. While the production and life processes of society are fully entered by artificial intelligence, there is also an urgent need for highly skilled compound talents to participate in the production process. In the mechanized division of labor model in the past, each laborer needed to master fewer production skills, and the subdivision of labor made it only necessary for laborers to meet relatively simple production skills, relying on factory integration to realize the production process. Labor positions in the era of artificial intelligence not only require laborers to have high-level production skills, but also skills that can be well integrated with intelligent technology. On the other hand, the demand for medium-skilled positions has greatly decreased, while the demand for low-skilled and high-skilled labor positions has increased, and the entire labor market shows a trend of bipolarization. Intelligent and automated technologies have largely replaced general procedural jobs, and labor has been squeezed to both ends of the labor market. The number of low-skilled labor positions that require manual completion and high-level compound skilled labor positions closely related to artificial intelligence technology is showing an increasing trend. Laborers need to adapt to the transformation of new work skills in order to better adapt to the labor transformation in the era of artificial intelligence.

5. INTERPRETATION OF MARX'S THOUGHT ON THE DIVISION OF LABOR

Historically, the addition of new disruptive technologies has led to the creation of new production structures, improving the efficiency of utilizing resources to meet new and old social needs (Pérez, 2009). With the rapid development of artificial intelligence technology, the mode and structure of the division of labor have undergone profound changes, forming a new production structure to meet the productivity and production efficiency of social needs in the intelligent era. Marx's thought on the division of labor dialectically divided the division of labor under the capitalist private ownership system into two, proposing the duality of the division of labor in the industrial era, and this contradiction is gradually being resolved under the development of artificial intelligence technology.

The division of labor is a specialized working model formed to pursue the improvement of productivity and production efficiency, and this model reached its peak in the industrial era. Marx affirmed its role in improving social production efficiency, but also pointed out that the division of labor model restricted the free and comprehensive development of human beings. As the core technology of the fourth industrial revolution, artificial intelligence breaks through the traditional division of labor model, releasing laborers from repetitive and mechanical work, enabling laborers to turn to other more creative and comprehensive work fields, while breaking professional barriers and promoting cooperation between industries. This change not only promotes the transformation of laborers from single-skilled workers to multi-skilled compound talents, but also greatly promotes industrial coordination and innovation. The barriers between different labor fields are broken, and with the use of information transmission and production connection of artificial intelligence technology, the professional limitations of the labor field itself are greatly broken through, promoting industrial intersection and coordinated development, greatly improving social productivity and production efficiency.

Furthermore, the restriction of the division of labor model in the industrial era proposed by Marx on the free and comprehensive development of human beings is also being broken, and artificial intelligence provides a realistic path for "eliminating the division of labor". Marx considered the social division of labor from the perspective of private ownership, and clearly pointed out that the division of labor is an important factor in the development of productivity, but the division of labor itself is not the direct cause of the formation of private ownership (Huadeya & Zhu, 2019). On the contrary, it is the division of labor under the factory system of private ownership that is the root cause of human alienation. In the era of artificial intelligence, whether it is its replacement of mechanical labor, or the creation of demand for compound labor, or the increase in free disposable time through greatly improving productivity, they all play a positive role in the free and comprehensive development of human beings. The form of human labor has shifted from forced labor in the past to interest-based labor, from repetitive labor to creative labor, from



specialized labor to concurrent labor, from survival labor to experiential labor, from material labor to non-material labor, and labor and leisure are gradually moving from opposition to unity (Gao, 2022).

6. CONCLUSION

The development of social productivity and production efficiency is inevitably complementary to the free and comprehensive development of people. As a working model for pursuing productivity and production efficiency in the development of human history, the division of labor will inevitably evolve with the development of science and technology. What Marx proposed to abolish the division of labor is in fact to abolish the old division of labor and replace it with a new division of labor, promoting the free and comprehensive development of human beings on the basis of developing productivity. Indeed, the application of artificial intelligence technology provides a realistic path for this, containing huge potential for promoting the reform of the social division of labor and promoting human development. However, the benign development of cutting-edge technologies must be accompanied by strict institutional norms and correct value guidance. Although artificial intelligence technology has the technical potential to promote the free and comprehensive development of the entire human society, we still need to be vigilant about the problems in its development process and avoid it becoming another tool for human alienation.

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MULTIMODAL LEARNING MODULE DEVISED TO REVITALIZE EDUCATIONAL LEARNING MATERIAL IN INSTITUTIONAL CORRECTIONS

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ABSTRACT

This study aims to improve criminology education by using a multimodal approach that works well in both online and traditional classroom settings, especially in Institutional Corrections. Recognizing the need to update teaching methods to meet the changing needs of students and modern educational environments, the research investigates how effective a multimodal learning module is in revitalizing educational materials for institutional corrections, using a quantitative research method. The study assesses the views of criminology educators, administrators, and students from three schools offering criminology programs on this new learning module. The focus is on using diverse instructional strategies that address different learning styles and preferences, suitable for both online and traditional formats. The research presents a new learning module created for blended learning during the pandemic, aimed at making learning more engaging for students and educators. This module seeks to improve criminology education across different settings, expand educational access, and stay current with educational trends. By providing future criminologists with the necessary skills and knowledge, this study aims to raise the quality and effectiveness of criminology educational materials. In summary, the research highlights the importance of innovative teaching strategies and shows how a well-designed multimodal approach can connect traditional and modern learning environments, leading to a more inclusive and effective educational experience.

KEYWORDS: Criminology education, Online learning, Multimodal approach, Institutional Corrections, Blended learning, Educational materials, Instructional strategies, Learning styles, Innovative teaching, Educational trends.

INTRODUCTION

The inception of this research is rooted in the researcher's strong dedication to enhancing the accessibility of educational resources in both online and traditional modalities. Amidst the challenges posed by the pandemic in 2020, the researcher embarked on a meticulous endeavor to develop an innovative learning module tailored specifically to address the pressing need for revitalized educational materials in this subject. It's noteworthy that the researcher has already authored a module that has been utilized during the pandemic, spanning both online and modular modalities. The researcher underwent a modified e-learning training based on the Digital Educator Program designed by the E-Learning Consultants. The researcher has been assigned to craft a module for the Correctional Administration Area, which holds significant importance within the six clusters assessed in the Board Licensure Examination for Criminologists, constituting 10% of the total examination percentage. According to the Professional Regulation Commission Table of Specification, Institutional Corrections is allocated 4% of the examination weight. This allocation emphasizes the legal and practical relevance of Institutional Corrections within the examination framework, highlighting its critical role in assessing candidates' proficiency in managing correctional institutions and implementing effective rehabilitative strategies.

Revitalizing learning materials for the subject of Correctional Administration, especially in Institutional Corrections, is essential due to its significant influence on shaping the competencies of future criminologists and practitioners in the field. With its substantial weightage of 4% in the Board Licensure Examination in Criminology, the quality of educational resources directly affects candidates' preparation and performance in the examination. The development of a multimodal learning module represents a forward-thinking approach to revitalizing educational materials within Institutional Corrections. By harnessing innovative teaching methodologies and leveraging modern technologies, the module seeks to elevate learning experiences, foster deeper engagement, and ultimately drive positive outcomes in education and practice.

Who would have predicted what happened 4 years ago due to the global Covid-19 pandemic? Suddenly and somewhat unexpectedly, online learning and teaching has now entered the mainstream of education at the same time as many educational institutions from K-12, higher education, professional and vocational training, and continuing education were forced into the digital world of online teaching and learning without being well prepared for it (Bozkurt & Sharma, 2020; Zawacki-Richter,



2021). In response to emergency remote teaching situations, educators frequently found themselves compelled to transpose their traditional face-to-face teaching approaches directly into the online environment. The abrupt shift to remote teaching, driven by unforeseen circumstances, often left little room for a nuanced adaptation of instructional methods. As a result, teachers primarily relied on the familiarity of their in-person teaching strategies, attempting to seamlessly transplant these methods into the online realm. This rapid transition, while a pragmatic response to the urgent need for continuity in education, presented challenges. The shift to emergency remote teaching demanded a swift adjustment, and educators, under time constraints, utilized their existing pedagogical knowledge without the luxury of a comprehensive redesign for the online format. Consequently, this direct transfer of teaching methods from face-to-face to online instruction reflects the exigency of the situation, underscoring the need for more deliberate strategies and support systems in times of unforeseen educational disruptions.

In terms of alignment, this study correlates with the 17 United Nations Sustainable Development Goals, specifically Goal No. 4, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. In a similar vein, digital education, an approach to the use of digital tools and technologies in the process of teaching and learning, has been introduced at all levels of education. Educational institutions now offer digital learning opportunities of some kind that are flexible in terms of time and space to reach new target groups (e.g., international students or working adults) or to better serve the needs of their conventional student body in a blended or technology-enhanced format. The revitalization of educational learning materials, with an emphasis on module content enrichment and engagement, aligns with the shared goals of international institutions to foster a new generation of criminology professionals equipped to address the challenges of an interconnected world.

OBJECTIVES OF THE STUDY

The findings of the study hold the promise of not only benefiting individual students and educators but also contributing valuable insights to the broader educational community and influencing practices at institutional and policy levels. This research is poised to play an important role in shaping the future landscape of criminology education, fostering adaptability, inclusivity, and excellence in the field. With this the study is focused on answering the following objectives: 1. What is the respondents' assessment on the level of Effectiveness of Multimodal Learning Module in Institutional Corrections in terms of: Objective of the Course, Content as Prescribed by CHED, Learning Strategies, Interactive Session Activities, Assessment Method, Evaluation Method, References 2. Is there a significant difference in the assessment on the level of Effectiveness of Multimodal Learning Module in Institutional Corrections among criminology educators and students in terms of the aforementioned variables? 3. What is the level of seriousness of the challenges confronted by the respondents in utilizing the Multimodal Learning Module in

Institutional Corrections? 4. Is there a significant relationship between the level of effectiveness and the level of seriousness of the challenges encountered by the respondents? 5. Based on the findings of the study, what revitalized Multimodal Learning Module in Institutional Corrections may be proposed?

METHODOLOGY

In this study, a developmental research approach was employed to investigate and enhance the implementation of a multimodal learning module in revitalizing educational learning materials for institutional corrections. Unlike descriptive research, which primarily focuses on providing a detailed snapshot of existing conditions, developmental research is oriented towards creating and refining interventions to address specific issues. The developmental approach involves iterative cycles of planning, implementation, observation, and refinement, aimed at improving the effectiveness of educational strategies over time.

The research employed a quantitative research method to systematically investigate the effectiveness of the multimodal learning module in revitalizing educational learning material for institutional corrections. This design facilitated the collection and analysis of numerical data, allowing for a comprehensive examination of the impact of the multimodal strategy on learning outcomes, student satisfaction, and faculty competency. Quantitative methodologies enabled the study to quantify trends, identify patterns, and draw statistically significant conclusions, providing a robust foundation for evidence-based decision-making in the field of criminology education. The use of a quantitative research design ensured a rigorous and systematic exploration of the key variables, aligning with the study's objective to offer a comprehensive overview of the effectiveness of multimodal approaches in the educational context.

This study involved selecting criminology educators, administrators, and students from three distinct schools that offer criminology programs. The target student population for each participating school depended on its total number of students, while for criminology educators and administrators, the researcher opted to select the entire population of criminology educators currently handling Institutional Corrections and the college administrators. To ensure balanced representation and reflect the diversity within each institution, while maintaining equitable distribution across the entire student population, a multistage sampling technique was employed.

To determine the overall sample size based on the combined total population of students from the three participating schools, the researcher utilized the Yamane formula. The Yamane formula is a statistical tool used to calculate sample size, taking into account the size of the overall population and the desired level of precision. By applying this formula, the researcher calculated an appropriate sample size of 340 students from a total population of 1,763, ensuring that the sample adequately represented the entire population while minimizing sampling error. The total population



for criminology educators and administrators was twenty (20), resulting in a grand total of 360 respondents.

By employing a stratified sampling technique, the researcher determined sample sizes of 285 students from PCCR, 35 students from UDM, and 20 students from EAC. To select the respondents who would complete the sample sizes of 285, 35, and 20 students, the researcher used a simple random sampling technique from the list of responses submitted through the Google Form research instrument. This study aimed to gather a representative sample of criminology educators, administrators, and students from each participating school, facilitating comprehensive and reliable data collection for analysis and interpretation.

In the forthcoming stages of data collection, meticulous adherence to a structured process was paramount following the validation and reliability of instruments. Initially, the researcher diligently obtained the requisite permissions from relevant authorities to facilitate the data gathering. Once approved, the researcher shared the links to the Multimodal Module in Institutional Corrections that was to be assessed and evaluated, and the Google Form where the respondents answered the survey questions based on their assessment and evaluation. The researcher thoroughly guided the participating schools on how the respondents would fill out the form. The form consisted of confidentiality and voluntary participation, to be agreed upon by the respondent before proceeding to answer the questions. Upon completion of the form, respondents expeditiously submitted their answers to the researcher, ensuring the prompt capture of responses. Subsequently, the researcher embarked on a systematic journey of tallying, tabulating, and computing the amassed data, seeking continuous guidance from her team, including a statistician, adviser, and professor. This collaborative approach guaranteed precision and adherence to statistical principles throughout the analytical phase. The denouement of this process witnessed the presentation of data in both textual and tabular formats, with deliberate consideration given to the sub-problems and hypotheses intrinsic to the research study. This anticipatory methodology assured a high-caliber and insightful analysis, poised to contribute significantly to the ever-evolving landscape of criminology education.

TREATMENT OF THE DATA

The researcher established tables to create a comprehensive frequency distribution, facilitating the interpretation and presentation of data. Subsequently, the Percentage Method was applied to outline the demographic profile of the respondents, encompassing factors such as sex, civil status, and age of the respondents.

$$P = \frac{F}{N} \times 100$$

N

P - Percentage

F - Frequency

N - Number of Respondents

100 - Constant

The study employed the Average Weighted Means as a measure of central tendency to gauge the collective sentiment regarding the issues under discussion.

$$WM = \frac{\sum fx}{N}$$

N

WM - Weighted mean

$\sum$ - Summation sign

f - Frequency obtained from the number of responses

x - Weight of each value of the scale

N - Total number of respondents

For Subproblem 1.

To determine what is the respondents' assessment on the level of Effectiveness of Multimodal Learning Module in Institutional Corrections in terms of Objective of the Course, Content as Prescribed by CHED, Learning Strategies, Interactive Session Activities, Assessment Method, Evaluation Method and References, the 4-point Likert Scale was used.

Descriptive Interpretation	Rating	Point Scale
Very Effective (VE) The learning module is highly effective, providing comprehensive coverage of all necessary content and facilitating significant learning outcomes.	4	3.26 - 4.00
Effective(E) The learning module is generally effective, providing a clear understanding of the material and engaging them sufficiently.	3	2.51 - 3.25
Somewhat Effective (SE) The learning module is moderately effective, with some positive aspects but there are rooms for improvement that need to be addressed	2	1.76 - 2.50
Not Effective (NE) The learning module is ineffective, failing to meet their expectations or needs, and resulting in confusion or disengagement.	1	1.00 -1.75



For Subproblem 2.

To determine the significance of the differences, the researcher first examined the assumptions of the independent t-test, which are normality and homogeneity of variance, using the Shapiro-Wilk Test and Levene's Test, respectively. Additionally, Cohen's d was used to measure the effect size of the differences. Based on the results, the researcher applied different t-tests as appropriate, including the Independent Student T-Test, Welch's T-Test, and the Mann-Whitney U Test.

The formula for the Independent Student T-Test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where:

- $\bar{X}_1$ and $\bar{X}_2$ are the sample means of the two groups.
- s_1^2 and s_2^2 are the sample variances of the two groups.
- n_1 and n_2 are the sample sizes of the two groups.

The degrees of freedom for the test are calculated using:

$$df = n_1 + n_2 - 2$$

This formula is used to determine if there is a significant difference between the means of two independent groups.

The formula for Welch's T-Test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where:

- $\bar{X}_1$ and $\bar{X}_2$ are the sample means of the two groups.
- s_1^2 and s_2^2 are the sample variances of the two groups.
- n_1 and n_2 are the sample sizes of the two groups.

The degrees of freedom for Welch's T-Test are calculated using:

$$df = \frac{\left(\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} \right)^2}{\frac{\left(\frac{s_1^2}{n_1} \right)^2}{n_1 - 1} + \frac{\left(\frac{s_2^2}{n_2} \right)^2}{n_2 - 1}}$$



Welch's T-Test is particularly useful when the assumption of equal variances (homogeneity of variances) is violated, providing a more reliable result under these conditions.

The test statistic for the Mann Whitney U Test is denoted by U

$$U_1 = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

$$U_2 = n_1 n_2 + \frac{n_2(n_2+1)}{2} - R_2$$

and where R1 = sum of the ranks for group 1 and R2 = sum of the ranks for group 2.

For Subproblem 3

To determine what is the level of seriousness of the challenges confronted by the respondents in utilizing the Multimodal Learning in Institutional Corrections the 4-point Likert Scale was used.

Descriptive Interpretation	Rating	Point Scale
Very Serious (VS) <i>Challenges severely hinder the utilization of the Multimodal Learning Module in education, making it difficult to use effectively.</i>	4	3.26 - 4.00
Serious (S) <i>Challenges significantly affect the utilization of the Multimodal Learning Module, requiring effort to address and potentially hindering effectiveness.</i>	3	2.51 - 3.25
Somewhat Serious (SS) <i>Challenges are noticeable but manageable, with moderate impact on the utilization of the Multimodal Learning Module.</i>	2	1.76 - 2.50
Not Serious (NS) <i>Challenges encountered are minimal or insignificant, having little impact on the utilization of the Multimodal Learning Module.</i>	1	1.00 -1.75

For Subproblem 4.

The researcher conducted a normality test on the distribution prior to performing statistical analysis to determine the appropriate statistical tool for computing the correlation coefficient and analyzing the relationship between the level of effectiveness and the level of seriousness of the challenges encountered by respondents in using the Multimodal Learning Module in Institutional Corrections. The Shapiro-Wilk Normality Test was performed, and the results indicated that Kendall's tau-b was the appropriate statistical method to test the significant relationship between the level of effectiveness and the level of seriousness of the challenges encountered by respondents.

Kendall's tau-b is a non-parametric measure of correlation that accounts for ties. The formula for Kendall's tau-b is:

$$\tau_b = \frac{n_c - n_d}{\sqrt{(n_0 - n_1)(n_0 - n_2)}}$$

Where:

- n_c is the number of concordant pairs.
- n_d is the number of discordant pairs.
- $n_0 = \frac{n(n-1)}{2}$ is the total number of pairs.
- n_1 is the number of ties only in the first variable.
- n_2 is the number of ties only in the second variable.



Kendall's tau-b takes into account the presence of ties in the data, making it a more accurate measure of correlation in such cases compared to Kendall's tau-a, which does not consider ties.

ETHICAL CONSIDERATIONS

Ethical considerations constituted a cornerstone in the design and execution of this research study, emphasizing the paramount importance of ensuring the well-being, rights, and privacy of all participants involved. Striving for utmost transparency, in the research instrument, respondents were prompted by an introduction outlining the study's purpose, procedures, and potential implications. It also included an assurance to respondents of their right to withdraw from the study at any point without repercussion. Confidentiality was rigorously maintained, with all data anonymized to safeguard the identities of respondents. Additionally, voluntary participation and contact information of the researcher were provided in case of any questions or clarification related to the survey questions. The researcher secured an agreement from each participant before proceeding to answer the questions. This commitment to ethical principles not only upheld the integrity of the research but also underscored the researchers' dedication to conducting a study that respected the dignity and autonomy of its participants.

RESULTS AND DISCUSSION

The results of the present study were summarized as follows:

1. On the respondents' assessment on the level of Effectiveness of Multimodal Learning Module in Institutional Corrections:

1.1 In Terms of Objective of the Course

Both students and criminology educators/administrators rated the effectiveness of the Multimodal Learning Module in Institutional Corrections highly, with mean ratings of 3.55 and 3.77 respectively, both corresponding to "Very Effective." Students found the course objectives well-defined and specific, aiding their learning, while educators/administrators highlighted the objectives' role in effectively guiding learning outcomes. However, both groups expressed concerns about the achievability of the objectives within the given timeframe, suggesting a need for adjustments to the course structure to better align with time constraints.

Constructivist theory suggests that learning is an active process where learners construct knowledge by interacting with their environment and integrating new information with their existing understanding. When aiming to meet course objectives within a specific timeframe, constructivism emphasizes the need for learners to have enough time to engage deeply with the content, reflect on it, and integrate it into their existing understanding. While the objectives of the module are clear and effective, there is still a need to adjust the pacing to ensure that these objectives can realistically be achieved within the provided time frame. This adjustment would better align the course structure with the practical realities of the learning process, thereby enhancing overall effectiveness.

1.2 In Terms of Contents as Prescribed by the CHED

The analysis of student and criminology educators/administrators' responses reveals a positive perception of the Multimodal Learning Module in Institutional Corrections, particularly regarding content prescribed by the Commission on Higher Education (CHED). Both groups rated the module as "Very Effective" overall, with mean ratings of 3.59 for students and 3.76 for educators/administrators. Students emphasized the interplay of Criminology, Penology, and Law as most effective, while educators/administrators favored Types and Classifications of Sentencing. However, lower ratings were given to Philosophy and Theories of Penology and the Impact of Legal Frameworks by students, and Organization of Detention Facilities by educators/administrators, indicating potential areas for improvement or differing priorities within the module.

This could be supported by Pragmatism theory, which emphasizes the practical relevance of the prescribed content ensures engagement by demonstrating how theoretical knowledge can be applied to real-world situations in criminology practice.

1.3 In Terms of Learning Strategies

Both groups rated the module highly overall, with mean ratings of 3.61 for students and 3.79 for educators/administrators regarding the effectiveness of the Multimodal Learning Module in Institutional Corrections, specifically in terms of Learning Strategies. Students favored the incorporation of teacher's notes and discussions as the most effective strategy, while educators/administrators valued a range of strategies, including active participation through higher-order thinking questions, varied practice quizzes and assessments, integration of lesson synthesis, and teacher's notes and discussions. However, differing perspectives were observed on certain strategies, indicating potential areas for adjustment to better cater to student needs and enhance overall effectiveness.

According to Constructivism theory, learners are viewed as active participants who construct knowledge through meaningful engagement with content. In the context of this study, Constructivism focuses on the importance of providing opportunities for students to actively interact with higher-order thinking questions. This engagement enables them to connect new information with their prior knowledge, thereby facilitating deeper understanding and knowledge construction.

To foster engagement with higher-order thinking questions, structured small-group discussions, debates, or group activities could be incorporated into the module. This approach encourages students to articulate their thoughts, challenge each other's perspectives, and collaboratively construct deeper understandings of the topic.

1.4 In Terms of Interactive Session Activities

The responses from students and criminology educators/administrators regarding the effectiveness of the



Multimodal Learning Module in Institutional Corrections, particularly focusing on Interactive Session Activities, indicate a positive overall perception. Both groups rated the module highly, with mean ratings of 3.59 for students and 3.77 for educators/administrators. Students emphasized the alignment of interactive activities with overall learning objectives as most effective, while educators valued the variety of activities offered by the module. Interestingly, multimedia elements received lower ratings from both groups, suggesting potential challenges in their effective integration and utilization. Although the module has been perceived as effective, there is still a need to address issues such as technological difficulties and ensuring alignment with learning objectives, which could enhance the effectiveness of multimedia elements within the module.

In the study of, Mores et al. (2020) they have identified significant underutilization of instructional technology among faculty at Mindoro State College of Agriculture and Technology. They found that technologies for class preparation, student-directed activities, instructional delivery, documenting activities, and professional communication were rarely used, typically once or twice annually. To address these challenges and promote greater technology adoption, the researchers recommended establishing an Instructional Technology Unit, organizing professional development activities, instilling core values for technology use, ensuring equitable technology access, standardizing systems and procedures, implementing maintenance programs, and expanding internet connectivity. These measures aim to foster a supportive environment and infrastructure conducive to integrating instructional technologies more effectively into teaching practices.

1.5 In Terms of Assessment Method

The responses from students and criminology educators/administrators regarding the effectiveness of the Multimodal Learning Module in Institutional Corrections, focusing on assessment methods, indicate a positive overall perception. Both groups rated the module highly, with mean ratings of 3.58 for students and 3.76 for educators/administrators interpreted as "Very Effective". Students valued assessments with clear instructions and criteria, formative and summative assessments, and adherence to ethical standards. Criminology educators/administrators prioritized assessments' alignment with module content to ensure validity. However, students rated the diversity of assessment types lower, suggesting a preference for more straightforward methods, while educators identified room for improvement in making assessments more practical and adaptable to diverse learner needs.

These ratings, though still within the "Very Effective" range, suggest educators perceive a need for improvement in making assessments more practical and adaptable aligning with Pragmatism theory's emphasis on practicality and adaptability in educational practices.

1.6 In Terms of Evaluation Method

The feedback from students and criminology educators/administrators regarding the effectiveness of the Multimodal Learning Module in Institutional Corrections, particularly focusing on evaluation methods, is largely positive. Both groups provided high ratings, averaging 3.60 for students and 3.77 for educators/administrators interpreted as "Very Effective". Students emphasized the importance of equal opportunity in evaluations and real-world relevance, highlighting fairness and practicality. Meanwhile, educators prioritized alignment with instructional objectives to ensure validity and reflect learning outcomes. Despite the positive assessment, students expressed lower ratings for the timing and frequency of evaluations, indicating a preference for fewer but more comprehensive assessments. Educators noted the need for improvement in diversifying assessment types and ensuring equity and alignment with teaching strategies. Given these results, there is still a need to reevaluate the evaluation methods within the module, compressing them into fewer but more comprehensive assessments. Classroom evaluation frequencies and techniques should reflect pedagogy and measure the application of new knowledge and course objectives in identifying learning outcomes. (Lawton et al., 2012)

1.7 In Terms of References

Feedback from students and criminology educators/administrators regarding the effectiveness of the Multimodal Learning Module in Institutional Corrections, specifically focusing on references, is generally positive. Both groups rated the module highly, with mean ratings of 3.61 for students and 3.72 for educators/administrators interpreted as "Very Effective". Students emphasized the importance of credibility, authority, and ethical use of references, while educators appreciated the variety of reference formats to cater to different learning preferences. However, both groups found the selection of up-to-date references reflecting the latest research or developments in the field to have the lowest mean ratings. While the module references may be perceived as effective, there is still a need to improve the currency and relevance of these references. According to Gudi et al. (2021), the act of looking up a reference for verification serves as a checkpoint of appropriateness, where referencing acts as a fact-checking tool.

2. Test of significant difference in the assessment on the level of Effectiveness of Multimodal Learning Module in Institutional Corrections among criminology educators and students in terms of the aforementioned variables.

2.1 In Terms of Objective of the Course

The results of the Students' t-test revealed a significant and large difference between students' and criminology educators/administrators' assessments of the effectiveness of the multimodal learning module in institutional corrections, specifically regarding the course objectives. The t-value of -6.54, with a p-value <0.001, indicates a highly statistically significant difference, with students' mean rating being lower than that of the educators/administrators. Additionally, Cohen's d of -2.93



represents a very large effect size, highlighting a substantial difference between the responses of the two groups. This suggests a notable divergence in perception, underscoring the need for further investigation and potential modifications to better align the module with students' needs. Addressing this disparity is crucial for improving the module's overall effectiveness in achieving its course objectives.

2.2 In Terms of Contents as Prescribed by the CHED

The results of Welch's t-test demonstrate a significant and large difference between students' and criminology educators/administrators' assessments of the effectiveness of the multimodal learning module in institutional corrections, specifically regarding the contents as prescribed by CHED. With a t-value of -8.22 and a p-value <0.001 , students' mean rating is notably lower than that of the faculty, indicating a statistically significant difference. Cohen's d of -3.68 further underscores the substantial practical disparity between the two groups' responses. These findings highlight the need for potential revisions or further investigation into the module's content to address student concerns and enhance their learning experience.

2.3 In Terms of Learning Strategies

The results of the Mann-Whitney U test illustrate a notable difference in rankings between students' responses (Mdn = 3.61) and educators/administrators' responses (Mdn = 3.80) regarding the effectiveness of the multimodal learning module in institutional corrections in terms of learning strategies. With $U = 0.500$ and $p < 0.001$, alongside a large effect size ($r = 0.990$), the likelihood of the observed differences occurring by chance is very low. Consequently, the null hypothesis of no significant difference between the two groups is rejected. This highlights a significant gap in the assessment of effectiveness between criminology educators/administrators and students, emphasizing the necessity for further investigation and potential adjustments to align learning strategies with student expectations and improve their educational experience.

2.4 In Terms of Interactive Session Activities

The outcomes of the Mann-Whitney U test reveal a significant discrepancy in rankings between students' (Median = 3.58) and educators/administrators' (Median = 3.80) feedback, with $U=4.00$ and $p<0.001$, indicating a noteworthy difference in the perception of the effectiveness of interactive session activities. Furthermore, the considerable effect size of $r=0.920$ highlights a substantial perception gap between students and educators/administrators concerning the efficacy of these activities. These statistical findings underscore the necessity for a review and potential revision of interactive session activities to better meet the expectations and experiences of participants, particularly from the students' standpoint.

2.5 In Terms of Assessment Method

The Student's t-test reveals a highly significant p-value of <0.001 , indicating a statistically significant difference in mean ratings between students and educators/administrators responses. With an

effect size of -5.03, considerably exceeding the threshold for a large effect size, this disparity suggests underlying issues warranting attention. There may be factors valued by educators/administrators not fully understood by students, or certain aspects of the assessment method disproportionately affecting students. This substantial variance underscores the necessity for further research to identify underlying reasons and implement necessary modifications to enhance the effectiveness of Multimodal Learning in Institutional Corrections, particularly regarding Assessment Methods, from the students' perspective.

2.6 In Terms of Evaluation Method

The analysis reveals a significant difference between students' and educators/administrators' assessments of the Effectiveness of Multimodal Learning Module in Institutional Corrections in Terms of Evaluation Methods, with a p-value of <0.001 . This indicates that the discrepancy in scores is not attributable to chance. With an effect size of -4.79, well above the threshold for a large effect according to Cohen's d, students rate the module significantly lower than educators/administrators. These findings highlight a substantial disparity in perceptions, emphasizing the need to address underlying issues to enhance the module's effectiveness, particularly in evaluation methods, and align it more closely with student expectations.

2.7 In Terms of References

The Mann-Whitney U test results show a significant difference in assessments between students and educators/administrators regarding the effectiveness of the Multimodal Learning Module in Institutional Corrections in terms of References, with a p-value of <0.001 . This implies a notable discrepancy in their perceptions. Additionally, the effect size of $r=1.00$ underscores a substantial perception gap between the two groups, highlighting the need for further examination and potential adjustments to better align the module with both students' and educators' expectations and experiences.

3. On the level of seriousness of the challenges confronted by the respondents in utilizing the Multimodal Learning Module in Institutional Corrections;

The level of seriousness of challenges faced in utilizing the Multimodal Learning Module in Institutional Corrections varied between students and criminology educators/administrators, with an overall mean rating of 2.51, interpreted as "Serious" (challenges significantly affect the utilization of the Multimodal Learning Module, requiring effort to address and potentially hindering effectiveness). Technical difficulties emerged as a significant concern for both groups, rated "Serious" by students and "Somewhat Serious" by educators/administrators, suggesting potential disruptions to learning due to issues like software glitches or connectivity problems. According to Bukoye (2019), students should have the opportunity to interact with words, symbols, and ideas in ways that enhance their reading, listening, problem-solving, viewing, thinking, speaking, and writing skills, along with their ability to utilize media and technology. Conversely, the "Lack of motivation or interest in the topic"



received lower ratings from both groups, indicating a need for further engagement strategies to sustain student interest. Addressing technical challenges and enhancing content appeal are crucial for improving the overall effectiveness of the module and achieving educational objectives. According to the study by Danao (2016), the teacher's role is to keep the student interested while providing a supportive atmosphere that is reassuring to students.

4. Test of significant relationship between the level of effectiveness and the level of seriousness of the challenges encountered by the respondents.

Kendall's tau-b analysis reveals a weak but statistically significant positive relationship ($\tau_b = 0.170$, $p = 0.001$) between the effectiveness of multimodal learning and the seriousness of challenges encountered. This suggests that as the effectiveness of learning increases, so does the level of challenges, albeit slightly. Technical issues, time constraints, and student engagement are identified as potential challenges. Addressing these challenges is important to maximize the benefits of multimodal learning and optimize its effectiveness in institutional corrections.

CONCLUSION

Based on the findings of the study, the following statements were concluded:

1. The evaluation of the Multimodal Learning Module in Institutional Corrections reveals that it is generally effective but also highlights significant areas for improvement. Both students and criminology educators/administrators rated the module highly across various dimensions such as course objectives, CHED-prescribed content, learning strategies, interactive session activities, assessment methods, evaluation methods, and references, with most mean ratings indicating "Very Effective." The clear course objectives and effective content integration were particularly praised. However, technical difficulties, such as software glitches and connectivity issues, were identified as major concerns, and there were needs for more realistic pacing and comprehensive assessments. Constructivist and Pragmatism theories emphasized the need for deep engagement with content and practical relevance, suggesting that addressing these technical challenges and adjusting the course structure could enhance the module's overall effectiveness and achieve its educational objectives.
2. The assessment of the Multimodal Learning Module in Institutional Corrections reveals significant differences in perceptions between criminology educators and students across various variables. Notable disparities exist in the evaluation of course objectives, content prescribed by CHED, learning strategies, interactive session activities, assessment methods, evaluation methods, and references. Educators consistently evaluated the module more positively than students, who rated it lower across the board. Various statistical analyses, such as t-tests, Mann-Whitney U tests, and effect size calculations, confirm that

these differences are significant and not random. These results emphasize the importance of addressing these gaps and aligning the module more closely with student expectations to improve its overall effectiveness. Further exploration and potential adjustments are required to bridge these perception gaps and ensure that the Multimodal Learning Module in Institutional Corrections adequately caters to both students and educators. This study suggests that while traditional educational tools remain valuable, they need to be redesigned to meet the demands of changing times, particularly in the context of online education. (Cempron, 2021)

3. The level of seriousness of challenges faced in utilizing the Multimodal Learning Module in Institutional Corrections was generally perceived as significant, with an overall mean rating of 2.51, indicating that the challenges were considered "Serious" (challenges significantly affect the utilization of the Multimodal Learning Module, requiring effort to address and potentially hindering effectiveness). Both students and criminology educators/administrators identified technical difficulties as a major concern, highlighting issues such as software glitches and connectivity problems that could disrupt the learning process. In the study titled "Factors Influencing Adoption of Instructional Technologies by Faculty Members of the Mindoro State College of Agriculture and Technology," Mores et al. (2020) found that addressing these challenges requires the establishment of an Instructional Technology Unit within the College, programming professional development activities, ensuring equitable access to technology, standardizing technology systems and procedures, and developing maintenance and repair programs for equipment.
4. The analysis reveals a statistically significant but weak positive relationship between the effectiveness of multimodal learning and the seriousness of challenges encountered. This indicates that as learning effectiveness increases, so do the challenges, albeit slightly. This unexpected trend suggests that implementing multimodal learning is complex. Key challenges include technical issues, time constraints, and student engagement. Addressing these is important to maximizing the benefits of multimodal learning in institutional corrections. By improving technical infrastructure, managing time efficiently, and enhancing engagement strategies, institutions can optimize educational outcomes. Technological advances and the evolving needs of learners call for new approaches to multimodal teaching. However, society's reliance on technology introduces expanded forms of meaning-making. (Bouchey et al., 2021) The weak positive relationship suggests that while more effective multimodal learning is beneficial, it may also present more serious challenges.



RECOMMENDATIONS

1. Given the concerns raised by both students and educators about achieving course objectives within the given timeframe, it is essential to review and potentially adjust the module's structure and pacing. Providing additional resources or extending deadlines where appropriate can help alleviate time-related pressures.
2. To address students' preference for clear instructions and educators' prioritization of alignment with module content, consider providing detailed assessment guidelines while ensuring that assessments accurately reflect learning objectives. Additionally, diversifying assessment types to include both formative and summative assessments can provide a more comprehensive evaluation of student learning such as rubrics.
3. To gain deeper insights into the effectiveness of the Multimodal Learning Module in Institutional Corrections, the researcher suggests conducting further studies with a larger sample of educators and students to explore various dimensions and aspects of the module's effectiveness. This recommendation arises from the observed significant differences in the assessments provided by different groups of respondents.
4. Addressing technical difficulties and enhancing multimedia elements within interactive session activities are essential. Providing technical support resources, ensuring compatibility across devices and platforms, and incorporating user-friendly multimedia tools can enhance the effectiveness and seamless integration of interactive activities.
5. To better align with student needs and preferences, consider revising or supplementing module content to ensure it remains engaging and relevant. Incorporating real-life case studies, or contemporary examples can enhance student interest and understanding.
6. To strengthen the effectiveness of multimodal learning while minimizing challenges, prioritize ongoing support and training for educators and students alike to enhance proficiency and adaptability in using diverse learning tools and platforms.
7. For practical implications, the researcher suggests integrating a standardized multimodal module for lawmakers and educators to enhance educational effectiveness and cater to diverse learning styles and preferences. This approach is particularly important during interruptions like emergencies or pandemics, ensuring seamless learning continuity through flexible online and offline modalities.

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Examination	Administering Body
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RESEARCHES COMPLETED, IF ANY		
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SEMINARS/ TRAININGS/ SCHOOLINGS COMPLETED	
Training/Schooling	Organizer/Date
Digital Educator Training 2021	May 2021-Digital Educators Academy

I hereby certify that the above information is true and correct to the best of my knowledge.

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OVERVIEW ON SUPPOSITORY

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ABSTRACT

Suppositories are vital pharmaceutical dosage forms that play an important role in drug delivery. These dosage forms are placed into body cavities, primarily the rectum and vagina, to transmit medication into systemic circulation. Patients who cannot take medications orally due to conditions such as nausea, vomiting, or neurological disorders can utilize suppositories. Suppositories are preferred over other dosage forms because they are available in various shapes and sizes. They represent a highly practical method of administering medication.

It can be made using different bases such as cocoa butter, PEG, and fat as primary components. The preparation can be done through methods like hand rolling, compression molding, fusion molding, and automatic molding techniques. Evaluation tests include checks for weight uniformity, content uniformity, melting point determination, general appearance assessment, active ingredient assay, liquefaction time measurement, breaking strength test, disintegration test, and dissolution test[1].

KEYWORDS: suppository, Avoid first pass metabolism, Evaluation tests, Rectal drug delivery system.

AIM AND OBJECTIVE

Aim: To avoid first pass metabolism and to increase bioavailability by using suppository.

Objective

1. Provide Local Treatment: Suppositories can target localized conditions, such as hemorrhoids or infections.
2. Facilitate Systemic Absorption: They allow for the quick absorption of medications into the bloodstream, useful for patients who cannot take oral medications due to nausea, vomiting, or difficulty swallowing.
3. Bypass First-Pass Metabolism: Suppositories can reduce the breakdown of drugs by the liver, enhancing bioavailability and effectiveness.
4. Enhance Patient Comfort: They offer an alternative for individuals who may have trouble with oral medications or prefer not to take them.
5. Ensure Controlled Release: Suppositories can provide a sustained release of medication, improving therapeutic outcomes.
6. Pain Relief: They can administer analgesics for localized pain or systemic relief[2].

INTRODUCTION

Suppositories are solid, medicated forms of various shapes and sizes designed for placement into body cavities. The medication is mixed with a base such as cocoa butter, which melts at body temperature, or with substances like glycerinated gelatin or PEG, which gradually dissolves in the mucous secretions. Suppositories are particularly effective for delivering local effects, but they can also be utilized for systemic effects or to provide mechanical assistance in emptying the lower bowel. The optimal base for suppositories should be non-toxic, non-irritating, inert, compatible with drugs, and easily shaped through compression or molding. Additionally, it needs to dissolve or break down in the presence of mucus secretions or melt at body temperature to facilitate the release of the medication. Similar to ointment bases, the formulation of the suppository base significantly influences both the rate and extent of medication releases[3]. Suppositories are solid formulations that each hold one or more active compounds and are designed for rectal use. Typically, they are meant to be administered as a single dose for either local effect or the systemic uptake of the active compounds.

Suppositories can be Categorized into Different Types

- Rectal suppositories
- Vaginal suppositories.
- Urethral suppositories.



- Nasal suppositories.
- Ear cones.

METHODS FOR MAKING SUPPOSITORIES

SUPPOSITORY MOULD

- The moulds utilized for making suppositories are made from various metals and come in different shapes.
- They typically consist of two or more sections that are connected with a screw mechanism.
- Within the moulds, the cavities are crafted from materials such as aluminum, brass, stainless steel, and plastics.
- Moulds come in different sizes, including capacities of 1, 2, 4, and 8 grams.

CALIBRATION OF THE MOULD

- The initial step involves creating moulded suppositories using only the base material.
- The suppositories are then combined, and the average weight is documented.
- To find the volume of the mould, the suppositories are melted in a calibrated beaker, and the volume of the liquid is measured.

LUBRICANTS UTILIZED IN MOULDS

- Cocoa butter and glycerogelatin bases are necessary for the lubrication of moulds.
- This helps to avoid the sticking of bases to the mould cavity walls.
- It also facilitates the easy extraction of suppositories from the moulds. The lubricants create a barrier between the mould cavity walls and the suppository base.
- This prevents the bases from adhering to the moulds.
- The characteristics of the lubricants should differ from those of the bases.

METHOD AND EVALUATION

Methods

1. Molding
2. Compression
3. Heat molding/fusion
4. Hand rolling & shaping
5. Automatic machine molding

1. **Molding:** Molds are typically constructed from stainless aluminum, brass, or plastic. Individual molds made of plastic are utilized to create a single suppository. Temporary molds can be made by pressing aluminum foil around an object shaped like the desired suppository, then removing the object and pouring in the melted base.
2. **Compression:** The compression apparatus includes a cylinder, a piston, molds, and a metallic stop plate at the base. The mass is placed inside the cylinder, and pressure is applied. Once the prepared mass is put into

the mold, it is stored in a cool area. After it has cooled, the suppositories are taken out from the compression machine and packed.

3. **Heat molding/fusion:** This technique involves melting the base and mixing in the drugs and additives. The following steps are carried out:
 - Melting the base,
 - Mixing in the drug and additives,
 - Pouring into cooled molds,
 - Gathering the suppositories.
4. **Hand rolling & shaping:** This is the most basic and traditional method for making a suppository, done manually. It involves rolling a well-mixed suppository base that contains the active ingredient into a cylindrical rod of the desired length and diameter, or into vaginal balls of specific weight. To stop the mixture from sticking, starch or talc powder is sprinkled on the rolling surface and on the hands. The rod-shaped suppositories are then cut into sections to create a pointed end.
5. **Automatic machine molding:** This machine can produce as many as 10,000 suppositories each hour. The production rate of an automatic molding machine surpasses that of hand molding. In this process, there is no risk of air entrapment or contamination in the suppositories. There are two primary types of machines utilized for this process[4].
 - Rotary machine
 - Linear machine

Evaluation Test

1. Weight uniformity
2. Content uniformity assessment
3. Melting point determination
4. General appearance assessment
5. Active content assay
6. Liquefaction duration
7. Breaking assessment
8. Disintegration assessment
9. Dissolution test[5].

Quality Control Tests for prepared suppositories

Quality control procedures for produced suppositories encompass identification, assay, and occasionally, water content, residual solvents, dissolution, and content uniformity. The quality control of suppositories addresses both their physical and chemical properties. Physical evaluations involve visual inspections (appearance), weight uniformity, texture uniformity, melting point, liquefaction duration, melting and solidification times, and mechanical strength assessments. Chemical analyses involve measuring the potency and conducting dissolution tests. The texture uniformity can be evaluated by cutting a suppository both longitudinally and laterally, ensuring that each segment has a smooth, consistent surface.



1. Visual assessment

The color and texture of the suppository are relatively straightforward to evaluate. It is crucial to confirm that there are no signs of fissures, pitting, fat blooming, exudation, sedimentation, or movement of the active ingredients. Suppositories can be examined as whole units and also by dividing them lengthwise.

- **Surface quality:** The following conditions can be assessed: shine, dullness, discoloration, cracks, dark spots, axial cavities, ruptures, air pockets, holes, etc.

- **Color:** It is important to check the color's intensity, quality, and uniformity.

- **Odour:** Assessing the odour helps avoid mix-ups when similar suppositories are being handled. A change in odour may also indicate that degradation is occurring.

- **Weight:** Suppositories can be weighed using an automatic scale to obtain the combined weight of ten suppositories. If the weight is found to be insufficient, it is advisable to confirm that the mould is adequately filled and check for any cavities or air bubbles due to improper mechanical agitation or an unwanted surfactant.

- **Melting range:** Typically, the melting point should be at or below 37°C. A non-destructive method is necessary because melting the suppository prior to measurement could cause its components to enter a metastable state. The melting test involves placing a suppository on a water surface maintained at 37°C and observing its complete melting within a few minutes.

2. Determining Melting Point

Utilizing a U-shaped capillary tube for melting point determination offers accurate data for monitoring excipients and ensuring consistency during the production of suppositories that include soluble active ingredients. Alternatively, melting point can be established by inserting a thin wire into the mold containing the melted suppository prior to its solidification. The suppository is then suspended in water using the wire, and the temperature of the water is gradually increased (approximately 1°C every 2-3 minutes) until the suppository detaches from the wire; this indicates the melting point of the suppository.

3. Time for Liquefaction

Liquefaction testing gives insight into how a suppository behaves when exposed to a maximum temperature of 37°C. The common method utilized is Krowczynski's method, which assesses the duration needed for a suppository to melt under pressures akin to those experienced in the rectum (approximately 30 g) while in the presence of water at 37°C. Typically, the liquefaction process should not exceed around 30 minutes. For Krowczynski's method, the required apparatus comprises a glass tube with a diameter of 16 mm and a length of 235 mm, featuring a reduction of approximately 6 mm at the base. One end is sealed with a small rubber stopper to make cleaning easier after use. A thermometer that is graduated in tenths of a degree Celsius is employed. The tube and thermometer are secured in position by a large rubber stopper fitted with two openings in a 225 mm long, 50 mm diameter tube, which is equipped with side tubes to allow water at 37°C from a constant-temperature water bath to flow.

4. Test for Suppository Penetration

A test for suppository penetration can be utilized to find the temperature at which the suppository becomes sufficiently malleable for a penetrating rod to pass through its entirety. The temperature is set to the level required for testing, typically around 37°C. The suppository is positioned within the apparatus, and the penetration rod is carefully aligned. The apparatus containing both the suppository and the penetration rod is immersed in a temperature-controlled bath, and a stopwatch is initiated. The time is noted once the penetration rod descends through the softened suppository.

5. Mechanical strength/crushing test

Suppositories can be categorized as either brittle or elastic by assessing the mechanical force necessary to break them. Trials have been conducted to gauge the mass (in kilograms) that a suppository can withstand without fracturing. An acceptable outcome is a pressure of at least 1.8–2 kg. The suppository is set in an upright position, and increasingly heavier weights are placed on it until it deforms and fails. The objective of this test is to ensure that the suppository can be safely transported under typical conditions and effectively administered to the patient [6].

Advantages

- Enhanced drug stability against enzymes: Various proteolytic and other enzymes present in the gastrointestinal tract (GIT) cause degradation of drugs, which hinders effective absorption when taken orally.
- Some reduction of hepatic first pass: The rectum has a rich blood supply from multiple rectal arteries and is drained by at least three veins, allowing for drug absorption via this venous system. It is commonly noted that the inferior vena cava is linked to the middle rectal veins, facilitating a bypass of the portal system and the first pass metabolism in the liver.
- Increased drug capacity: Suppositories can accommodate two to three times higher doses of drugs, depending on the quantity of other excipients needed in their formulation.
- Lymphatic absorption: Numerous studies have indicated that some drugs, following rectal administration, may enter the lymphatic system, bypassing first pass metabolism.
- Stable and consistent environment: In contrast to oral administration, the rectal route offers a much more stable environment for drug absorption.
- Suitable for individuals with swallowing difficulties: Rectal administration can be particularly beneficial for children and elderly individuals who have trouble swallowing.

Disadvantages

- Patient acceptance and adherence: In various cultures, there is a hesitation to accept rectal administration as a form of medication, leading pharmaceutical companies to generally avoid producing rectal dosage forms unless absolutely necessary.
- Risk of non-specific drug loss: Absorption may be ineffective due to early expulsion from the rectum and the potential interaction between the drug or excipient and fecal matter, which could hinder absorption and reduce efficacy.



c) Limited rectal liquid volume: The small volume (3 ml) may restrict the dissolution of drugs, particularly those with low solubility in water.

d) Formulation challenges: Factors like melting, liquefaction, solubility, and particle size can create difficulties in the formulation process.

e) Higher costs: Rectal dosage forms tend to be more expensive when compared to tablets.

Applications of Suppository

Suppositories are primarily utilized for patients who are unconscious, children, and elderly individuals. They serve both systemic and local purposes when other routes of administration are not feasible. A variety of medications have been formulated into suppository form, as illustrated below.

Different types of medications included in suppositories are categorized as follows:

1. Antibiotics: such as Ceftizoxime and Amoxicillin, using Thiobroma and Cefmetazole.
2. Analgesics: including Indomethacin and Paracetamol, utilizing PEG and glycerol-gelatin, as well as Etodolac and Ketoprofen, also with PEG.
3. Bronchodilators/anti-asthmatics: like Theophylline and Terbutaline[7].

DISCUSSION

The use of drug treatments for various ano-rectal issues dates back to ancient civilizations. Today, both modern and traditional medications are increasingly utilized in proctology. The rectal route, which can provide local or systemic effects, presents an intriguing option for treatment. Two significant benefits of these therapeutic methods are their ease of use and quick absorption. Suppositories represent a highly practical form of medication delivery. The drug is mixed into a base that either melts at body temperature or dissolves in mucus secretions, resulting in localized or systemic effects. Amid efforts to contain costs and the potential dangers of AIDS and other communicable diseases, administering drugs via suppositories is emerging as an effective and practical solution. It is widely acknowledged that the market for over-the-counter suppository therapies is substantial. In proctology, suppositories are primarily employed to achieve local effects, such as providing anti-inflammatory and anesthetic relief for hemorrhoidal issues. Treatments for hemorrhoids typically include astringents, local anesthetics, veno-tonic agents, and components aimed at reducing inflammation.

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TUBERCULOSIS AND IT'S TREATMENT

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ABSTRACT

Tuberculosis (TB) remains a global health concern, affecting millions worldwide. This comprehensive review aims to provide an update on the current understanding of TB diagnosis, treatment, and management strategies. We discuss the epidemiology, pathogenesis, and clinical manifestations of TB, as well as recent advances in diagnostic techniques, including molecular tests and imaging modalities.

The review focuses on current treatment regimens, including first-line and second-line therapies, and explores emerging treatment strategies, such as host-directed therapies and vaccine development. We also examine the challenges posed by drug-resistant TB, co-infections (e.g., HIV), and comorbidities.

Furthermore, we highlight novel research directions, including nanotechnology-based drug delivery systems and immunotherapies. Our review underscores the need for continued research, improved healthcare infrastructure, and enhanced global collaboration to combat this ancient yet persistent disease.

INTRODUCTION

- Tuberculosis is an infectious disease that has more than 1 million cases per year in India. It is caused by bacteria *Mycobacterium tuberculosis*. Generally, it affects the pulmonary portion of the human body, but it can also affect other parts if it remains untreated. In 1990, the World Health Organisation (WHO) concluded on the Global Burden of disease that TB is the seventh most fatal disease in the world¹
- In 2001, the WHO estimated that 32% of the world population has been suffering from TB. Every year, nearly 8 million people suffer from TB and 2 million patients die because of improper treatment. Tuberculosis is a potentially serious infectious disease that mainly affects our lungs. Bacteria that causes tuberculosis are spread from one person to another through tiny droplets released into the air via coughs and sneezes²

HISTORY OF TB

- "Just sleep and eat nutritious foods" was advice given to TB patients in the 1800s infected with *Mycobacterium tuberculosis*, an airborne disease that usually affects the pulmonary region leading to severe coughing, fever and chest pains³ German microbiologist
- Robert Koch reported that *Mycobacterium tuberculosis* cause TB in humans in 1882⁴ This revolutionary finding along with the later invention of tuberculin in 1890⁵ With the starting of AIDS,
- TB is transmitted from person to person through airborne droplets when an individual with active TB disease coughs, sneezes, or speaks. However, not everyone infected with *M. tuberculosis* becomes ill. Most individuals with a healthy immune response are able to control the infection,

leading to a latent TB state in which the bacteria remain dormant.

- This latent infection can later progress to active TB disease, particularly in individuals with weakened immune systems, such as those with HIV, diabetes, or malnutrition.

WHO Global Tuberculosis Report (2017). concluded 4,90,000 cases of multidrug resistant (MDR) TB, with only 50% survival in patients who received recommended WHO treatment regimens. The report explains the need for new therapies and access for elaborating TB treatment delivery and management conclusion. Many challenges remain in developing optimal tuberculosis treatment regimens. Combined attempts by stakeholders, advocates and researchers are promoting further development of shorter courses, more potent, safer and better tolerated treatment regimens. Only three novel drugs are in an advanced phase of evolution for MDR TB and nine are being analysed in phase 1 and 2 trials. Rather than new drugs, a bunch of immune based therapy and host directed therapies are under expansion aimed to wipe off *Mycobacterium tuberculosis* infection, reducing the duration of treatment, preventing permanent lung damage and avoiding the development of new drug resistance.

The International Union against TB is one of the most ancient unions dealing with health issues related to TB. It was first registered in 1902 and started its publication *Tuberculosis* in French, German and English. Its main aim to provide care to an innumerable number of TB patients in poorer countries through the National Tuberculosis Program (NTP). This program is aimed at providing the skill to the person responsible for the task at the Basic



LITERATURE OF SURVEY

1. Mehraj J. et al., 2016 confirmed that there is a need to focus on extrapulmonary TB among female populations to document the epidemiology in South Asia, and examine the risk factors, diagnostic modalities, treatment strategies, and outcomes to carry out preventive and controls⁴⁰.
2. Cataldi A.A. et al., 2017 illustrated that there is a number of drugs that can cure TB but his article focuses on azole compounds and All azole compounds tested in his study showed inhibitory activity against MDR M. tuberculosis clinical isolates bacterias⁴¹.
3. Wakamatsu K. et al., 2018 concluded in his article that Prognostic factors in patients with miliary tuberculosis that in patients with miliary tuberculosis, old age, ARDS (Acute Respiratory Distress Syndrome) and consciousness disturbance were factors associated with poor prognosis⁴²⁻⁴⁵.
4. Aziza R. et al., 2015 ascertained that it raised the harmful impact of smoking on the clinical and radiological presentation of tuberculosis, and late bacteriological negativity, therefore we need to integrate smoking control into the national TB control program to completely obsolete TB³⁹.
5. Mehraj J. et al., 2016 confirmed that there is a need to focus on extrapulmonary TB among female populations to document the epidemiology in South Asia, and examine the risk factors, diagnostic modalities, treatment strategies, and outcomes to carry out preventive and controls⁴⁰.
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AIM: To the aim of this review is to provide a comprehensive analysis of tuberculosis (TB), focusing on its epidemiology, pathogenesis, diagnostic methods, and treatment strategies.

OBJECTIVE

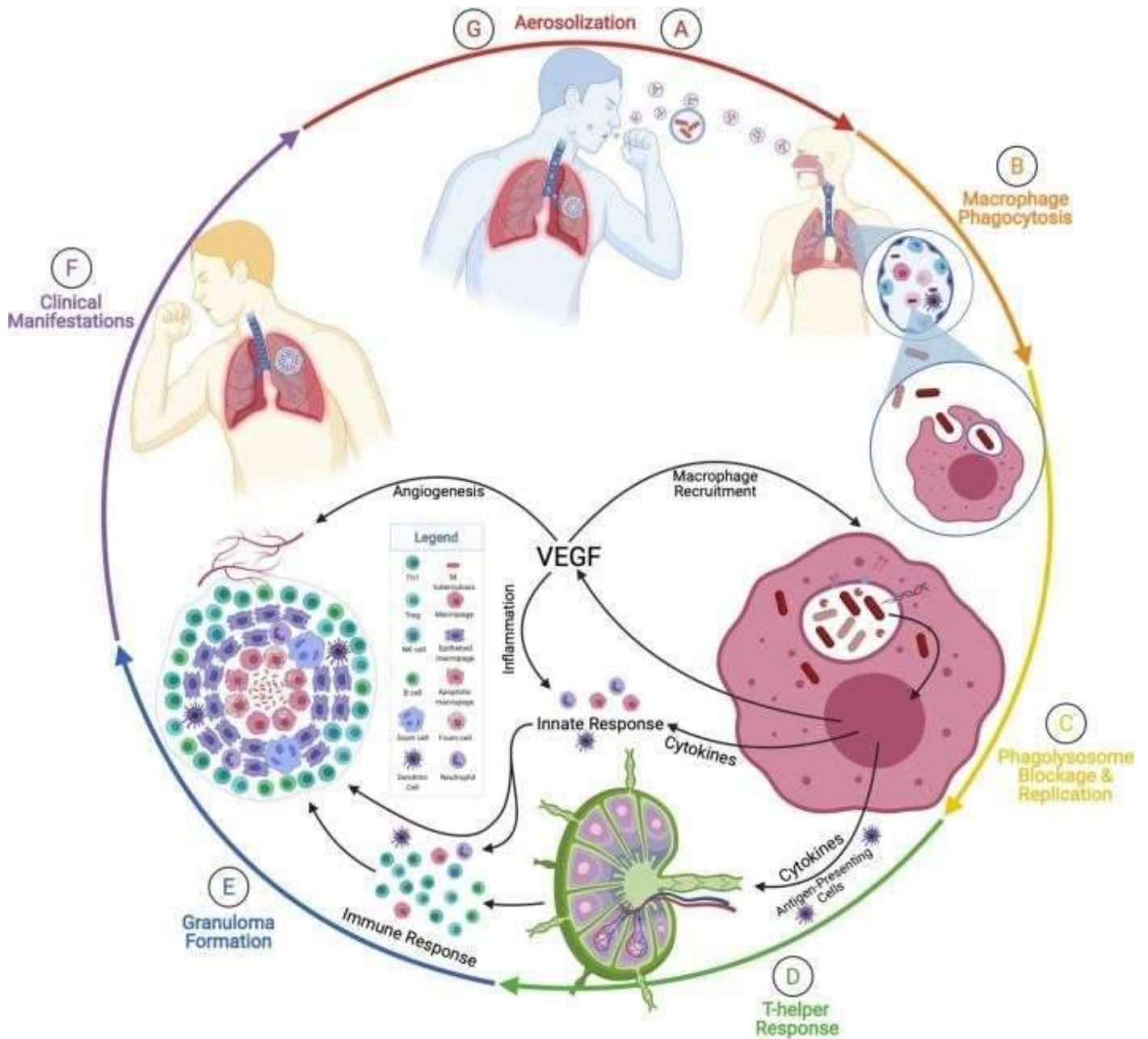
1. To summarize the epidemiology and pathogenesis of tuberculosis.
2. To evaluate the effectiveness of current diagnostic methods (traditional and molecular).
3. To review first-line and second-line treatment regimens for tuberculosis.
4. To discuss emerging treatment strategies, including host-directed therapies and vaccine development.
5. To examine the challenges posed by drug-resistant tuberculosis, co-infections (e.g., HIV), and comorbidities.
6. To identify novel research directions in tuberculosis treatment, including nanotechnology and immunotherapies.
7. To highlight the need for improved healthcare infrastructure and global collaboration in combating tuberculosis.

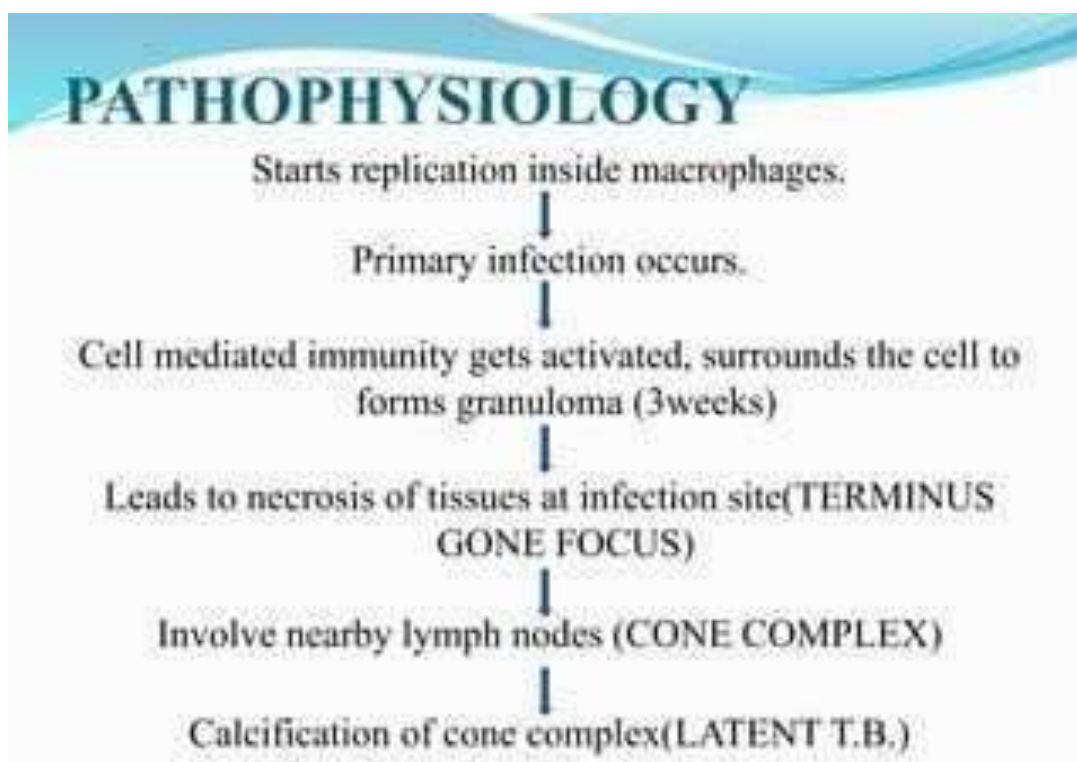
PATHOPHYSIOLOGY

Pathogenesis of Tuberculosis

Tuberculosis (TB) pathogenesis involves the complex interaction between *Mycobacterium tuberculosis* (Mtb) and the human immune system. The process is multifaceted, starting from the moment the bacterium enters the body, leading to either latent or active disease. Understanding the stages of TB pathogenesis is essential for developing better treatments and vaccines. Below is a detailed breakdown of TB pathogenesis:

Inhalation: TB spreads primarily through airborne droplets. When a person with active pulmonary TB coughs, sneezes, or talks, tiny droplets containing *M. tuberculosis* are released into the air. These droplets can be inhaled by others, leading to infection.





Diagnosis of Tuberculosis

Effective diagnosis of tuberculosis (TB) is crucial for timely treatment and controlling the spread of the disease. The diagnostic process varies based on the type of TB (pulmonary or extrapulmonary), the patient's immune status, and the resources available. Advances in diagnostic tools have improved detection rates, but challenges remain, particularly in resource-limited settings. Below is a review of key TB diagnostic methods, their advantages, limitations, and emerging technologies.

1. Clinical Symptoms and Patient History

Symptom Assessment: The initial diagnosis of TB is often based on clinical symptoms, particularly in high-burden areas. Common symptoms of pulmonary TB include Persistent cough lasting more than two weeks, Hemoptysis (coughing up blood), Chest pain, Unexplained weight loss, Night sweats, and fever.

2. Molecular Diagnostic Tools

GeneXpert MTB/RIF: A rapid molecular test that detects *M. tuberculosis* DNA and rifampicin resistance in less than two hours using PCR (polymerase chain reaction) technology. It is particularly useful in diagnosing TB in people living with HIV and in detecting multidrug-resistant TB (MDR-TB).

Advantages: High sensitivity and specificity, rapid diagnosis, can detect drug resistance.

Limitations: Expensive, requires electricity and maintenance, and may not be widely available in all regions.

Tests that detect specific gene mutations associated with resistance to first- and second-line TB drugs, particularly rifampicin and isoniazid.

Advantages: Can detect drug-resistant TB quickly, enabling appropriate treatment initiation. **Limitations:** Requires specialized laboratory facilities and trained personnel.

3. Immunological Tests

Tuberculin Skin Test (TST) or Mantoux Test: This test involves injecting purified protein derivative (PPD) into the skin and measuring the immune response (induration) after 48–72 hours. A positive result indicates TB exposure but cannot distinguish between latent and active TB.

Advantages: Widely available and inexpensive.

Limitations: False positives may occur due to prior BCG vaccination or exposure to non-tuberculous mycobacteria. It cannot differentiate between latent and active TB.

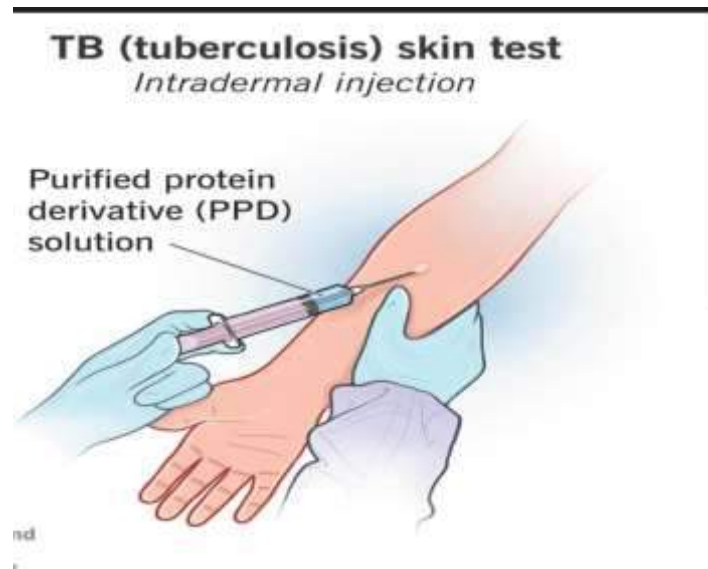
Mantoux Test: A healthcare provider injects a small amount of tuberculin, a substance derived from dead TB bacteria, into your forearm. A small blister appears at the injection site, which disappears within 20 minutes. A small lump may form over the next few days, and you'll need to return to your healthcare provider to have it assessed. The size of the lump indicates whether you have a latent TB infection.

4. Extrapulmonary TB Diagnosis

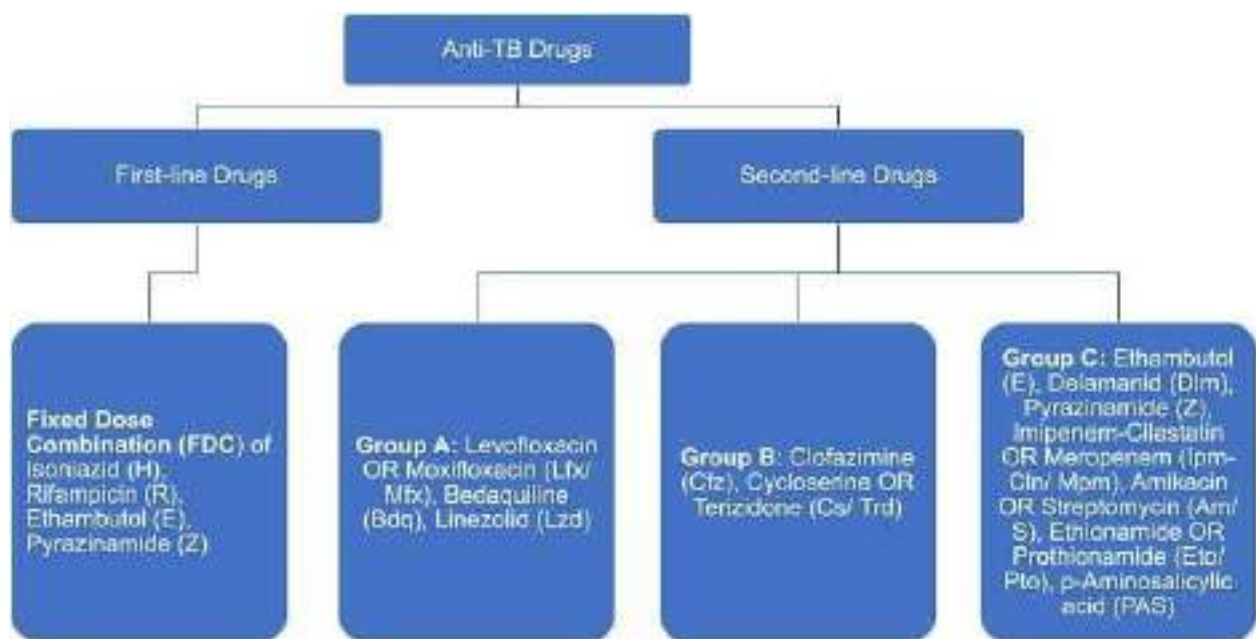
Biopsy and Histopathology: For diagnosing TB in non-pulmonary sites (e.g., lymph nodes, pleura), a biopsy of the affected tissue followed by histopathological examination can reveal the presence of caseating granulomas, a hallmark of TB.

Advantages: Direct visualization of TB-related pathology.

Limitations: Invasive procedures may be required to obtain samples



Classification of TB



TUBERCULOSIS INFECTION CONTROL¹⁵

Administrative controls

- Assign responsibility for TB infection control. Conduct TB risk assessment.
- Develop and institute a written TB infection control plan.
- Ensure proper cleaning and sterilization or disinfection of potentially contaminated equipment. Train and educate health-care workers.
- Test and evaluate health-care workers for TB infection and disease. Apply epidemiology based prevention principles.

Environmental controls

- Reduce the concentration of infectious droplet nuclei through the following technologies: Ventilation technologies, including natural ventilation.
- Mechanical ventilation.
- High-efficiency particulate air filtration (HEPA). Ultraviolet germicidal irradiation (UVGI)

Respiratory protection control

- Implement respiratory protection program.
- Train health care workers on respiratory system



protection.

- Educate patients on respiratory hygiene and the importance of covering their cough. Wear mask for protection

Challenges

- HIV Co-infection: Diagnosing TB in people with HIV is particularly challenging due to atypical clinical presentations and lower bacterial loads in sputum, which reduce the sensitivity of smear microscopy.
- Extrapulmonary TB: Diagnosing TB in organs other than the lungs often requires more invasive procedures and advanced imaging techniques, which are not always available in resource-poor settings.
- Resource Limitations: Many high-burden countries lack access to advanced molecular diagnostics and rely on slower, less sensitive methods like smear microscopy, leading to delays in diagnosis and treatment.

CONCLUSIONS

The treatment of tuberculosis, particularly drug-resistant forms, remains a major global health challenge. While the standard 6-month regimen for drug-sensitive TB is highly effective, the increasing prevalence of MDR-TB and XDR-TB calls for new drugs and shorter, less toxic regimens. Improving treatment adherence, monitoring for drug resistance, and ensuring equitable access to new treatments and diagnostics are essential to achieving global TB control. Advances in drug development, patient-centered treatment strategies, and vaccine research hold promise for future TB management.

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A REVIEW ON EXTRACTION AND EVALUATION OF NEEM EXTRACT AS ANTIBACTERIAL ACTIVITY

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IN SUMMARY

The leaves of neem (*Azadirachta indica*) are a rich source of bioactive substances that may have medicinal uses. The purpose of this study was to assess the phytochemical, antibacterial, and antioxidant qualities of the extracted components while also optimizing the extraction conditions for neem leaves. Neem leaf extracts were obtained using a variety of extraction techniques, including solvent extraction, ultrasound-assisted extraction, and microwave-assisted extraction. Chromatographic (HPLC, GC-MS) and spectroscopic (FTIR, NMR) methods were used to characterize the extracts. The DPPH and FRAP assays were used to measure the antioxidant activity, while bacterial and fungus strains were used to test the antimicrobial activity. According to the findings, the greatest quantity of bioactive substances, such as azadirachtin, nimbin, and nimbidin, were extracted using ultrasonic assistance. The extracts' strong antioxidant and antibacterial properties suggested that they might find use in medicine and cosmetics. This research leads to more research and development of neem-based products by offering insightful information about the extraction and assessment of neem leaf bioactive chemicals.

KEYWORDS: phytochemical analysis, bioactive substances, extraction, antimicrobial, antioxidant, neem, and *Azadirachta indica*.

OVERVIEW

The neem tree, or *Azadirachta Indica*, is an evergreen that grows in most tropical nations and belongs to the mahogany family Meliaceae. It is one of two species in the genus *Azadirachta*, which grows in tropical and semi-tropical climates and is indigenous to India and Burma. It grows quickly, reaching an average height of 15-20 meters but infrequently reaching 35-40 meters. Although it is evergreen, it may lose most or almost all of its leaves during periods of extreme dryness. The Indian tradition has acknowledged neem's health benefits for thousands of years. Every portion of the neem tree has some therapeutic value [15, 16]. Since ancient times, practically every part of the tree has been used as a household insecticide and to treat a variety of human illnesses.

Fruits and roots have been used to treat intestinal helminthiasis, leprosy, and childhood respiratory conditions. Additionally, the bark extract is used as an astringent and tonic, and it helps with skin conditions, fever, thirst, nausea, and vomiting.

The plant *Azadirachta Indica* has a number of therapeutic qualities, such as antimicrobial, antioxidant, anti-inflammatory, anti-cancerous, hepatoprotective, anti-malarial, anti-diabetic, anti-HIV/AIDS, and antihypertensive effects. The phytochemicals found in the plant are what cause these actions. Therefore, the purpose of this work was to assess the phytochemicals and antibacterial activity of leaf extracts from *A. indica* against *E. coli*.

The evergreen tree neem is grown throughout the subcontinent. Since ancient times, every part of the tree has been utilized as a home cure and traditional medicine to treat a variety of human illnesses. Homeopathic, Ayurvedic, and Unani medicine have all made substantial use of neem. The neem tree is known as "Sarbaroganibarini" in Sanskrit, where its name, Arishtha, means "reliever of sickness." In Pakistan, the tree is still considered a village dispensary.

Azadirachta indica, also known as the neem tree, is an evergreen that belongs to the Meliaceae family of mahogany and is found in many tropical countries, including in India and Burma. It grows quickly and usually reaches a height of 15 to 20 meters, yet under the right circumstances it might reach 35 to 40 meters. Neem trees are typically evergreen, however during extreme droughts, they may lose the majority of their leaves.

Uses of Medicine

Indian customs have acknowledged neem's therapeutic benefits for thousands of years. The tree's leaves, bark, fruits, and roots have all been used to cure a variety of illnesses, including leprosy, intestinal infections, and childhood respiratory conditions. Neem bark is well-known for its astringent and tonic qualities, which aid in the treatment of skin conditions, nausea, and fever. Antifungal and Antibacterial Properties



Neem's antibacterial and antifungal properties are especially well-known. Numerous bacterial strains, such as *Staphylococcus* and *Escherichia coli*, as well as fungal strains, such as *Candida* and *Aspergillus*, have been demonstrated to be susceptible to the effects of neem oil. The plant's rich phytochemical composition is responsible for these qualities.

Conventional and Contemporary Applications

Traditional medical systems like Ayurveda and Unani have made substantial use of neem. Its name, "Arishtha," in Sanskrit, means "reliever of sickness," emphasizing its significance as a natural cure. Because of its many health benefits, neem is frequently considered a community dispensary in rural communities.

A LEAF

In traditional medicine, especially in Ayurveda, neem leaves have long been used. Because of their antibacterial, antiviral, antifungal, and anti-inflammatory qualities, they are well-known for their many health advantages.

Numerous bioactive substances found in neem (*Azadirachta indica*) leaves contribute to its therapeutic qualities. Neem

leaves contain a number of important chemical components, including:

CHEMICAL CONSTITUENT

1. **Azadirachtin:** This highly bioactive triterpenoid is the most well-known and researched component of neem. Numerous insecticidal, anti-inflammatory, and antibacterial properties of neem are attributed to it.
2. **Nimbin:** A substance with demonstrated analgesic (pain-relieving) and anti-inflammatory qualities. It is among the active ingredients that give neem its therapeutic properties.
3. The limonoid chemical nimbolide possesses noteworthy anti-inflammatory, antioxidant, and anticancer characteristics. It might function as a possible chemopreventive agent and aid in reducing inflammation.
4. **Quercetin:** A potent antioxidant flavonoid that may aid in lowering the body's oxidative stress. Additionally, quercetin has anti-inflammatory and antihistamine properties.



Fig.No.01) Leaf of Neem



Plant Profile: Neem Tree

- Biological source: *Azadirachta indica*
- Family : Meliaceae
- Kingdom : Plantae
- Division : Magnoliophyta
- Order : Sapindales
- Genus : Azadirachta
- Species : Indica

Fig.No.O2 Plant Profile

THE MATERIAL AND THE METHOD

1. Fresh or dried neem leaves
2. Solvents: [Water, Hexane, Acetone, Methanol, and Ethanol]
3. Equipment: [Soxhlet apparatus, rotary evaporator, centrifuge, microwave oven, ultrasonic bath, filter paper]
4. Chemicals: [HPLC-grade solvents for Azadirachtin, Nimbin, and Nimbidin standards]

METHODS

The extraction of solvents

1. Add 500ml of solvent to 100g of neem leaves.
2. Stir at room temperature for two to three hours.
3. Gather the extract after filtering it.
4. Use a rotary evaporator to evaporate the solvent.

Extraction Assisted by Ultrasound (UAE)

1. Add 500ml of solvent to 100g of neem leaves.
2. Sonicate at 40°C for 30 minutes.
3. Centrifuge for 10 minutes at 3000 rpm.
4. Gather the extract and let the solvent evaporate.

Extraction Assisted by Microwaves (MAE)

1. Add 500ml of solvent to 100g of neem leaves.
2. Use a 500W microwave for 30 seconds.
3. Centrifuge for 10 minutes at 3000 rpm.
4. Gather the extract and let the solvent evaporate.

Soxhlet Extraction

1. Add 500ml of solvent to 100g of neem leaves.
2. Use the Soxhlet device to extract for two to three hours.
3. Use a rotary evaporator to evaporate the solvent.

Chromatographic Evaluation

- High-Performance Liquid Chromatography, or HPLC
2. Gas Chromatography-Mass Spectrometry, or GC-MS.

3. Thin Layer Chromatography, or TLC

CONCLUSION

A. indica extracts showed dose-dependent antibacterial activity against *E. coli*. In contrast to the ethanolic extract, the aqueous extract demonstrated superior antibacterial qualities against *E. coli*.

The investigation on the antibacterial qualities of neem extract produced encouraging findings. Neem extract showed promise as a natural antibacterial agent by successfully preventing bacterial development.

Highlights: Neem extract shown significant antibacterial action against a range of microorganisms.

It has applications in both cosmetics and pharmaceuticals.
- Further research is needed to ensure safe and effective use

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DRUG DEVELOPMENT IN THE PEDIATRIC POPULATION FOR EPILEPSY

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ABSTRACT

Epilepsy in the pediatric population presents unique challenges in terms of diagnosis, management, and treatment, requiring careful consideration of pharmacokinetics, safety, and developmental factors. Although advances in antiepileptic drugs

(AEDs) have significantly improved the management of epilepsy in children, treatment options remain limited, and many existing medications are not specifically approved for pediatric use. This review examines current drug development strategies for pediatric epilepsy, with a focus on recent advances in the discovery and clinical testing of novel AEDs. It highlights the importance of age-appropriate formulations, dosing regimens, and the consideration of coexisting conditions such as neurodevelopmental disorders. The review also addresses the key challenges faced in pediatric clinical trials, including ethical considerations, recruitment, and the need for biomarkers to guide therapy. Special attention is given to recent innovations in personalized medicine, including the potential of genetic testing and precision therapies for optimizing treatment outcomes in pediatric epilepsy. Finally, we discuss the unmet needs in pediatric epilepsy drug development, emphasizing the need for safer, more effective treatments with fewer side effects to improve quality of life and long-term prognosis for affected children.

KEYWORDS: Pediatric epilepsy, drug development, antiepileptic drugs, clinical trial, Pharmacokinetics, personalized medicine, novel therapies.

INTRODUCTION

- Epilepsy is a prevalent neurological disorder that affects a significant number of children worldwide, with an estimated incidence of 1 in 100 children. This condition presents unique challenges in diagnosis and management due to the variability in seizure types, underlying etiologies, and the developmental stage of pediatric patients. The treatment landscape for pediatric epilepsy primarily relies on antiepileptic drugs (AEDs), which are critical for controlling seizures and minimizing their impact on a child's development and quality of life.
- However, the pharmacological management of epilepsy in children is complex. Pediatric patients differ from adults not only in terms of their physiological responses to medications but also in their developmental and cognitive needs. Many AEDs were initially developed and tested in adults, leading to gaps in understanding their safety and efficacy in children.
- Furthermore, the pharmacokinetics and pharmacodynamics of drugs can vary significantly during different stages of childhood, necessitating careful consideration when determining dosages and treatment plans.
- This review explores the current state of drug development for pediatric epilepsy, examining recent advances in treatment options, the challenges associated with research in this population, and potential future directions that could enhance therapeutic outcomes. Understanding these dynamics is crucial for optimizing the care of children with epilepsy and ensuring that they receive safe and effective treatments tailored to their unique needs.
- Epilepsy is a common disorder in children and adults that causes significant morbidity and affects many aspects of a patient's lives. Two-thirds of patients with epilepsy are controlled with established antiseizure medications, leaving a significant number of patients searching for other options. The purpose of this review is to provide an overview of recent advancements in the management of treatment-resistant epilepsy in pediatric patients.
- Recent publications have shown the efficacy of new pharmaceutical options such as fenfluramine and cannabidiol, some of which have been tested specifically in patients with childhood-onset epilepsy syndromes such as Dravet's syndrome and Lennox-Gastaut's syndrome. Furthermore, recent approval by the U.S. Food and Drug Administration of stiripentol has made available a previously difficult-to-obtain option for patients with Dravet's syndrome. Finally, implanted responsive neurostimulation devices for direct cortical stimulation and deep brain stimulation have shown efficacy in adult patients and may represent a thrilling new horizon for pediatric patients.
- The goal is to enhance the quality of life for children living with epilepsy and their families through better therapeutic options and a deeper understanding of their unique needs.
- Historically, the majority of antiepileptic drugs (AEDs) have been developed and tested primarily in adult populations, leading to a significant gap in knowledge regarding their use in children. This disparity is critical, as children differ markedly from adults in terms of physiology, metabolism, and developmental stages. Factors such as growth rates, organ maturity, and the

maturation of the central nervous system can influence both the pharmacokinetics and pharmacodynamics of medications. Consequently, medications that are safe and effective in adults may not yield the same results in children, raising concerns about efficacy, side effects, and long-term implications of treatment.

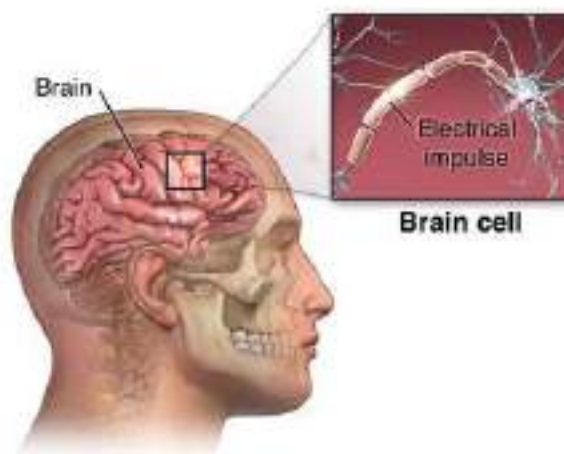
- Treatment of pediatric epilepsy requires a careful evaluation of the safety and tolerability profile of antiepileptic drugs (AEDs) to avoid or minimize as much as possible adverse events (AEs) on various organs, hematological parameters, and growth, pubertal, motor, cognitive and behavioral development.
- Physiological changes occurring during development age (different body composition, immature metabolic patterns, reduced renal activity), can significantly affect the pharmacokinetic profile of many AEDs.
- Young children show increased capacity of metabolizing AEDs, and thus require larger dosages per kg.
- Neonates tend to show reduced clearance and capacity of metabolizing AEDs, and thus require lower dosages per kg.
- With 65 million people affected worldwide, epilepsy is the most common, chronic, serious neurological disease.¹ People with epilepsy suffer from discrimination, misunderstanding, social stigma,² and the stress of living with a chronic unpredictable disease that can lead to loss of autonomy for activities of daily living.

DEFINITION

- An epileptic seizure is defined by the International League against Epilepsy (ILAE) as “a transient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neuronal activity in the brain. Epilepsy is characterised conceptually as an “enduring predisposition of the brain to generate epileptic seizures, with neurobiologic, cognitive, psychological, and social consequences”.⁷ Key features of epilepsy in children⁵ and adults⁶ were discussed in two previous Seminars. Here, we focus on new advance.
- Attention deficit/hyperactivity disorder (ADHD) is a common brain disorder with onset in early childhood, due to structural and functional abnormalities in wide

spread, but specific areas of the brain^[1]. ADHD is a frequent comorbidity experienced by children with epilepsy, has a negative impact on their quality of life, and represents a significant risk factor for academic underachievement.

- Epilepsy is a common disorder in children that often requires antiepileptic drug (AED) treatment for many years [1]. However, most AEDs have inadequate paediatric use information [2]. Indeed, AEDs are evaluated primarily in adult patients [3], and only a few randomised controlled trials (RCTs) have been performed in paediatric population [1]. Furthermore, despite reviews and guidelines establishing the importance of comprehensive drug development programs in children [2,4], most pivotal paediatric trials have been completed in Phase IV as a postapproval replication of adult data. Formulations, target doses, and expected effect size—which determines trial design and sample size—have been largely extrapolated from data collected in adult studies. Overall, the typical practice has been to extend the use of AEDs approved for adult epilepsy to children [5].
- Among the treatment tools for individuals with epilepsy, which include medication, diet, surgery, neuromodulation, and psychological interventions, the latter most specifically aim to improve health-related quality of life (HRQOL).
- Given the significant impact that psychosocial factors and epilepsy treatments can have on the HRQOL of individuals with epilepsy and their families, there is great clinical interest in the role of psychological evaluation and treatments to improve HRQOL.
- The increasing number of new treatments promises a better quality of life for individuals with epilepsy. However, the ever-growing list of options also makes it much more difficult to select the optimal treatment or combination of treatments. Because the medical literature may not provide information regarding the use of a therapy in a particular clinical situation, clinicians must at times rely on their medical judgment: it is in this “gray area” where expert opinion can be most helpful.





CAUSES OF EPILEPSY IN THE PEDIATRIC POPULATION

1. Genetic Factors

- Genetic predispositions play a significant role in many cases of pediatric epilepsy.
- Inherited Epilepsy Syndromes:** Conditions such as Dravet syndrome, Lennox-Gastaut syndrome, and juvenile myoclonic epilepsy are often linked to specific genetic mutations. These syndromes typically present with distinct seizure types and developmental outcomes.
- Chromosomal Abnormalities:** Genetic conditions like Down syndrome and Turner syndrome can also predispose children to seizures.

2. Structural Brain Abnormalities

- Structural anomalies in the brain are common causes of epilepsy in children.
- Tumors and Lesions:** Brain tumors, whether benign or malignant, can provoke seizures. Other lesions, such as vascular malformations or traumatic injuries, may also lead to epileptic activity.
- Cerebral Hemispheric Syndromes:** Conditions like hemimegalencephaly, where one hemisphere of the brain is abnormally large, can result in frequent seizures.

3. Metabolic Disorders

- Metabolic disturbances can lead to epilepsy through various mechanisms.
- Inborn Errors of Metabolism:** Disorders such as phenylketonuria (PKU) and mitochondrial diseases can disrupt normal brain function and increase seizure susceptibility.
- Electrolyte Imbalances:** Abnormal levels of sodium, calcium, or glucose can lead to seizures. For example, hypocalcemia or hyponatremia can trigger epileptic activity.

4 Infectious Diseases.

Certain infections can significantly increase the risk of developing epilepsy in children.

- Central Nervous System Infections:** Conditions such as meningitis, encephalitis, and neurocysticercosis can cause inflammation and neuronal damage, leading to seizures.
- Post-Infectious Epilepsy:** Some children may develop epilepsy following a febrile illness, where these seizures are linked to the body's immune response.

5. Perinatal and Neonatal Factors

Events during pregnancy, childbirth, or early infancy can contribute to the onset of epilepsy.

- Birth Trauma:** Oxygen deprivation (asphyxia) during delivery can lead to conditions like hypoxic-ischemic encephalopathy (HIE), which is associated with a higher risk of seizures.
- Prematurity:** Premature infants are at increased risk for seizures due to immature brain development and potential complications like intraventricular

hemorrhage.

- Maternal Conditions:** Infections during pregnancy (e.g., rubella, syphilis) or maternal substance abuse can adversely affect fetal brain development, increasing seizure risk.

6. Environmental Factors

Environmental influences can also contribute to the development of epilepsy.

- Head Injuries:** Traumatic brain injuries in children, whether from accidents or abuse, can lead to post-traumatic epilepsy.
- Toxins:** Exposure to neurotoxic substances (e.g., lead) can impair neurological function and increase seizure risk.

7.Psychosocial Factors

While not direct causes, psychosocial stressors can exacerbate seizure disorders.

- Stress and Anxiety:** High levels of stress and anxiety can trigger seizures in susceptible individuals, particularly in those with existing epilepsy.

SIGN AND SYMPTOMS

- Loss of consciousness
- Weakness.
- Anxiety.
- Muscle contraction and jerking
- Confused speech
- Staring.

LITRATURE REVIEW

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treatment guidelines and expert opinions regarding pediatric epilepsy.

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7. **Nicola Marchi, et,al, Efficacy of Anti-Inflammatory Therapy in a Model of Acute Seizures and in a Population of Pediatric Drug Resistant Epileptics,2019**, Drug-resistant seizures pose a formidable challenge for drug development. Recently, the Consensus Proposal by the ad hoc Task Force of the International League Against Epilepsy Commission on Therapeutic Strategies pointed out that drug resistance is “a dynamic process rather than a fixed state” and in spite of the available therapeutic interventions for seizure disorders.
8. **Gyri Veiby ,et,al, Early Child Development and Exposure to Antiepileptic Drugs Prenatally and Through Breastfeeding A Prospective Cohort Study on Children of Women With Epilepsy,2018**, The primary aim of this study was to examine whether prenatal exposure to anti epileptic drugs has an effect on development mental ready during the first 6 months. The secondary aim was to explore adverse effects of antiepileptic drug exposure through breastfeeding. Children of mothers using antiepileptic drugs were compared with a large reference group of children with outparental epilepsy. Children off athers and untreated others with epilepsy serve as internal control groups, accounting for genetic and socioeconomic effects of parental epilepsy.

AIM: DRUG DEVELOPMENT IN THE PEDIATRIC POPULATION FOR EPILEPSY .

OBJECTIVE

1. **Safety and Tolerability:** Ensure that medications are safe for children, with minimal side effects, and assess how they interact with growing bodies.
2. **Efficacy:** Demonstrate that the drug effectively controls seizures in the pediatric population, considering the specific types of epilepsy common in children.
3. **Age-Specific Formulations:** Develop age-appropriate formulations (e.g., liquid, chewable) that facilitate administration and improve adherence.
4. **Pharmacokinetics:** Understand how the drug is metabolized in children, as their metabolism can differ significantly from adults.
5. **Long-Term Effects:** Assess the long-term safety and efficacy of the treatment, considering the potential

impact on cognitive and physical development.

6. **Dosing Guidelines:** Establish clear dosing guidelines that take into account weight and age to avoid overdosing or underdosing.
7. **Psychosocial Considerations:** Address the psychosocial aspects of epilepsy management in children, including impacts on education and social interactions.
8. **Access and Affordability:** Ensure that the developed medications are accessible and affordable for families, addressing potential socioeconomic barriers.
9. **Regulatory Compliance:** Adhere to regulatory requirements for pediatric drug development, including specific guidelines from agencies like the FDA or EMA.
10. **Inclusion of Diverse Populations:** Ensure that clinical trials include diverse pediatric populations to understand variations in response among different ethnic and demographic groups.

TYPES OF PEDIATRIC EPILEPSY

- Pediatric epilepsy refers to the underlying cause, or the specific syndrome they belong to. Below are some common types of pediatric epilepsies in children caused by abnormal electrical activity in the brain. There are several types of epilepsy in children, and they can be classified based on the type of seizures they involve, the syndrome:

1. Focal (Partial) Epilepsy

- **Focal Seizures:** These seizures begin in one area of the brain and may or may not spread. The child may experience a range of symptoms depending on the affected brain region.
- **Focal Onset Aware Seizures** (previously called simple partial seizures): The child remains aware during the seizure.
- **Focal Onset Impaired Awareness Seizures** (previously called complex partial seizures): The child may have altered awareness and may appear confused or unresponsive.
- **Common Syndromes**
- **Focal Seizures with Secondary Generalization:** Focal seizures that spread to become generalized, affecting the entire brain.
- **Temporal Lobe Epilepsy:** Often associated with complex focal seizures and sometimes memory or emotional disturbances.

2. Generalized Epilepsy

- **Generalized Seizures:** These seizures involve both sides of the brain from the start. They can cause loss of consciousness and can manifest in several different forms.
- **Tonic- Clonic Seizures** (formerly called Grand Mal): Characterized by a loss of consciousness and violent muscle contractions.
- **Absence Seizures** (formerly Petit Mal): Brief episodes of staring or "spacing out" without



convulsions, usually lasting a few seconds.

- **Myoclonic Seizures:** Sudden, brief jerks or twitches of the body or limbs.
- **Atonic Seizures:** Sudden loss of muscle tone leading to falls or "drop attacks."
- **Tonic Seizures:** Muscle stiffening and loss of consciousness.
- **Clonic Seizures:** Repetitive jerking movements.

3. Epileptic Syndromes in Children

Some pediatric epilepsy syndromes are associated with specific patterns of seizures, developmental delay, other features. These include:

- **West Syndrome (Infantile Spasms):** Typically starts in infancy (usually between 3 and 12 months). It is characterized by sudden jerking movements (spasms), often associated with developmental regression and abnormal EEG findings.
- **Dravet Syndrome:** A severe, early-onset form of epilepsy often triggered by fever. It can lead to developmental delays and other neurological impairments.
- **Lennox-Gastaut Syndrome:** A severe form of epilepsy that usually begins in early childhood and is characterized by multiple types of seizures, including tonic, atonic, and myoclonic seizures. It often involves intellectual disability and developmental delays.
- **Landau-Kleffner Syndrome:** A rare syndrome where children lose their ability to speak and develop seizures, often between ages 3 and 7.
- **Rolandic Epilepsy (Benign Epilepsy of Childhood with Centrotemporal Spikes):** Typically starts between ages 3 and 13, and involves seizures originating in the area around the Rolandic cortex, usually affecting the face and mouth. It tends to improve or resolve by late childhood or early adolescence.
- **Benign Childhood Epilepsy with Centrotemporal Spikes:** A type of epilepsy with seizures that originate in the temporal lobes of the brain, often characterized by simple focal seizures that may involve speech or facial muscles.

4. Reflex Epileps

- **Reflex Seizures:** These seizures are triggered by specific stimuli or activities, such as flashing lights, reading, or hyperventilation. Some common examples include:
 - a. **Photosensitive Epilepsy:** Seizures triggered by flashing lights or certain visual patterns.
 - b. **Reading Epilepsy:** Seizures triggered by reading or other specific tasks.

5. Unknown or Unclassified Epilepsy

- In some cases, the type or cause of epilepsy may not be immediately clear. These cases may eventually fall into a recognized category as more information becomes available.

6. Epilepsy Related to Underlying Conditions

- **Genetic Epilepsy:** Some types of epilepsy in children are linked to genetic mutations or inherited conditions.
- **Metabolic Epilepsies:** Seizures related to metabolic disorders such as mitochondrial disease or phenylketonuria (PKU).
- **Structural Epilepsies:** These are caused by physical abnormalities in the brain (e.g., brain malformations, tumors, or injury).
- **Infectious Epilepsies:** Seizures caused by infections affecting the brain, such as meningitis or encephalitis.
- **Post-traumatic Epilepsy:** Seizures that occur after a head injury or trauma.

DIAGNOSIS AND TREATMENT

The classification of pediatric epilepsy is important for determining the best treatment approach. It usually involves:

- **EEG (Electroencephalogram):** To record electrical activity in the brain and identify seizure patterns.
- **MRI or CT scans:** To detect structural abnormalities in the brain.
- **Genetic testing:** If a genetic cause is suspected.

TREATMENT OF ANTIEPILEPTIC AGENT

Barbiturate	Phenobarbitone
Hyndatoin	Phenytoin Phosphenytoin
Succinamide	Ethosuximide
Benzodiazepine	Clonazepam Diazepam Lorazepam Clobazam
Newer Drugs	Topiramate Zonisamide Levetiracetam
Deoxybarbiturate	Primidone
Imminostilbene	Carbamazepine Oxcarbazepine
Aliphatic Carboxylic Acid	Valproate Sodium (Valproic Acid) Divalproex
Phenyltriazine	Lamotrigine
Cyclic GABA Analogous	Gabapentin Pregabalin

Innovations in Drug Development.

- Innovation in drug development for pediatric epilepsy involves various strategies to enhance treatment outcomes, safety, and accessibility.
 1. **Targeted Therapies:** Developing medications that specifically target the underlying mechanisms of different types of epilepsy, such as genetic mutations, which can lead to more effective treatments.
 2. **Personalized Medicine:** Utilizing pharmacogenomics to tailor treatments based on individual genetic profiles, optimizing efficacy and minimizing side effects.
 3. **Novel Drug Delivery Systems:** Creating advanced delivery methods, such as transdermal patches, inhalation therapies, or nanotechnology-based formulations, to improve absorption and compliance in children.



4. **Long-Acting Formulations:** Innovating long-acting formulations that reduce the frequency of dosing, thereby improving adherence and convenience for families.
5. **Digital Health Solutions:** Integrating mobile apps and wearable devices to monitor seizure activity and medication adherence, providing real-time data for both families and healthcare providers.
6. **Combination Therapies:** Exploring combinations of existing medications or novel compounds to enhance efficacy and reduce side effects through synergistic effects.
7. **Regenerative Medicine:** Investigating the potential of stem cell therapies or gene editing (e.g., CRISPR) to address the root causes of certain epilepsies.
8. **Artificial Intelligence (AI) and Machine Learning:** Utilizing AI to analyze vast datasets for identifying new drug candidates, predicting patient responses, and personalizing treatment plans.
9. **Collaborative Research Initiatives:** Fostering partnerships between pharmaceutical companies, academic institutions, and patient advocacy groups to drive innovation and share insights on pediatric epilepsy.
10. **Enhanced Clinical Trials:** Adopting adaptive trial designs that allow for modifications based on interim results, increasing the efficiency of the development process and ensuring a more rapid response to emerging data.

Future Directions in Pediatric Epilepsy Treatment

1. Genetic and Biomarker Research

- **Genomic Studies:** Continued exploration of genetic causes of epilepsy will facilitate the development of targeted therapies for specific genetic mutations.
- **Biomarkers:** Identifying biomarkers for seizure types and treatment responses can help tailor therapies and monitor effectiveness.

2. Advanced Drug Delivery Systems:

- **Novel Formulations:** Developing innovative delivery systems, such as nanotechnology or microspheres, to enhance drug solubility and bioavailability.
- **Non-Invasive Methods:** Exploring non-invasive delivery methods, such as transdermal or intranasal routes, for rapid seizure control.

3. Personalized Medicine

- **Pharmacogenomics:** Using genetic profiling to customize treatment plans based on individual responses to medications, minimizing trial and error.
- **Patient-Centric Approaches:** Involving families in treatment decisions to better align therapies with lifestyle and preferences.

4. Digital Health Technologies

- **Wearable Devices:** Utilizing wearables to monitor seizure activity and physiological responses, providing real-time data to caregivers and clinicians.

- **Mobile Health Apps:** Creating applications for tracking medication adherence, seizures, and side effects to enhance communication with healthcare providers.

5. Combination and Adjunctive Therapies

- **Polytherapy Approaches:** Exploring combinations of existing drugs or adding non-pharmacological treatments (like dietary therapies) to optimize seizure control.
- **Investigational Agents:** Conducting research on novel compounds that can act as adjunct therapies alongside traditional antiepileptic drugs.

6. Neurostimulation Techniques

- **Responsive Neurostimulation (RNS):** Investigating the use of devices that detect abnormal brain activity and deliver targeted stimulation to prevent seizures.

CONCLUSION

1. **Need for Tailored Approaches:** Pediatric epilepsy requires drug development that considers the distinct physiological and developmental characteristics of children. This includes creating age-appropriate formulations and dosage guidelines.
2. **Emphasis on Safety and Tolerability:** Given the potential for long-term effects on growth and development, ensuring the safety and tolerability of antiepileptic medications is paramount. This involves rigorous testing and monitoring throughout the drug development process.
3. **Advancements in Technology:** Innovations in drug delivery systems, such as non-invasive methods and digital health technologies, are transforming how treatments are administered and monitored, improving adherence and outcomes.
4. **Personalized Medicine:** The integration of genetic and biomarker research is paving the way for personalized treatment approaches, enabling healthcare providers to tailor therapies to individual patients based on their unique genetic makeup.
5. **Holistic Management:** Effective treatment of pediatric epilepsy goes beyond medication. It requires a comprehensive approach that includes psychological support, educational resources, and involvement of families in decision-making.
6. **Collaborative Efforts:** Ongoing collaboration among researchers, healthcare providers, pharmaceutical companies, and advocacy groups is essential for driving innovation and ensuring that new treatments meet the specific needs of children with epilepsy.
7. **Focus on Quality of Life:** Future drug development must prioritize not only seizure control but also the overall quality of life for pediatric patients, addressing the educational, social, and emotional aspects of living with epilepsy.



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REVIEW ON SUNITINIB: AN OVERVIEW OF ITS POTENTIAL THERAPEUTIC USES FOR THE MANAGEMENT OF RENAL CELL CARCINOMA AND GIST

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ABSTRACT

Sunitinib is a tyrosine kinase inhibitor which is used in the treatment of certain types of cancer. Such as renal cell carcinoma (kidney cancer) and gastrointestinal stromal tumors (GISTs). It works by blocking the action of abnormal protein. It helps to stop or slow the spread of cancer cells. Sunitinib acts as an antitumor or antiangiogenic activity because sunitinib is a protein kinase inhibitor and which works by blocking the action of abnormal proteins due to block the action that helps to stop or slow the spread of cancer cells and also helps to shrink.

KEY WORD: Renal Cell Carcinoma, Gastrointestinal Stromal Tumors, Angiogenic

INTRODUCTION

Sunitinib is used in the treatment of cancer. It is also called as Sutent. It is administered orally. Sunitinib is not a chemotherapy drug; it is a targeted therapy. It is also available in capsule form. Before administering the sunitinib drug, some blood tests are carried out like CBC test, Renal function test, Liver function test or BP. Sunitinib drug is discovered/developed by Pfizer company. Sunitinib is a class of kinase inhibitor. Sunitinib works by blocking the action of abnormal protein. Sunitinib helps to stop or slow the spread of cancer cells and also helps to shrink tumors.

SUNITINIB FOR THE MANAGEMENT OF RENAL CELL CARCINOMA

This observation provided the basis for initiating a large phase 2 trial that included 63 patients with advanced RCC who had

failed cytokine therapy. Patients were treated with sunitinib monotherapy 50 mg daily for 4 weeks followed by 2 weeks of rest (Motzer, Michaelson, et al. 2006). Fifty patients (87%) had biopsies. Clear cell texture. Only four patients (6%) had a response to previous cytokine therapy. The median duration of sunitinib treatment was 9 months, 25 of 63 patients (40%) achieved a partial response, and 17 patients (28%) had stable disease for more than 3 months. Twenty-four respondents had clear cell histology and one had a papillary cell type. Reactive lesions include areas of local recurrence and lymphatic metastases, liver, lungs, bones, and adrenal glands. The median duration for advancement was 8.7 months and the average median overall survival was 16.4 months. The most frequently reported treatment-related grade 3 adverse events were fatigue (11%), nausea (3%), and diarrhoea (3%).

Table 1

Summary of sunitinib in trials with patients treated for renal cell carcinoma and GIST

	RCC			GIST	
	Supportive (Motzer, Michaelson et al. 2006) (n = 63)	Pivotal (Motzer, Hiji et al. 2006) (n = 106)	Phase III (Motzer, Hutson et al. 2009) (n = 374)	Phase I/II (Maki et al. 2005) (n = 97)	Phase III (Demetri et al. 2008) (n = 207)
RR	25 (40%)	46 (34%)	103 (31%)	8 (8%)	17 (8%)
SD	18 (29%)	24 (23%)	160 (43%)	36 (37%)	37 (18%)
TP	8.7 months	8.3 months	11 months	7.8 months	6.3 months
S	16.4 months	NR	NR	19.2 months	NR

Abbreviations: GIST, gastrointestinal stromal tumors; RR, not reached; ORR, overall response rate; OS, overall survival; RCC, renal cell carcinoma; SD, stable disease; TP, time to progression.



TABLE 4:
Grade 3 or 4 toxicity in trials with patients treated for renal cell carcinoma and GIST

	RCC Supportive (Motzer, Michaelson, et al 2006) (n = 63)	Prostate (Motzer, Rini, et al 2006) (n = 106)	Phase III (Motzer, Hutson, et al 2006) (n = 374)	Phase I/II (Maki, et al 2005) (n = 97)	Phase III (Demetri, et al 2005) (n = 287)
Nonhematological					
Fatigue	11%	8%	7%	10%	7%
Diarrhea	3%	3%	1%	7%	4%
Nausea	3%	0%	3%	4%	1%
Dermatitis	2%	5%	3%	7%	5%
Stomatitis	2%	5%	1%	3%	NA
Asymptomatic lipase increase	21%	15%	4%	13%	NA
Hypertension	2%	6%	0%	17%	4%
Hematological					
Neutropenia	13%	13%	11%	NA	0%
Anemia	10%	6%	3%	NA	4%
Thrombocytopenia	0%	6%	0%	NA	5%

A phase 2 trial, conducted to confirm the antitumor activity and safety observed in the phase 1 trial (Motzer, Rini, et al 2006), included one hundred six patients with metastatic clear cell RCC. All had previous kidney surgery and had failed first-line cytokine therapy. The median treatment duration was 5 months. Thirty-six patients (34%) had a partial response (Table 1). Thirty patients (29%) had stable disease for longer than 3 months. Grade 3 adverse events at the most common treatment-related illnesses reported were fatigue (8%), high blood pressure (6%), colitis (5%), dermatitis (5%), and diarrhoea (3%) (Table 2). Level 3 is the most common. or 4 laboratory abnormalities that increased without symptoms... lipase (15%), neutropenia (16%), thrombocytopenia (6%), and anaemia (6%). Dosage was reduced from 50 mg to 37.5 mg per day in 17 patients (16%), with six of these patients receiving a dose reduction of up to 25 mg per day. Most often in the reduction are edema and fatigue.

UV ESTIMATION OF SUNITINIB

- 1) Chemical: Sunitinib Hammer and commercial sunitinib 50 mg capsules are supplied by Parsian Pharmaceuticals Company, Iran. Bromocresol purple (BCP), bromothymol blue (BTB), and bromophenol blue (BPB) were purchased from Merck (Darmstadt, Germany). Analytical grade chloroform from Merck (Darmstadt, Germany).
- 2) Instrumentations: A Shimadzu dual beam ultraviolet-visible spectrophotometer (UV-160A) was used to perform the spectrophotometric measurements. The fixed bandwidth is 2 nm and a 1 cm quartz cell is used.
- 3) Standard solutions: A stock standard solution (5×10^{-4} M) was prepared by dissolving 26.6 mg sunitinib malate in 100 mL distilled water. A reagent standard solution (5

$\times 10^{-4}$ M) was prepared by Dissolving BCP 27 mg, BTB 31.2 mg or BPB 33.5 mg in 100 ml of distilled water by dissolving an appropriate amount of NaH_2PO_4 in the distilled water and adjusting the pH to 1.5 -3.5 (1.5, 2.0). Prepare Phosphate buffer (0.1 M) in the pH range 2.5, 3.0, 3.5)

- 4) General procedure: One millilitre of sunitinib standard solution was transferred to a 100 mL separator funnel. After adding 2 mL of phosphate buffer (pH 2.0) and 3.0 mL of BCP or 3.0 mL of BTB or 2.0 mL of BPB solution, the solution was stirred. for 30 s. The resulting divalent ion complex was extracted three times with 5, 3, and 2 mL of chloroform. The organic layer was passed through anhydrous sodium sulphate and transferred to a 10 mL volumetric flask. The suction was measured. The absorbance of the solution was measured at 422 nm for BCP, 425 nm for BTB, and 427 nm for BPB in a volume of 10 mL with chloroform against the appropriate reagent blank.

RESULT AND DISCUSSION

The interaction between the reagents as electron donors (BCP, BTB and BPB) and the protonated amine of sunitinib as the electron acceptor forms a strongly colored charge transfer complex. which shows yellow color in all divalent ion complexes of sunitinib with the light-absorbing reagent in visible region The reagent blank solution showed insignificant absorption at 300-400 nm. On the other hand, strong absorption was observed after the formation of divalent ion complexes. The maximum absorption wavelengths were 422 nm, 425 nm, and 427 nm for BCP, BTB, and BPB, respectively. The ion-pair complex solutions were calibrated with blank solutions of each reagent to reduce absorption. of reagents to a minimum.

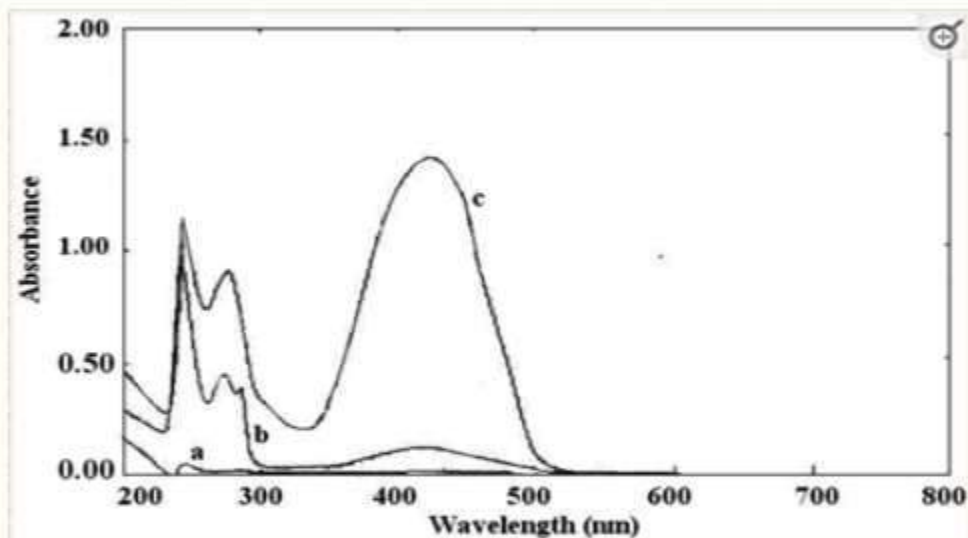


Figure 2

Absorption spectra of (a) sunitinib malate, (b) BCP, and (c) the ion-pair complex of sunitinib and BCP

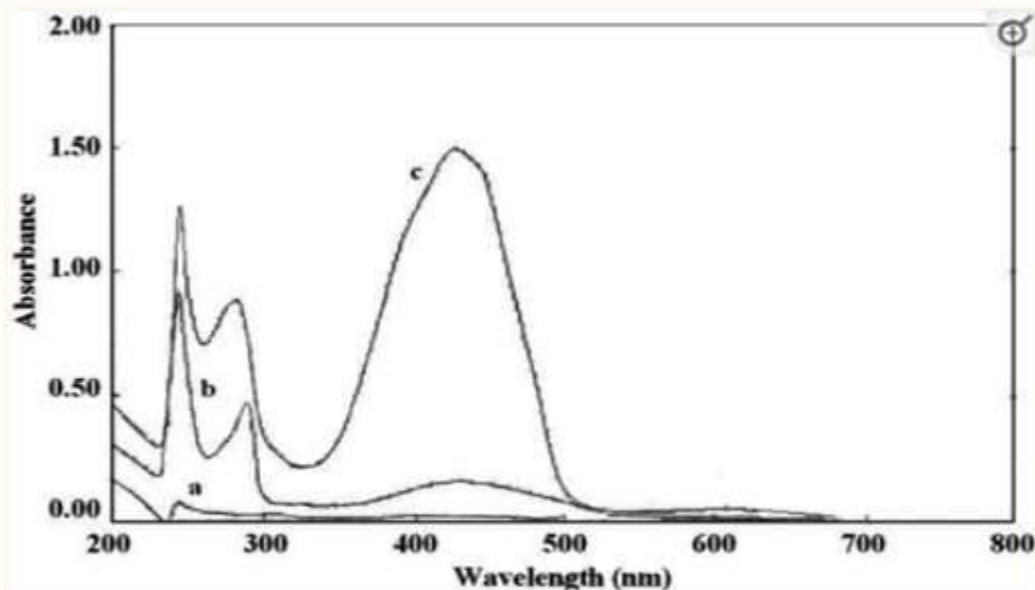


Figure 4

Absorption spectra of: (a) sunitinib malate, (b) BPB, and (c) the ion-pair complex of sunitinib and BPB

Administration and Dosing

Sunitinib is typically administered orally in a daily regimen with doses and schedules changed based on the specific cancer being treated and patient tolerance. Sunitinib (Sutent) drug comes in 12.5mg, 25mg, 37.5mg and 50mg capsules.

➤ Advantages

- 1) Targeted therapy
- 2) Effectiveness against multiple tumors.
- 3) Reduced tumor growth
- 4) Oral administration

➤ Disadvantages

- 1) Breathing problems.



- 2) Changes in vision.
- 3) Dark urine.
- 4) Feeling faint or lightheaded, falls.
- 5) Fever or chills, cough, sore throat.
- 6) High blood pressure.

➤ **Common side effect**

- 1) Fatigue
- 2) Nausea
- 3) Skin rash
- 4) Diarrhoea
- 5) Loss of appetite
- 6) Increase blood pressure

➤ **Serious side effect**

- 1) Heart problems
- 2) Liver problems
- 3) Thyroid issues
- 4) Hypertension

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ASSESSING THE EFFECTIVENESS OF GAMIFIED CRIME SCENE SIMULATOR FOR PCCR STUDENTS

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ABSTRACT

This study investigates the efficacy of a gamified learning crime scene simulator as an instructional tool for students at the Philippine College of Criminology (PCCR). The research aims to assess the impact of the simulator on student performance, engagement, and comprehension of crime scene investigation techniques. The evaluation analyzes the relationships between various factors and the outcomes of the gamified learning experience.

The methodology involves implementing the gamified learning crime scene simulator within the academic curriculum at PCCR and gathering performance data from participating students. Quantitative data, including academic performance metrics, user engagement levels, and simulator usage patterns, are collected and analyzed to identify correlations and predictors of success. The study's significance lies in its potential to inform educators, administrators, and technology developers about the effectiveness of gamified learning tools in enhancing the educational experience for students in forensic science or related disciplines. The findings may contribute to the refinement of teaching methodologies, curriculum development, and the design of gamified learning platforms. Additionally, implications for law enforcement training programs and potential benefits for future graduates entering the workforce are explored.

KEYWORDS: *Gamified, Crime Scene Simulator, Criminal Justice, Instructional Tool, Student Performance*

INTRODUCTION

Background of the Study

The Philippine College of Criminology (PCCR) is an esteemed institution dedicated to providing high-quality education in the field of criminal justice. As part of its commitment to fostering innovative teaching methodologies, PCCR has adopted various educational technologies to enhance the learning experience of its students. One such initiative is the implementation of a gamified learning crime scene simulator, designed to simulate real-world crime scene scenarios and facilitate experiential learning among PCCR students.

The integration of technology into education has witnessed significant advancements in recent years, particularly with the emergence of gamified learning platforms. Gamified learning environments utilize interactive features and gamification strategies to enhance student motivation. These techniques create immersive digital spaces that ignite student interest and promote active engagement. By incorporating gamified elements, these environments aim to cultivate dynamic learning experiences that foster motivation and sustained participation among students (Lavoué et al., 2021).

According to Gerard et al. (2022), the application of gamified learning crime scene simulators in educational settings offers a transformative opportunity for teaching crime scene investigation techniques in criminology. By simulating real-world scenarios,

students can apply their skills in immersive contexts, enhancing engagement and learning outcomes. Collaborative development processes, such as creating gamified virtual simulations with students and academics, empower learners and improve their readiness for professional challenges. This innovative approach promises to revolutionize criminology education, equipping students with practical skills and competencies essential for their future careers.

While gamified learning crime scene simulators hold promise for enhancing student learning outcomes, there's a critical need to evaluate their effectiveness and understand factors influencing student performance within these virtual environments.

In light of these considerations, it aims to evaluate the performance of the gamified learning crime scene simulator implemented for PCCR students. This study will analyze factors like student engagement and learning outcomes. It seeks to understand the effectiveness of the simulator in teaching crime scene investigation techniques and assess the impact of collaborative development processes on student empowerment. Ultimately, the research aims to enhance criminology education at PCCR by equipping students with practical skills essential for their future careers.

This study contributes valuable insights to the ongoing discussion surrounding the integration of technology in criminal justice



education. Assessing the effectiveness of the gamified crime scene simulator at PCCR provides practical guidance for improving such tools in preparing students for real-world investigative tasks. Through analyzing student engagement, learning outcomes, and collaborative development methods, the research aims to optimize criminology education and equip students with crucial skills for their professional journeys.

Objectives of the study

The study aimed to investigate several critical aspects of the gamified crime scene simulator (CSS) and its impact on PCCR students. The primary focus included evaluating the level of effectiveness of the CSS in terms of exposure to crime scene techniques, technological proficiency, and alignment with different learning styles. Additionally, the study assessed students' academic performance based on their final grades and examined any correlation between the simulator's effectiveness and academic outcomes. It also explored the challenges encountered by students and instructors in using the CSS, including the perceived seriousness of these challenges. Finally, the study assessed whether there was a significant difference in the perception of these challenges between the two groups and proposed an action plan based on the findings to improve the effectiveness and usage of the simulator.

STUDY SITE

The study was conducted at the Philippine College of Criminology (PCCR), situated at 641 Sales St., Quiapo, Manila, 1001 Metro Manila. PCCR served as the primary educational institution for criminology students in the heart of Metro Manila, making it an ideal locale for examining the impact of the gamified learning crime scene simulator on the performance of PCCR students. The campus facilities and resources, coupled with the diverse student population, offered a representative setting for the research, ensuring that findings could be applied to similar educational contexts within the field of criminology. The study's focus on PCCR provided a localized perspective on the effectiveness of the gamified learning tool within the unique academic environment of this esteemed institution.

METHODOLOGY

Research Design

The study used a quantitative descriptive method. It involved collecting and analyzing numerical data. It was ideal for identifying trends and averages, making predictions, testing relationships, and generalizing results for large populations. Quantitative data was collected through pre-test and post-test measures, focusing on crime scene investigation skills and knowledge for within-group and between-group comparisons. Statistical analysis to assess the relationship between simulator use and dependent variables. This comprehensive methodology aimed to provide a nuanced understanding of the simulator's impact while controlling for potential confounding variables.

Locale and Population

This study exclusively targeted a specific group within the academic community at the Philippine College of Criminology (PCCR) by employing a purposive sampling technique. The following were the criteria for selecting respondents: 1. Second-year, third-year, and fourth-year students. 2. Those who belonged to the first fifteen (15) sections per shift. 3. Those who passed (CDI1) Fundamentals of Criminal Investigation and Intelligence (CDI2) Special Crime Investigation (CDI4) Traffic Management and Accident Investigation (CDI6) Fire Protection and Arson Investigation, respectively. The target respondents were two hundred fifty (250) 2nd year students, three hundred fifty (350) PCCR students for the 3rd year, and one hundred fifty (150) 4th year students, all of whom had used the gamified crime scene simulator application in their class activities.

Data-Gathering Tools

The study utilized a self-structured survey questionnaire, which was divided into two parts. Part 1 focused on assessing student engagement within the gamified learning crime scene simulator and its impact on their performance in crime scene investigation techniques at PCCR. Part 2 involved in-depth examinations of individual or group experiences with the simulator, providing qualitative insights into its practical application and its effect on students' understanding of simulated crime scene investigations. To ensure the validity of the questionnaire, the researcher sought validation from three tool validators: a content expert, a grammarian, and a statistician, to ensure face validity. Any entries that did not pass validation were revised, and questions that were deemed unsuitable were removed. After receiving approval, the validated questionnaire was distributed to selected respondents, and the certificate of tool validation was included in the appendices of the research.

Ethical Considerations

Ethical considerations were prioritized throughout the research to ensure the protection, well-being, and rights of all participants. Informed consent was obtained from participants, ensuring they understood the study's purpose, nature, and potential risks and benefits. Participation was entirely voluntary, and individuals had the freedom to decline or withdraw at any time without facing negative consequences. Anonymity and confidentiality were strictly observed, with participants' responses and personal information protected and stored securely.

The researcher respected participants' privacy by collecting only essential information and avoiding intrusive or irrelevant questions. Data protection measures were implemented to safeguard against unauthorized access, loss, or misuse, in compliance with relevant data protection laws and regulations. Efforts were made to avoid harm by minimizing potential distress, steering clear of sensitive topics, and offering support resources when necessary. Transparency was maintained by clearly communicating the study's purpose, procedures, and intended use of the data, as well as providing contact information for queries or concerns.



Fairness and equity were upheld by designing the survey to avoid discrimination or bias against any individual or group. Additionally, data were used solely for the stated research purposes, with findings reported accurately and objectively to prevent misrepresentation or bias. These ethical considerations ensured a responsible and respectful approach to conducting the research.

Treatment of Data

The data collected from surveys and structured questionnaires were analyzed using a combination of descriptive and inferential statistical tools. Descriptive statistics, including the mean and standard deviation, provided a summary of the central tendency and variability of the responses. The mean ($\bar{X}$) represented the average scores, reflecting the general perceptions of the respondents, while the standard deviation (σ) measured the dispersion of responses around the mean, offering insights into the variability of opinions. A four-point Likert scale was utilized to evaluate survey results, focusing on two primary areas: the effectiveness of the Gamified Learning Crime Scene Simulator and the severity of challenges that influenced its performance evaluation for PCCR students.

Pearson's correlation coefficient was employed to assess the strength and direction of the linear relationship between simulator usage (X) and performance outcomes (Y). A positive correlation indicated that increased usage was associated with improved performance, whereas a negative correlation suggested the opposite. This helped quantify the relationship between key variables, offering valuable insights into the impact of the simulator on learning outcomes.

To determine significant differences in the assessments of two respondent groups, a t-test was conducted. The test of significance involved comparing the computed t-value with the critical tabular t-value; if the computed value exceeded the critical value, the null hypothesis was rejected, indicating a significant difference in perceptions. Additionally, the weighted mean was calculated to analyze responses on the four-point scale, allowing for a comprehensive evaluation of feedback. Percentage analysis was also used to measure the frequency distribution of respondents and describe their demographic profiles.

RESULTS

Table 1 Level of effectiveness of the gamified crime scene simulator (CSS) application for PCCR students in terms of Exposure

A. Exposure	Med	Int
1. The PCCR Crime Scene Simulator Application has sufficiently exposed you to crime scene investigation techniques.	3.52	VE
2. The PCCR Crime Scene Simulator Application enables you to apply theoretical knowledge in a practical setting.	3.50	VE
3. PCCR Crime Scene Simulator provides you with hands-on experience in crime scene investigation.	3.49	VE
4. The PCCR Crime Scene Simulator exposes you to various forensic elements, such as ballistics, fingerprint analysis, and DNA profiling.	3.49	VE
5. The PCCR Crime Scene Simulator Application promotes interdisciplinary collaboration among students, reflecting real-world forensic investigation scenarios.	3.50	VE
6. The PCCR Crime Scene Simulator Application presents highly realistic scenarios, immersing students in authentic crime scene investigation experiences.	3.48	VE
7. The PCCR Crime Scene Simulator Application effectively exposes students to various forensic analysis techniques, including forensic photography and forensic chemistry, allowing them to apply their knowledge in a practical and immersive environment.	3.49	VE
8. The PCCR Crime Scene Simulator Application effectively helps students develop practical problem-solving skills in crime scene investigation by	3.52	VE
challenging them to apply their knowledge and expertise in hands-on, engaging scenarios.		
9. The PCCR Crime Scene Simulator Application requires students to collect evidence using the tools and techniques they have learned throughout the course in meticulously crafted crime scenes, serving as a practical application of their classroom knowledge.	3.48	VE
10. The PCCR Crime Scene Simulator Application gave me a full look at crime scene investigation and forensic science.	3.50	VE
Overall	3.57	VE



The overall finding of 3.57 indicates that the gamified Crime Scene Simulator (CSS) application for PCCR students is perceived as "Very Effective" (VE) in providing exposure to crime scene investigation techniques. This suggests that students feel the application successfully immerses them in realistic crime

scene scenarios and allows them to apply theoretical knowledge in a practical, hands-on environment. Additionally, it supports interdisciplinary collaboration and exposes students to essential forensic elements and analysis techniques, helping them develop relevant problem-solving skills and utilize investigative tools.

Table 2

Level of Effectiveness of the Gamified Crime Scene Simulator Application for Students in Terms of Technology Proficiency

B. Technological Proficiency	Med	Int
1. The user interface of the PCCR Crime Scene Simulator is very easy to navigate.	3.40	VE
2. The simulator effectively presents 3D crime scenes, enhancing the overall learning experience.	3.42	VE
3. The simulator offers a variety of scenarios, including arson, murder, and traffic, which helps to keep students engaged.	3.47	VE
4. The simulator allows students to collect evidence from crime scenes in a highly effective manner.	3.45	VE
5. The simulator exposes students to various forensic analysis techniques, such as forensic photography and forensic chemistry, in a comprehensive manner.	3.48	VE
6. The crime scenes presented in the simulator are highly realistic, providing students with an immersive experience.	3.44	VE
7. The simulator fosters collaborative learning among students, promoting teamwork and communication.	3.49	VE
8. The simulator's technical support is very effective, ensuring that students can quickly resolve any technical issues.	3.45	VE
9. The simulator incorporates user feedback to improve its functionality, ensuring that students have a say in its development.	3.46	VE
10. The simulator is highly compatible with different devices and operating systems, making it accessible to a wide range of users.	3.44	VE
Overall	3.51	VE

The overall mean score of 3.51, with an interpretation of "Very Effective" (VE), indicates that the Gamified Crime Scene Simulator Application is highly effective in enhancing students' technological proficiency. The finding suggests that all aspects of

the application's design, functionality, and support systems are well-regarded by users. This consistency across scores highlights the app's effectiveness in delivering a smooth, immersive, and educational experience that meets students' expectations

Table 3

Level of Effectiveness of the Gamified Crime Scene Simulator Application for Students in Terms of Learning Styles

C. Learning Styles	Med	Int
1. The PCCR Crime Scene Simulator utilizes helpful visual learners and shows elements such as images and graphics.	3.58	VE
2. Users enjoy visual experiences in the crime scene simulator.	3.55	VE
3. The PCCR Crime Scene Simulator matches how students like to learn and presents content in a way that fits each person's style, helping them stay engaged, understand better, and remember more.	3.55	VE
4. The PCCR Crime Scene Simulator effectively caters to different learning styles, such as visual, auditory, and kinesthetic, ensuring that students with diverse preferences can engage with the content in a manner that suits them best.	3.56	VE
5. The simulator accommodates diverse learning preferences, including hands-on, collaborative, and interactive learning styles, providing students with a well-rounded educational experience that meets their individual needs.	3.55	VE
6. The PCCR Crime Scene Simulator incorporates elements that appeal to various learning styles, enhancing the overall learning experience for students and promoting effective understanding of crime scene investigation concepts.	3.55	VE



7. The simulator provides ample opportunities for students to engage with content based on their preferred learning styles, ensuring a personalized learning experience that caters to individual preferences and needs.	3.54	VE
8. The PCCR Crime Scene Simulator adapts to different learning styles to promote effective understanding and retention of crime scene investigation concepts, ensuring that all students can benefit from the educational experience.	3.55	VE
9. The simulator addresses the learning preferences of students with different learning styles, ensuring that all users can benefit from the educational experience and develop the necessary skills for crime scene investigation.	3.56	VE
10. The simulator integrates features that cater to different learning styles, promoting engagement, understanding, and knowledge retention among students with diverse learning preferences, ensuring that all users can benefit from the educational experience.	3.55	VE
Overall	3.60	VE

The overall mean score of 3.60, interpreted as "Very Effective" (VE), signifies that the Gamified Crime Scene Simulator Application excels in catering to various learning styles, effectively supporting students with diverse educational preferences. The consistent mean scores (between 3.54 and 3.58) across different criteria indicate that students find the application equally engaging and supportive of their learning needs, whether visual, auditory, kinesthetic, or collaborative.

All evaluated factors, such as exposure, technological proficiency, and learning styles, have been rated as "Very Effective" or "Effective" by respondents. In the case of the gamified CSS application, only a small proportion of students rated it as "Less Effective" or "Not Effective."

Table 4
Level of Academic Performance of the Students using CSS in terms of The Students' Final Grade

Academic Performance	Mean $\pm$ Std Dev	Interpretation
Final Grade	81.30 $\pm$ 14.95	Below Average – Above Average

Based on the results, it shows that the average grade of students is 81.30, with grades ranging from 66.35 to 96.25. This indicates that the range of the grades of students is from below average to above average. The results show us that while the majority of

students achieve grades above the passing mark, there are still variations in academic performance that reflect differing levels of effectiveness in utilizing the CSS.

Table 5
Relationship between the Level of Effectiveness of the Gamified Crime Scene Simulator and the Academic Performance of Students

Predictor	Response	Spearman-rho ρ Coefficient Value	Interpretation	p-Value
Gamified Scene Simulator Application	Academic Performance	0.010	Weak Relationship	0.781

*significant @ ≤ 0.05

When examining the academic performance and its relationship with the gamified crime scene simulator, a Spearman-rho coefficient value of 0.010 is interpreted to have a weak

relationship, and a p-value of 0.781 tells us that this relationship is not significant.

Table 6 Degree of Seriousness of The Challenges Encountered in Utilizing the Gamified Crime Scene Simulator as Perceived By the Respondents

Challenges Encountered in utilizing the gamified crime scene simulator	Student		Instructor	
	Med	Int	Med	Int
1. Bugs can disrupt the simulator, causing it to crash or not work properly.	3.58	VS	3.80	VS
2. The simulator may require expensive and advanced computers to run.	3.56	VS	3.80	VS
3. The simulator may not function well on all devices or systems.	3.56	VS	3.73	VS



4. The simulator might not create a realistic crime scene experience.	3.58	VS	3.62	VS
5. The simulator might oversimplify complex forensic work.	3.56	VS	3.80	VS
6. The simulator won't provide useful training if it's too easy. It might frustrate users if it's too hard.	3.59	VS	3.67	VS
7. The simulators keeping a user interested and motivated over time in using the application can be tough.	3.55	VS	3.80	VS
8. The simulator provides content that is accurate and relevant to real procedures.	3.55	VS	3.80	VS
9. The simulator has a difficulty in giving a feedback and assessments,	3.59	VS	3.42	VS
10. The simulator is costly in developing and maintaining the application	3.58	VS	3.80	VS
Overall	3.64	VS	3.64	VS

*Legend: VS – Very Serious, S – Serious, LS – Less Serious, NS – Not Serious

Table 6 highlights the challenges encountered in utilizing the gamified crime scene simulator, as perceived by both students and instructors. Both groups agreed that the challenges were significant and warranted attention.

From the students' perspective, the most serious challenges included difficulties in receiving feedback and assessments

(3.59), the lack of effectiveness in training when the simulator is too easy (3.59), and technical issues such as bugs causing crashes or malfunctions (3.58). These challenges were deemed critical as they directly affect the simulator's functionality, educational value, and the overall learning experience.

Table 7 Comparative Analysis in the Degree of Seriousness of the Challenges of the Gamified Crime Scene Simulator and the Perception of the Respondents

Challenges Encountered	Type of Respondent				Mann-Whitney Z-Value	Test Statistics p-value
	Student		Instructor			
	Med	Int	Med	Int		
Challenges Encountered	3.64	VS	3.64	VS	0.687	0.492

*significant @ ≤ 0.05 ; Legend: VS – Very Serious, S – Serious, LS – Less Serious, NS – Not Serious

Table 7 presents a comparative analysis of the perceived seriousness of challenges in using the gamified crime scene simulator by students and instructors. Both groups viewed these challenges as very serious. A Mann-Whitney test was conducted to assess differences in perceptions, yielding a value of 0.687 and a p-value of 0.492. These results indicate no significant difference between the two groups' perceptions of the challenges.

This similarity may stem from shared experiences and insights into the simulator's functionality and its impact on both learning and teaching processes, highlighting common concerns across both respondent groups.

CONCLUSION

The PCCR Crime Scene Simulator Application has proven to be an effective educational tool in training students for crime scene investigation. High ratings indicate its success in exposing students to practical techniques, enhancing problem-solving skills, and applying theoretical knowledge in a realistic setting. The simulator aligns well with Kolb's Experiential Learning Theory, supporting hands-on learning, and integrates problem-based learning (PBL) to foster critical thinking. Additionally, it follows constructivist principles, particularly Vygotsky's Zone of Proximal Development, providing a supportive learning environment for refining skills.

While the simulator is highly valued for its technology, user-friendly design, and its ability to promote collaborative learning, expose students to diverse forensic techniques, and keep them engaged with varied scenarios, its impact on academic performance appears limited. A weak and statistically insignificant relationship between the simulator's effectiveness and academic performance suggests that other factors, such as study habits and motivation, play a more significant role in student outcomes.

Despite its effectiveness, both students and instructors identified several serious challenges, including inadequate feedback, insufficient challenge levels, technical issues, and high maintenance costs. These challenges affect the simulator's educational value and should be addressed for improvement. A comparative analysis showed no significant difference in how students and instructors perceive these challenges.

To enhance the simulator's effectiveness while minimizing its emotional and psychological impact on students, strategies such as debriefing sessions, adjusting difficulty levels, and offering psychological support are recommended. By balancing the educational benefits with students' well-being, the simulator can continue to provide a valuable, engaging, and comprehensive learning experience.



RECOMMENDATION

Following the comprehensive findings, testing, and thorough evaluation procedures conducted during this study, the researcher have formulated the following recommendations:

1. Conducting a longitudinal study is crucial to assess the long-term impact of the gamified crime scene simulator (CSS) on students' academic performance and career outcomes. This type of study would track students over an extended period to understand if initial gains in exposure, technological proficiency, and learning styles translate into sustained improvements in academic performance and practical skills relevant to criminology. Longitudinal studies can also reveal any potential diminishing returns or unforeseen challenges associated with prolonged use of CSS, providing insights into its lasting educational benefits.
2. Explore the integration of emerging technologies, such as virtual reality (VR) and augmented reality (AR), into the CSS framework. Assess how these technologies can enhance the realism, interactivity, and immersive learning experiences offered by the simulator. By incorporating VR/AR capabilities, future researchers can potentially improve engagement levels among students and provide more dynamic and realistic crime scene scenarios for practical training. This will align with advancing technological trends in education and offer opportunities to innovate within criminology education.
3. Conduct comparative analyses across multiple institutions or different student cohorts within PCCR to understand variations in CSS effectiveness. Compare results between institutions with different resources, curriculum structures, and student demographics to identify institutional factors influencing CSS implementation and outcomes. Comparative analysis can highlight best practices, reveal contextual factors impacting effectiveness, and provide insights into how CSS can be tailored to meet the diverse needs of students across different educational settings. This will support evidence-based decision-making in curriculum design and educational policy.
4. To maximize the effectiveness of the crime scene simulator (CSS) in criminology education, it is crucial to maintain and promote its use as a primary learning tool, ensuring regular updates and enhancements. Increasing the frequency of CSS use in coursework, supported by workshops and training, will help students and instructors fully utilize its features. Continuous monitoring of academic performance will allow for data-driven refinements to better align the simulator with educational goals. Additionally, investing in technical reliability, bug fixes, and scenario accuracy will enhance realism and user satisfaction. Student and instructor feedback should guide future developments, ensuring the CSS remains reliable, realistic, and valuable across all platforms.

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PROCEDURE FOR PREPARATION AND PRESENTATION OF FINANCIAL STATEMENTS IN FOREIGN COUNTRIES AND THE PRACTICE OF ITS APPLICATION IN UZBEKISTAN

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ANNOTATION

In this article, the author reflects on the procedure for preparing and presenting financial reports in foreign countries and the practice of applying it in Uzbekistan, mainly the conclusions are given on the procedure for preparing and presenting financial reports in Turkey, Japan and China and the practice of applying it in Uzbekistan.

KEYWORDS: *Financial statement, balance sheet, assets, liabilities, equity capital, principles, reporting period, international standards*

The order of preparation and presentation of financial statements in the Asian region has its own significance and reflects the mentality of the countries. For example, the experience of Turkey can be cited for such countries. In Turkey, which is the largest member of the Organization of Turkic States (19% of the territory, 68% of the GDP, and 50% of the population), the accounting system is more developed than the OTC member states and has its own characteristics.

Turkey IFAD Included in GAAP Convergence Study National Professional Organization Website: Union of Chambers of Certified Public Accountants of Turkey;

Developer of accounting standards: Public Supervision, Accounting and Auditing Standards Institution (KGK);
Response to IFAC Members' Inquiry on Standard Setting and Regulation World Bank Accounting and Auditing ROSC Report.

As you know, it has been announced that starting from 2022, the accounting system in Turkey will be regulated by a number of local and international legal documents, namely:

First, according to the newly adopted Commercial Code in Turkey, it was established that the jurisdictional organizations must maintain accounting, calculations and individual or consolidated financial statements in accordance with Turkish Accounting Standards (TBHS) and Turkish Financial Reporting Standards (TAS / TFRS). Here, Turkish Financial Reporting Standards (TFRS) are a direct translation of International Financial Reporting Standards (IFRS);

The Second, Turkish Commercial Code;

Third, securities market laws.

Accounting standards in Turkey are set by Kamu Gözetimi, Muhasebe ve Denetim Standartları Kurumu (KGK). As mentioned above, it is fully compliant with Turkish Financial Reporting Standards (TFRS). New and changed standards official in the newspaper publication to be done with constant respectively acceptance will be done .

International financial reporting standard (IFRS). Turk to the language translation in doing delays because of MHXS one of the following action to do can :

- Companies MHXS MHXS announced by the Foundation English ras m iy in the language uses the translation , this without auditing in the report and to the presentation based on in the comment Conformity to MHSS about sure conclusion is given ;

- Companies MHXS complete action to do can Translation delay because of auditing conclusion and presentation of the explanation basis financial of the report " In Turkey apply for acceptance done compliance with MHXS". shows .

The composition of the financial report presented in Turkey based on national standards :

B Uxgalter Iya Balance;

Income Information;

Report on Cost of Goods Sold;

Cash Flow Statement;

Statement of Retained Earnings;

Statement of Changes In Capital.

Forms of financial statements to be submitted in Turkey according to the requirements of the Ministry of Internal Affairs and Communications:

Financial Statement;

Statement of Income And Expenses And Gross Income;

Cash Flow Statement;

Statement of Changes In Capital;

Notes To The Financial Statements.

The accounting and reporting system in Turkey is fully formed according to the international standards of financial reporting, which is of great importance in expanding comprehensive relations between the countries. As a result of the conducted research, we consider the financial condition (accounting balance) of Koc Holding AS, one of the largest companies in Turkey, which is a member of TDT.



Table 1
"Koc Holding AS" balance sheet¹
(KCHOL Balance Sheet)

Balance Indicators	30, 2024 for March	30, 2023 for December	The difference is in percent
Total current assets	1957748	1712378	114.4
Cash and short-term investments:	339912	328430	103.0
Cash	-	-	-
Cash and cash equivalents	272639	289405	96.4
Short-term investments	62891	35662	177.4
Total debtors, net	1285218	1020773	125.4
Accounts receivable, net	989747	844155	116.7
Reserves, total	147781	118023	124.5
Next period expenses	89668	71419	125.3
Total other current assets	95169	173733	55.0
Total assets	3245405	2858965	113.6
Property, plant and equipment, total	313863	275854	114.8
Fixed assets, buildings and equipment, gross	558143	484524	114.5
Accumulated depreciation, total	-244280	-208670	120.0
Goodwill	55365	48499	114.2
Intangible assets	55258	48103	114.4
Long-term investments	507128	457195	111.1
Bills receivable-long term	295471	176618	167.7
Other long-term assets	39815	32491	121.8
Other assets, total	-658767	-405547	162.5
Current liabilities, total	2134647	1865813	114.5
Accounts Payable	194440	186649	104.3
Payable/billed	-	-	-
Estimated costs	49065	49075	100.0
Debts payable, short-term	247512	192453	126.3
Current Port . LT debt and capital lease	172813	168977	102.3
Other liabilities, total	1470817	1268659	116.7
Liabilities, total	2490453	2184693	114.2
Long-term liabilities, total	275263	247393	112.5
Long-term liabilities	267618	240926	111.2
Capital leases and bonds	7645	6467	118.7
Tax differences	19972	15179	126.7
The interest of the minority	294684	269543	111.5
Other obligations	-799303	-722081	109.7
Equity, total	754952	674272	111.9
Preference shares, non-redeemable, net	-	-	-
Common shares, total	2536	2536	100.0
Additional capital (paid up)	263	229	117.9
Retained earnings (loss)	405514	351290	114.2
Treasury stock-ordinary	-71	-62	114.5
ESOP is a secured debt	-	-	-
Unearned income (loss)	-	-	-
Other capital	346710	320279	106.2
Total liabilities and stockholder's equity	3245405	2858965	113.6
Total common shares outstanding	2535.01	-	-
Total Preference Shares Outstanding	-	-	-

" Koc Holding AS " company, the items reflected in the balance sheet were developed in accordance with the board that develops accounting standards in Turkey (Kamu Gözetimi,

Muhasebe ve Denetim Standartlari Kurumu (KGK)) and Turkish financial reporting standards (TAS / TFRS). if attention is paid to the items, intangible assets and goodwill occupy a

¹ Author's Development Based On His Data.



significant place in the structure of long-term assets. in the private equity section, we can see a special approach to items such as "Unearned Income (Loss)" and "ESOP Secured Debt".

In Japan, the most developed economy in Asia , filing of financial statements is regulated by the Commercial Code, the Companies Act and other regulatory documents.

In Japan, several accounting standards are used at the same time, including International Financial Reporting Standards (IFRS), national standards, and others. It should be noted that all the financial reporting data in Japan alone in the world is not open, that is, it is not publicly announced.

In Japan, companies whose shares are listed on the stock exchange are required to submit an annual securities report . In this case, the annual securities report includes:

Report on Company Activity (Key Indicators, History, Business Report, Etc.)
Statement of Operations And Financial Position
Service And Capital Expenditure Report
Securities Performance Report
Financial Statement
Applications
 Financial Reporting For Japanese Companies Includes:
Balance Sheet
Income Statement
Statement of Changes In Assets
Cash Flow Statement
Applications

Also, state corporations are required to submit financial statements to Japan's Ministry of Finance within 3 months of the end of the fiscal year. They can be published on the company's website or in a special publication. Also, financial statements are submitted to the National Tax Agency.

In Japan, the annual reports of listed companies are submitted to the Financial Services Agency. Access to the database of financial reports is carried out through a special online service. This requires the exact company name and company registration number in Japanese or English to search. The search for financial statements of companies that are not public corporations and whose shares are not listed on the stock exchange is carried out on an individual basis.

Financial services shall report to the Agency within six months after the end of the financial year. In Japanese, financial statements provide detailed information about a company's financial health and creditworthiness, as well as its operations. Financial statements of Japanese companies can be used to obtain information about customers when carrying out foreign economic transactions, purchasing goods and services or participating in the capital of Japanese companies, as well as applying to court for the recovery of debts. Registered business companies are required to submit annual financial statements according to local laws.

Below is one of Japan's largest corporations, Mitsubishi Heavy Industries, Ltd. The company's profit and loss statement and its structure are presented.

Table 2
«Mitsubishi Heavy Industries, Ltd.» company's profit and loss statement²
 (7011 Income Statement)

(Million Dollars)

Indicators	30, 2023 for December	30, 2024 for March	The difference is in percent
Total revenue	1396480	1191394	85.6
Income	1396480	1191394	85.6
Other income	-	-	-
Cost of sale	1111603	940216	84.6
Gross profit	284877	251178	89.2
Operating expenses, total	1307379	1099734	83.8
Selling, administrative and other expenses	217408	166058	76.4
Scientific research and development	120888	-	-
Depreciation	50542	37241	74.0
Interest expenses (income) - net (operating)	-5170	-19578	-
Abnormal expenses (income)	-	-	-
Other operating expenses	-12527	-24203	-
Operating income	89101	91660	102.2
Interest income (expense) - non-operating	-	-	-
Gain (loss) on sale of assets	-	-	-
Others	(18489)	17777	-
Income before tax	107590	73883	68.2
Income tax provision	20168	22299	110.0
Net profit after tax	87422	51584	58.6
The interest of the minority	116034	110272	94.8

² <https://www.investment.com/equities/mitsubishi-heavy-industries-ltd> . author's development based on his data. .



Capital in departments and branches	-	-	-
Adjustments to US GAAP	-	-	-
Income (Loss) Before Contingencies	83973	46106	55.4
Net profit	83973	46106	55.4
Adjustments to net profit	-	-	-
General disposable income, excluding emergencies	83973	46106	55.4
Diluted corrections	-7.45	-2.18	-
Diluted net income	83980.45	46108.18	55.4
Average softened stocks	3361.92	3361.88	100.0
EPS except for contingencies	24.98	13.72	54.1
DPS - Initial Issued Common Stock	12	-	-
Equity normalized diluted earnings	15.7	12.11	80.0

According to the information, "Mitsubishi Heavy Industries, Ltd." Although the company's profit and loss statement is positive, it is not satisfactory compared to the previous year for the 1st quarter of 2024. This report provides investors and other interested parties with valuable information on Total Available Income, Diluted , Earnings, Adjustments and Diluted Average

Shares after determining Net Profit. As a result of the conducted research, «Mitsubishi Heavy Industries, Ltd.» The composition and structure of the company's cash flow statement are given below.

Table 3
«Mitsubishi Heavy Industries, Ltd.» company's cash flow statement³

(Million Dollars)

Indicators	30, 2023 for December	30, 2024 for March	The difference is in percent
Net income (Net Income/Starting Line)	107588	73885	68.2
Cash From Operating Activities	633373	-120955	-
Depreciation	50542	37241	74.0
Amortization (Amortization)	-	-	-
Deferred Taxes	-	-	-
Non- Cash Items	-28886	-13854	-
Cash Receipts	-	-	-
Cash Payments	-	-	-
Cash Taxes Paid	5284	21838	420.0
Cash Interest Paid	4156	3029	73.3
Changes in Working Capital	504129	-218227	-
Cash From Investing Activities	-19889	-111114	-
Capital Expenditures (Capital Expenditures)	-47390	-40780	-
Other Investing Cash Flow Items	27501	-70334	-
Cash From Financing Activities	-505931	251003	-
Financing Cash Flow Items	-49441	-6472	-
Cash Dividends Paid	-1077	-25752	-
Issuance (Retirement) of Stock	-	-	-
Issuance (Retirement) of Debt	-455413	283227	-
Foreign Exchange Effects	39024	-	-
Change in Cash	119145	12529	10.5
<i>Beginning Cash Balance</i>	<i>312142</i>	<i>299612</i>	<i>93.5</i>
<i>Ending Cash Balance</i>	<i>431287</i>	<i>312141</i>	<i>72.0</i>
Free Cash Flow	609614.88	-186326.75	-
Free Cash Flow Growth	427.18	-481.35	-
Free Cash Flow Yield	12.04	-5.84	-

In the table "Mitsubishi Heavy Industries, Ltd." when analyzing the company's cash flow report, it was observed that the company's indicators decreased on March 30, 2024, i.e., in the 1st quarter, compared to December 30, 2023. We want to focus

not on the numbers in this report, but on the components (mandatory items) of the report. Because the financial statements of the company are formed based on the requirements of international standards.

³Author's development based on his data. .



One of the important features of this report is the "Changes in Working Capital" article, in which information on the company's current assets-reserves, receivables, short-term investments, and cash and equivalents are also calculated in determining net profit. Also, the report discloses information on free cash flow (Free Cash Flow), growth of free cash flow (Free Cash Flow Growth) and profitability of free cash flow (Free Cash Flow Yield), evaluation of future cash flows and important for the investor makes it possible to get the information.

In China, which is the second largest economy after the United States, financial statements are submitted on the basis of the following regulatory documents: the Law on Accounting of the People's Republic of China;

*Audit Law of the People's Republic of China;
regulated by other normative documents.*

The existing accounting system in China is fully dependent on International Financial Reporting Standards (IFRS) and on its own national standards. It can be seen that many differences have occurred.

All companies in China submit annual financial statements (which are part of accounting) to local fiscal authorities. In addition, companies whose securities are listed on the stock exchange must submit reports to the Securities Regulatory Commission. Also, commercial companies are required to publish their annual reports on special resources determined by the authorities. Annual reports are submitted in China by April 30 of the year following the reporting year. In this case, the full annual report includes:

*Basic Information About The Company
A Brief Description of The Company's Products
Brief Description of The Industry
Property Objects
Number of Shareholders
Financial Statement*

The financial report includes:

*Balance
Income Statement
Cash Flow Statement
Applications*

Information on the Financial Status of the Organization

The following conclusions were made as a result of the research conducted on the forms of financial statements, the requirements and rules for their structure, and the principles of presentation in foreign countries with developed economies:

1. We believe that it is appropriate to put into practice the form of accounting balance (based on BHMS) or the financial statement based on the requirements of international standards (MHXS), exactly the balance sheet structure of US companies. Because the formation of the assets of the balance sheet according to the liquidity and the reflection of the liabilities according to the terms of extinguishment means that the methodology put on the balance sheet is being used correctly.

2. In our republic, the determination of net profit in the report on financial results includes five stages, while in the US, net profit is not the last stage, but after it, indicators such as

adjustment to net profit, smoothed income are calculated. In general, it is advisable to introduce the methodology of reporting in one-step forms according to the requirements of the US or MHHS, instead of multi-step, when compiling the financial results formed on the basis of BHMS.

3. Based on foreign experiences, the following conclusions were drawn on the profit and loss statement:

First, the profit and loss statement is a financial report showing the income and expenses of enterprises for a certain period;

Secondly, the report has a unique character, the recorded events begin with income (revenue) and end with net profit;

Third, the profit and loss statement is one of the main three financial statements, which together with the balance sheet and the cash flow statement represent the financial indicators of the enterprise for a certain reporting period;

Fourth, the profit and loss report provides valuable information about the activities of enterprises, management efficiency indicators;

Fifth, It will be possible to present the statement of profit and loss in a single-step or multi-step form.

4. Although Chinese accounting standards are distinguished by the fact that they appeared in the socialist era, when the government was the sole owner of the industry, unlike European and US accounting standards, they are not a means of determining profits and losses, but the inventory of assets available in the company is important. It also has different balance sheet aspects,

Chinese accounting standards do not include accounting for debts owed to the corporation, and more emphasis is placed on management control than accounting for tax purposes. Therefore, it creates an opportunity to introduce the methodology of preparing financial reports in foreign countries into the practice of our republic, to enter the international markets and attract investors widely.

5. In our opinion, if there is a delay in the official translation of the MHSS into the Uzbek language in our republic, we consider it appropriate to implement the following experience of Turkey:

First, the application of the official English translation of the MFRS published by the MFRS Foundation by enterprises, in which case the auditor's report and the explanatory note based on the presentation provide clear conclusions about compliance with the MFRS:

Secondly, enterprises may apply IFRS in full, in which case, due to the delay in translation, the basis of the auditor's report and the explanatory note to the presentation indicates the compliance of the financial statements with the "IFRS adopted for use in Uzbekistan".

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ATTITUDE AND COMPETENCIES OF TEACHERS AT THE SECONDARY LEVEL REGARDING CONTINUOUS AND COMPREHENSIVE EVALUATION IMPLEMENTATION

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ABSTRACT

Continuous and Comprehensive Evaluation (CCE) stands as a comprehensive assessment paradigm, aiming to appraise various facets of student development consistently throughout their academic journey. This research delves into the attitudes and proficiencies of secondary school teachers concerning the adoption and execution of CCE. Employing a mixed-methods approach, data collection extended across a spectrum of secondary school environments, capturing insights from teachers across diverse settings. The study sets out to unravel teachers' perceptions, confrontations, and preparedness regarding CCE integration, thereby unveiling the underlying determinants shaping their attitudes and competencies in this realm.

The study seeks to analyze the perspectives of secondary school teachers regarding Continuous and Comprehensive Evaluation (CCE), and secondly, to measure their competencies in implementing CCE. To facilitate data collection, the researcher devised two instruments: the Teacher Attitude Scale and the Teacher Competencies Scale. The present study is conducted in Anantapur, Andhra Pradesh State. The total sample comprises 80 teachers employed in both government and private secondary schools. The findings anticipated from this research endeavor hold the potential to captivate the attention of policy framers, school administrative bodies, and stakeholders alike, prompting necessary actions to ensure the seamless operation of CCE within secondary educational institutions.

In light of the findings, recommendations are proposed to address the impediments hindering the effective implementation of CCE. These findings underscore the recognition among teachers of the prospective benefits that CCE promises, albeit overshadowed by obstacles such as inadequate training, resource deficiency, and insufficient institutional support. Moreover, discernible disparities in attitudes and competencies among teachers emerge, delineated by factors like tenure, subject specialization, and pedagogical methodologies employed.

KEYWORDS: *Continuous and Comprehensive Evaluation (CCE), attitudes, competencies, pedagogical methodologies.*

INTRODUCTION

Education has undergone substantial transformations, emphasizing more nuanced and holistic approaches to assessing student progress. Continuous and Comprehensive Evaluation (CCE) symbolizes this evolution, transitioning from conventional assessment approaches towards a more comprehensive and ongoing evaluation of student learning and growth. In secondary education, where the groundwork for future academic and personal development is laid, the role of teachers is pivotal in effectively implementing CCE.

The attitudes and competencies of secondary school teachers are crucial in shaping the success of CCE implementation. Their beliefs, perceptions, and skills influence how CCE is incorporated into classroom practices, ultimately impacting the quality of assessment, feedback, and student outcomes. Understanding teachers' attitudes towards CCE and their competencies in implementing it is essential for optimizing the educational experience and fostering holistic student development.

Researchers and educators have shown growing interest in exploring the development of attitudes toward evaluation and their influence on the evaluation process. There is a direct correlation between attitudes and CCE, as attitudes influence one's internal disposition and behavior, thereby affecting evaluation practices. Positive attitudes among teachers are instrumental in the success of CCE, as they foster a constructive approach towards the evaluation process.

Competencies, alternatively pertain to the capacity to efficiently and effectively perform tasks. They encompass qualities such as fluency, enthusiasm, and adaptability, and must be functional and operational when needed. Competencies in teaching include a range of skills and behaviors essential for delivering course content effectively and achieving desired student outcomes. Competency development and training are interlinked, with organizations prioritizing training to build and refine competencies among their workforce.



Each competency comprises various individual skills and behaviors, which must be integrated and combined effectively to enhance performance. Simply learning individual skills is insufficient; they must be integrated and practiced to achieve a composite performance greater than the sum of its parts. This comprehensive approach to fostering competency ensures that teachers possess the requisite skills and capabilities essential for successful implementation of CCE, consequently contributing to student achievement.

REVIEW OF RELATED LITERATURE

Chopra and Gupta (2013) conducted a study titled "Learners Attitude towards Continuous and Comprehensive Evaluation" with the aim of exploring learners' attitudes towards teachers' assessment practices and how Continuous and Comprehensive Evaluation (CCE) impacted their lives. The findings revealed that a significant majority of students, accounting for 80%, held favorable attitudes towards CCE.

In a study by Rana (2015) aimed at understanding teachers' attitudes towards Continuous and Comprehensive Evaluation, it was found that approximately 52% of teachers working in rural areas exhibited a more positive attitude towards CCE.

Sudip (2018) undertook research to investigate the competencies of modern teachers. The study analyzed various aspects, including levels of teachers' professional growth, students' skills, pedagogical innovations, teachers' pedagogical culture, and 21st-century teaching competencies.

Sharma and Gupta (2020) conducted a study that delved into the challenges inherent in the execution of Continuous and Comprehensive Evaluation (CCE), a topic extensively discussed in scholarly works. The study pinpointed various hurdles, encompassing logistical constraints like time limitations and workload burdens, alongside conceptual difficulties associated with harmonizing assessment methods with the aims of CCE. This investigation illuminates the multifaceted impediments encountered by educators in seamlessly incorporating CCE into their instructional approaches, emphasizing the necessity for holistic strategies to tackle these challenges and enhance the execution of CCE.

The present research endeavor aims to address a notable gap in existing literature by delving into the attitudes and competencies of secondary school teachers regarding Continuous and Comprehensive Evaluation (CCE). Recognizing this lacuna, the study endeavors to explore how teachers perceive and navigate the terrain of CCE implementation within secondary educational settings. By shedding light on teachers' attitudes and competencies towards CCE, this research endeavors to offer valuable insights into the complexities of integrating CCE. Furthermore, by scrutinizing the challenges encountered during CCE implementation, the study aims to pinpoint areas for enhancement and devise strategies to surmount obstacles, thereby

elevating the standard of education and improving student outcomes.

OBJECTIVES OF THE PRESENT STUDY

The study's objectives represent the achievable aims guiding the research towards its intended outcomes. The present study has established the following objectives for the present study:

1. To assess the attitudes of teachers in secondary schools regarding Continuous and Comprehensive Evaluation.
2. To evaluate the competencies of teachers at the secondary school level in implementing Continuous and Comprehensive Evaluation.

METHODOLOGY USED IN THE STUDY

Method used in the Study

In the current research study, the investigator has employed the survey method as the primary research approach. Additionally, the researcher utilized case studies, observations, interviews, and formal discussions with Principals/Headmasters, Teachers, Management, and Parents (during data collection) as supplementary sources of information.

Tools used in the Study

The study aims to ascertain the attitudes and competencies of teachers in secondary schools regarding the implementation of continuous and comprehensive evaluation. To fulfill these objectives, the investigator devised the following rating scales:

1. Teacher Attitude Scale (TAS) - A scale crafted to gauge the viewpoints of secondary school teachers regarding continuous and comprehensive evaluation.
2. Teacher Competencies Scale (TCS) - A rating scale formulated to evaluate the competencies of secondary school teachers in implementing continuous and comprehensive evaluation.

Locale and Sample of the Study

The current study is situated in Anantapur, Andhra Pradesh State. Fifteen secondary schools were carefully selected as the study's locale. The total sample size comprises 80 teachers employed in both government and private secondary schools at the period of data gathering for this research.

Data Collection

The researcher received authorization from the Headmaster/Principal of the chosen secondary schools to collect data from the teachers. Before administering the assessment tools, a positive relationship was established with the teachers. The developed rating scales, known as the Teacher Attitude Scale and the Teacher Competencies Scale, were then distributed to the secondary school teachers to evaluate their attitudes and competencies regarding continuous and comprehensive evaluation. Teachers were instructed to thoroughly read the provided guidelines before rating the statements on the tools, and they were given no specific time constraints for their responses. Following this, the researcher personally collected the completed rating scales from the participants in the study.



Statistical Techniques Used in the Study

The gathered data underwent analysis using appropriate statistical methods, which involved computing numbers and percentages with the support of the SPSS software package. To determine the distribution of secondary school teachers across low, moderate, and high levels of awareness towards Continuous and Comprehensive Evaluation (CCE), mean and standard deviation of attitude and competencies scores were computed using the mean $\pm$ 1 standard deviation. Furthermore, the number and percentage of secondary school teachers falling into low, moderate, and high levels of attitude and competencies towards CCE were calculated dimension-wise.

DATA ANALYSIS AND INTERPRETATION

Table-1: Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Attitude towards implementation of Continuous and Comprehensive Evaluation

Attitude Dimensions	Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Attitude					
	Low $\leq \text{Mean} - S.D$		Moderate In Between		High $\geq \text{Mean} + S.D$	
	Number	%	Number	%	Number	%
Conceptual Competencies	12	15.00	52	65.00	16	20.00
Content Competencies	12	15.00	52	65.00	16	20.00
Transactional Competencies	14	17.50	48	60.00	18	22.50
Competencies in Preparation of TLM	13	16.25	53	66.25	14	17.50
Other Educational Activity Competencies	11	13.75	59	73.75	10	12.50
Evaluation Competencies	13	16.25	54	67.50	13	16.25
Management Competencies	12	15.00	57	71.25	11	13.75
Competencies in working with Parents, Community and other Agencies	11	13.75	59	73.75	10	12.50
Attitude as a whole	13	16.25	52	65.00	15	18.75

Note: The Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Attitude towards implementation of CCE has been arrived based on mean $\pm$ 1S.D ($M \pm 1\sigma$) for each item for the sample of the study.

As indicated in Table 1, among the 80 surveyed teachers, the majority, consisting of 52 teachers (65%), showed a moderate level of attitude toward implementing continuous and comprehensive evaluation holistically. The range for this moderate attitude level ranged from 60% to 73.75%. Additionally, 15 teachers (18.75%) displayed a high level of attitude toward CCE implementation, falling within a range of 12.5% to 22.5%. In contrast, 13 teachers (16.25%) exhibited a low level of attitude toward CCE implementation, with the range for this level spanning from 13.75% to 17.5%.

According to the analysis performed, it's apparent that most teachers demonstrate a moderate attitude toward implementing Continuous and Comprehensive Evaluation (CCE). This discovery corresponds with earlier investigations carried out by Awofala and Babajide (2013), Mehta (2012), Rajani Kumari and Yogesh Punia (2016), Rana (2015), and Sivakumar et al. (2013). In particular, the present study reveals that over 80.75% of secondary school teachers exhibit moderate to low levels of attitude regarding CCE implementation.

1. Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Attitude towards implementation of Continuous and Comprehensive Evaluation

Table-1 illustrates the breakdown of secondary school teachers according to their attitudes toward implementing Continuous and Comprehensive Evaluation (CCE) across several dimensions. These dimensions encompass conceptual understanding, subject matter proficiency, instructional skills, preparation of Teaching-Learning Materials (TLM), proficiency in other educational activities, evaluation skills, management abilities, and capabilities in engaging with parents, community members, and external agencies, alongside their overall attitude.

Several factors contribute to the presence of low attitude among teachers towards CCE implementation. These include delays in the supply of manuals, infrequent conduct of workshops, overwhelming syllabus requirements, insufficient knowledge regarding the preparation of CCE model question papers, lack of professional skills among teachers, inadequate remuneration, diminished enthusiasm for professional development, excessive workload, age-related concerns, low confidence levels, and personal challenges within their families.

In essence, these results highlight the complex obstacles encountered by teachers as they strive to adopt and proficiently execute Continuous and Comprehensive Evaluation (CCE) within secondary education contexts. It is essential to tackle these hurdles through tailored interventions and supportive measures to cultivate a more favorable environment for CCE implementation. This endeavor is crucial for elevating the standard of education and improving student outcomes.

Figure-1 depicts a bar diagram illustrating the distribution of teachers at the secondary schools based on their levels of attitude



towards within the execution of continuous and comprehensive evaluation.

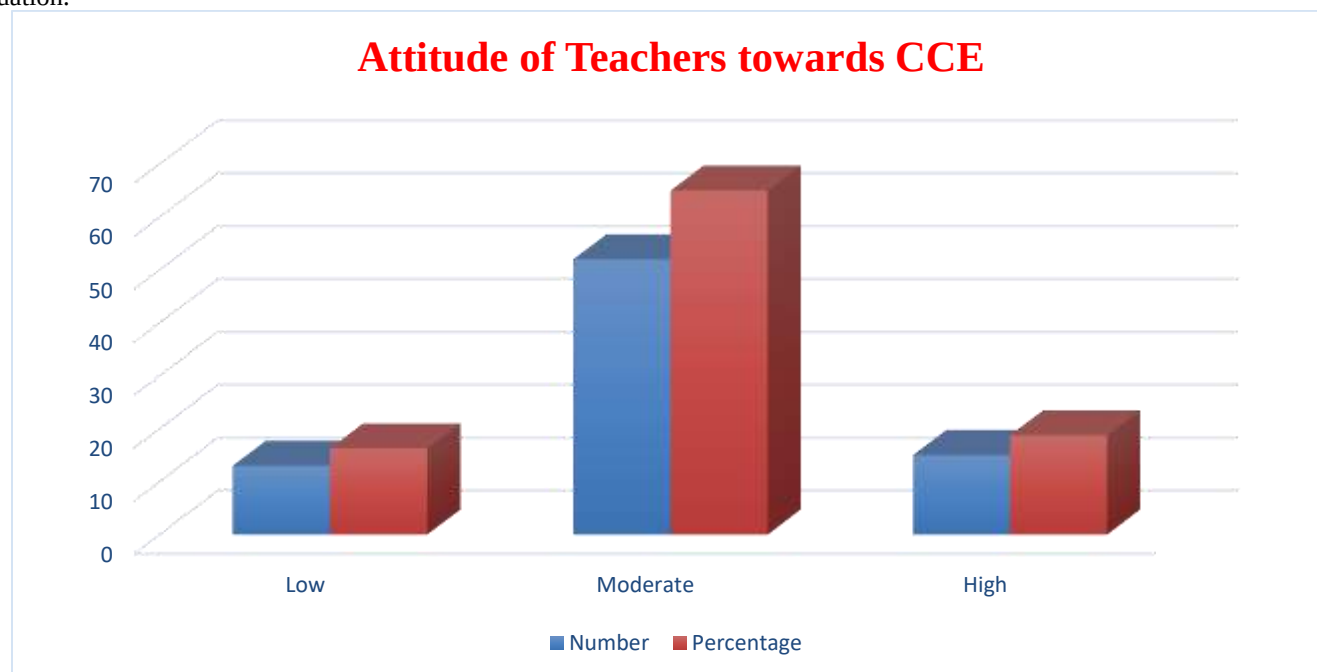


Figure- 1: Number and Percentage of teachers working in secondary schools with low, moderate and high levels attitude towards implementation of continuous and comprehensive evaluation.

2. Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Competencies in implementation of Continuous and Comprehensive Evaluation

Table-2 presents the number and percentage of teachers categorized into low, moderate, and high levels of competencies in the implementation of continuous and comprehensive

evaluation across various dimensions. These aspects comprise conceptual understanding, subject matter proficiency, instructional skills, preparation of TLM competencies, competencies in other educational activities, evaluation competencies, management competencies, and competencies in working with parents, community, and other agencies, as well as overall competencies.

Table-2: Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Competencies in implementation of Continuous and Comprehensive Evaluation

Competencies Dimensions	Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Competencies					
	Low $\leq \text{Mean} - S.D$		Moderate <i>In Between</i>		High $\geq \text{Mean} + S.D$	
	Number	%	Number	%	Number	%
Conceptual Competencies	12	15.00	52	65.00	16	20.00
Content Competencies	13	16.25	51	63.75	16	20.00
Transactional Competencies	14	17.50	49	61.25	17	21.25
Preparation of TLM Competencies	13	16.25	53	66.25	14	17.50
Competencies of teachers on other Educational activities	16	20.00	45	56.25	19	23.75
Evaluation Competencies	15	18.75	49	61.25	16	20.00
Management Competencies	12	15.00	51	63.75	17	21.25
Competencies in working with Parents, Community and other Agencies	14	17.50	50	62.50	16	20.00
Competencies as a whole	14	17.50	50	62.50	16	20.00

Note: The Number and Percentage of Teachers working in Secondary Schools with Low, Moderate and High Levels of Competencies in implementation of CCE has been arrived based on mean $\pm$ 1S.D ($M \pm 1\sigma$) for each item for the sample of the study.



From Table 2, it is evident that among the 80 teachers surveyed in secondary schools, 50 teachers (62.5%) demonstrate a moderate level of competencies overall in the implementation of continuous and comprehensive evaluation. The range for the moderate level of competencies spans from 56.25% to 66.25%. Similarly, 16 teachers (20%) exhibit a high level of competencies overall, with the range for this level ranging from 17.50% to 23.75%. Conversely, 14 teachers (17.50%) possess a low level of competencies overall, with the range for this level varying from 15% to 20%.

The results suggest that most teachers possess a moderate level of competency when it comes to executing continuous and comprehensive evaluation. This observation aligns with earlier studies conducted by Geeta (2016), Jimmy and Malinda (2019), and Tambunan (2014). Additionally, it is deduced that 80% of secondary school teachers display moderate to low levels of competency in this area.

Several factors aid in the prevalence of low competencies among teachers. These include:

- Inadequate infrastructure, hindering the provision of a conducive teaching environment.
- Insufficient training opportunities for teachers, impeding their effectiveness in fulfilling their duties.
- Lack of experience and skills among teachers, affecting their ability to perform responsibilities adequately.

- Low motivation due to factors such as unattractive work environments and salary packages, limited career development opportunities, and lack of self-motivation.
- Large class sizes, making it challenging for teachers to effectively monitor student progress.
- Limited knowledge among teachers regarding the use of appropriate teaching materials and methods.
- Inadequate access to laboratory equipment and ICT resources.
- Insufficient availability of reference and reading materials.
- Additional administrative duties assigned to teachers, detracting from their teaching responsibilities.
- Lack of administrative support for teachers' professional development endeavors.

Improving teacher competencies in executing continuous and comprehensive evaluation is crucial for enhancing the quality of education and student outcomes. This can be achieved through targeted interventions and supportive mechanisms designed to address these challenges effectively.

Figure-2 illustrates a bar diagram depicting the distribution of teachers at the secondary schools based on their levels of competencies within the execution of continuous and comprehensive evaluation.

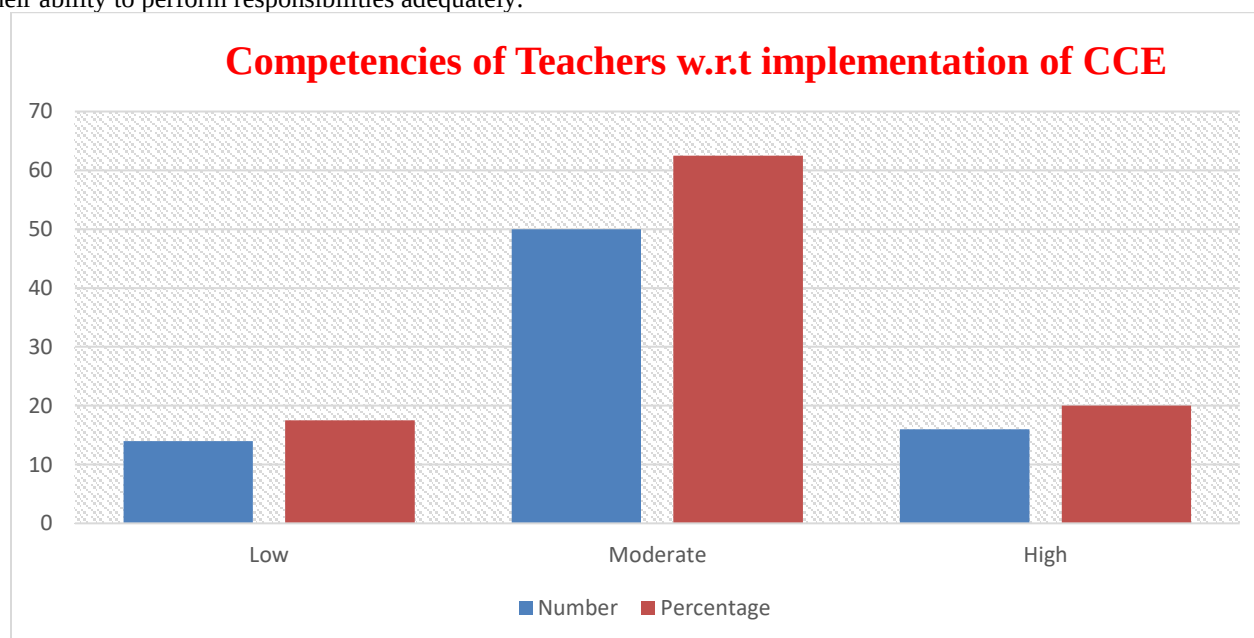


Figure- 2: Number and Percentage of teachers working in secondary schools with low, moderate and high levels competencies with respect to implementation of continuous and comprehensive evaluation.

FINDINGS OF THE STUDY

1. The findings reveal that a substantial majority, accounting for 81.25% of secondary school teachers, exhibit moderate to low levels of attitude regarding the implementation of continuous and comprehensive

evaluation. This highlights the pressing teachers' necessity bolster their competencies across various dimensions including conceptual, content, transactional, preparation of TLM, other educational activities, evaluation, management, and working with parents,



community, and other agencies. Conversely, only 18.75% of teachers exhibit a high level of attitude towards CCE implementation.

2. Likewise, a significant majority, around 80%, of secondary school teachers demonstrate moderate to low levels of competence in implementing continuous and comprehensive evaluation. This underscores the necessity for teachers to enhance their competencies in conceptual understanding, content delivery, transactional strategies, TLM preparation, engagement in educational activities, evaluation techniques, management skills, and collaboration with parents, community, and other agencies. In contrast, only 20% of teachers demonstrate a high level of competencies in CCE implementation.

IMPLICATIONS OF THE STUDY

To foster a more positive attitude and enhance competencies among teachers towards continuous and comprehensive evaluation (CCE), several strategies can be implemented:

- Orientation programmes should be organized for teachers, with a specific focus on the objectives of continuous and comprehensive evaluation. These programmes should aim to enlighten teachers about the significance of CCE, its objectives, and the methodologies involved. By providing comprehensive training and guidance, teachers with low and moderate levels of attitude and competencies towards CCE can be empowered to better understand and implement it effectively.
- Since continuous and comprehensive evaluation necessitates daily observations of students, it is essential to meticulously plan and execute these observations. Teachers should be trained to conduct observations that focus on qualitative aspects of student behavior, rather than simply assigning pass or fail labels. This method allows teachers to acquire profound insights into student learning and growth, thereby facilitating the implementation of more meaningful assessment practices.
- It's evident that numerous teachers rely on traditional teaching approaches in their classrooms. Encouraging educators to embrace schematic teaching methods can significantly enhance the effectiveness of Continuous and Comprehensive Evaluation (CCE) implementation. This involves utilizing charts, models, and other visual aids to supplement traditional teaching approaches. By incorporating visual and interactive elements into their lessons, teachers can create a more engaging and comprehensible learning environment for students, enhancing their understanding and retention of key concepts.

cultivation ultimately contributes to improved student learning outcomes and fosters holistic development.

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Through the adoption of these strategies, educators have the opportunity to nurture an environment that prioritizes continuous improvement and innovation in the implementation of Continuous and Comprehensive Evaluation (CCE). This



ANALYSIS OF FACTORS INFLUENCING WOMEN'S EMPOWERMENT IN DECISION-MAKING ANTENATAL CARE AT THE RANTAU PRAPAT CITY HEALTH CENTER

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ABSTRACT

Pregnancy is a critical phase in a woman's life that requires attention to physical, mental, and social health. This process involves significant changes in physiological and psychological aspects that affect the health of the mother and fetus. Health surveillance during pregnancy, including antenatal care (ANC), is essential to prevent complications. However, in Indonesia, the use of ANC services is still not optimal, as it is influenced by various factors such as age, education, work, knowledge, and husband support. This study aims to analyze the factors that affect women's empowerment in decision-making for antenatal care at the Teluk Panji Health Center, South Labuhanbatu Regency. The method used was quantitative with a descriptive approach and associative analysis, involving 300 respondents of pregnant women who were selected incidentally. Data was obtained through interviews and questionnaires. The results showed that the education level had a p -value of 0.000, a p -value of 0.016 for employment status, a p -value for husband support of 0.000, and a p -value for health facility accessibility of 0.000. These variables are significantly related to women's empowerment in ANC decision-making. These findings provide important insights for policymakers and health practitioners to improve the quality of services and support for women's empowerment in antenatal care.

KEYWORDS: women's empowerment, antenatal care decisions, husband support, maternal and child health

INTRODUCTION

Pregnancy is an essential phase in a woman's life, where various physical, mental, and social health aspects require special attention. Pregnancy involves significant physiological, biological, and psychological changes in Women (Amalia 2022) (Yusuf 2019). Physiologically, the process begins with the fertilization of the egg by the sperm, forming a zygote that develops into a fetus and continues to grow until delivery. Hormonal changes, such as increased estrogen and progesterone, affect the body and can cause stress or mood swings similar to menstruation or menopause (Respati, Sulistyowati, and Nababan 2019). Psychic changes are also common, including emotional fluctuations and anxiety related to the new role of motherhood. Therefore, pregnant women need supervision from health workers to ensure the health of the mother and fetus, monitor the development of pregnancy, and handle potential health problems that may arise (Puji Septeria and Adlia Syakurah 2024)

The health of pregnant women is an important aspect that needs to be considered throughout pregnancy because of the potential for unexpected complications, so it requires strict supervision. Supervision of pregnant women requires good relationships and communication between health workers and pregnant women. Pregnant women need to get complete information about their pregnancy, including the health condition of the mother and fetus. Antenatal care (ANC) is a service health workers provide during pregnancy to monitor physical and psychological health, fetal growth and development, and prepare for the delivery process (Irmayanti and Arlyn 2024). Regular pregnancy checkups can prevent pregnancy and childbirth complications. However, the use of antenatal care services by some pregnant

women in Indonesia does not fully follow the established guidelines, making it difficult for health workers to conduct regular health coaching and detect pregnancy risk factors. Antenatal care visits are influenced by various factors, including age, education level, employment status, parity of pregnant women, knowledge and attitudes of pregnant women, distance of residence, family income, information media facilities, and support from husbands, families, and health workers (Umnityati, Purnamasari, and Febriani 2023)

Pemberdayaan perempuan dalam pengambilan keputusan perawatan antenatal merupakan salah satu aspek krusial untuk memastikan kesehatan ibu dan janin selama kehamilan. Puskesmas Teluk Panji di Kecamatan Kampung Rakyat, Kabupaten Labuhanbatu Selatan, berperan penting dalam menyediakan layanan kesehatan bagi ibu hamil di wilayah tersebut. Namun, tingkat pemberdayaan perempuan dalam pengambilan keputusan mengenai perawatan antenatal di wilayah ini masih perlu dikaji lebih mendalam untuk memahami faktor-faktor yang mempengaruhinya (Nurfitriyani and Puspitasari 2022). Pemberdayaan perempuan dalam pengambilan keputusan antenatal mencakup hak dan kemampuan perempuan untuk membuat keputusan yang mempengaruhi kesehatan mereka dan janin mereka. Faktor-faktor seperti usia, pendidikan, pekerjaan, jarak ke fasilitas kesehatan, dan dukungan suami dapat memainkan peran signifikan dalam proses ini. Di Kabupaten Labuhanbatu, terdapat berbagai tantangan yang mungkin mempengaruhi tingkat pemberdayaan perempuan, seperti keterbatasan akses ke layanan kesehatan, perbedaan tingkat pendidikan, dan variabilitas dukungan dari lingkungan sosial.



The results of Nurfitriyani's (2022) research show that there is a relationship between the level of education, knowledge, attitudes, implementation of health protocols, distance of residence, the role of medical personnel, and the availability of health protocol facilities with ANC visits during the COVID-19 pandemic. However, age, employment status, disease history, and parity were unrelated to ANC visits during the COVID-19 pandemic at the Blooto Health Center, Mojokerto (Nurfitriyani and Puspitasari 2022) Fauziah (2023) stated that there is a significant relationship between knowledge, education, attitudes, and support of husbands or families and ANC visiting behavior of pregnant women (Fauziah, Hilmi, and Salman 2023) Pricilia's research (2022) shows that 1) there is a significant influence between the level of knowledge of pregnant women and antenatal care visits, with a value of $p=0.000$ ($p<0.05$); 2) there was a significant influence between the level of attitudes of pregnant women and antenatal care visits, with a value of $p=0.000$ ($p<0.05$); 3) there was a significant influence of husband support on pregnant women in antenatal care visits, with a value of $p=0.000$ ($p<0.05$); 4) There was a considerable influence of health workers' support on pregnant women in antenatal care visits, with a value of $p=0.000$ ($p<0.05$). This study confirms that knowledge, attitudes, husband support, and health worker support influence antenatal care visits. Therefore, pregnant women are expected to be more concerned about the health of mothers and children by carrying out a complete ANC examination (Pricilia et al. 2022)

Through this study, it is hoped that age, occupation, education, distance to health facilities, and husband support affect women's empowerment in decision-making for antenatal care at the Labuhan Batu Health Center. The findings of this study can provide valuable insights for policymakers and health

practitioners in improving the quality of services and support needed to enhance women's empowerment in antenatal care.

RESEARCH METHODS

The method used in this study is non-experimental quantitative research with a descriptive approach (cross-sectional survey) and associative analysis. The descriptive approach presents an overview of the studied variables at a particular time. This method allows researchers to collect data from a representative sample and analyze the distribution and characteristics of these variables in the population. The location of this research was the Rantau Prapat City Health Center, with a research time starting from September 2024. The population in this study is all pregnant women living in the Rantau Prapat City Health Center area, around 1,000 people in 2023. To determine the number of samples, the study used the Slovin formula, which allows for representative sampling. With a population of around 1,000 people and a relaxation percentage of 0.5%, the calculation results show that the adjusted number of respondents is 300 people. Sampling was carried out by an incidental technique, where the sample was determined based on chance, following what was stated by Sugiyono (2011:85). The data collection method consists of primary data obtained through interviews and questionnaires using Google Form, secondary data from Labuhan Batu Regency, and tertiary data from valid sources such as articles published in online journals. The data analysis used in this study includes univariate analysis to analyze each variable, bivariate analysis with the Chi-Square test to test the relationship between independent and dependent variables, and multivariate analysis using multiple logistic regression analysis. The selection of multivariate variable candidates is carried out by considering the p-value of the bivariate analysis, where variables with a p-value ≤ 0.025 will be included in the multivariate model.

RESEARCH RESULTS

Table 1 Frequency Table of Research Variables Factors Influencing Women's Empowerment in Decision Making for Antenatal Care at the Rantau Prapat City Health Center.

No	Variable	Category	Sum	Percentage (%)
1	Age	20 – 35 years old	170	57%
		> 35 years	130	43%
		Total	300	100%
2	Education Level	Low: ≤ High School	105	35%
		Higher Education (Higher Education)	195	65%
		Total	300	100%
3	Employment status	Work	170	57%
		Not Working	130	43%
		Total	300	100%
4	Husband's Support	Support	240	80%
		Not Supported	60	20%
		Total	300	100%
5	Accessibility of Yankees Facilities	Easy Access	204	68%
		Difficult Access	96	32%
		Total	300	100%
6	Antenatal Care Care Decision Making	Utilize	215	72%
		Not Utilizing	85	28%
		Total	300	100%



Table 4.1 shows the variable frequency of research on factors affecting women's empowerment in decision-making for antenatal care at the Rantau Prapat City Health Center. Of the 300 respondents, 57% were aged 20–35, and 43% were over 35. Regarding education, 65% of respondents have higher education, while 35% have a low education ($\leq$ high school). Based on employment status, 57% of respondents are employed, and 43% are not working. Husband's support was also significant, with 80% of respondents reporting support in

antenatal care decision-making. Accessibility to healthcare facilities shows that 68% of respondents have easy access, while 32% experience difficulties. Finally, 72% of respondents used antenatal care services, while 28% did not. This data suggests that most respondents are young, have higher education, have support from their husbands, and have reasonable access to health services, all of which contribute to decision-making in antenatal care.

Table 2 Chi-Square Test Table of Variable Factors Influencing Women's Empowerment in Decision Making for Antenatal Care at the Rantau Prapat City Health Center.

Variable	Category	Antenatal Care Decision-Making		Total	df	P-Value
		Utilize	Not Utilizing			
Age	≤ 35 years	130	40	170	1	0,264
		43%	13%	57%		
	> 35 years	85	45	130		
		28%	15%	43%		
Total		215	85	300		
		72%	28%	100%		
	Low	40	65	105		
		13%	22%	35%		
Education Level	Tall	175	20	195	1	0.000
		58%	7%	65%		
		215	85	300		
		72%	28%	100%		
Employment Status	Work	130	40	170	1	0,016
		43%	13%	57%		
	Not Working	85	45	130		
		28%	15%	43%		
Total		215	85	300		
		72%	28%	100%		
	Support	186	54	240		
		62%	18%	80%		
Husband's Support	Not Supported	29	31	60	1	0.000
		10%	10%	20%		
		215	85	300		
		72%	28%	100%		
Access to Healthcare Facilities	Easy Access	195	19	214	1	0.000
		65%	6%	71%		
	Difficult Access	20	66	86		
		7%	22%	29%		
Total		215	85	300		
		72%	28%	100%		

Based on Table 2, the Chi-Square test results are presented regarding the variables that affect women's empowerment in decision-making for antenatal care at the Rantau Prapat City Health Center. This table shows the results of the analysis of antenatal care decision-making based on several variables studied, with a total of 300 respondents, which are divided into two categories: utilizing and not utilizing antenatal care. For the age variable, out of 300 respondents, as many as 170 were ≤ 35 years old, of which 130 (43%) took advantage of treatment, while 40 (13%) did not take advantage of it. Respondents aged

> 35 years old totaled 130, of which 85 (28%) took advantage and 45 (15%) did not take advantage. The p-value for age was 0.264, indicating no significant association. At the education level, of the 105 respondents with low education ($\leq$ high school), 40 (13%) took advantage and 65 (22%) did not take advantage, while out of 195 respondents with higher education, 175 (58%) took advantage and 20 (7%) did not take advantage. The P-value for this variable is 0.000, indicating a significant relationship where higher education is positively related to service utilization. Regarding employment status, 170



respondents were employed, with 130 (43%) utilizing and 40 (13%) not utilizing, while 130 respondents were not working, of which 85 (28%) utilized and 45 (15%) did not utilize. The P-value for employment status is 0.016, indicating a significant relationship. For husband support, of the 240 respondents who received support, 186 (62%) took advantage of treatment, while 54 (18%) did not take advantage of it. Among the 60 respondents who did not get support, 29 (10%) took advantage, and 31 (10%) did not take advantage. The P-value for husband support is 0.000, indicating a significant positive relationship. Finally, for the accessibility of health facilities, there were 214

respondents with easy access, of which 195 (65%) used and 19 (6%) did not take advantage, while 86 respondents with difficult access, 20 (7%) used and 66 (22%) did not use. The P-value for accessibility was 0.000, indicating a significant association, where better access was positively associated with decision-making to utilize antenatal care. The results of this Chi-Square test show that education level, employment status, husband support, and accessibility of health facilities have a significant relationship with women's empowerment in antenatal care decision-making and are worthy of continuing to multivariate analysis.

Table 3 Table of Enters Method Logistic Regression Test, Research Variables Factors Influencing Women's Empowerment in Decision-Making for Antenatal Care at the Rantau Prapat City Health Center.

Variable	B	S.E.	Forest	df	Mr.	OR	95% C.I. for EXP(B)	
							Lower	Upper
Education Level	2.320	0.341	45.50	1	0.000	10.170	7.391	13.979
Employment Status	1.450	0.307	21.52	1	0.016	4.267	2.341	7.766
Husband's Support	3.980	0.572	47.22	1	0.000	53.250	17.319	152.17
Access to Healthcare Facilities	4.230	0.629	45.10	1	0.000	68.130	19.908	233.679

From Table 3 of the analysis, the Health Facility Accessibility variable showed the highest Odds Ratio (OR), which was 68.130, which means that women with easy access to health facilities were 68.13 times more likely to take advantage of antenatal care compared to those who experienced difficult access.

DISCUSSION

The results of the Chi-Square test on the age variable showed that women ≤ 35 years old used antenatal care more (44%) compared to those > 35 years old (28%). Although there is a difference in this proportion, the p-value obtained at 0.264 indicates that the difference is not statistically significant. The results of this study are supported by Tati (2023) who stated that there is a relationship between the age of pregnant women (p-value 0.042) and the compliance of antenatal care visits at the Muara Pinang Health Center, Empat Lawang Regency in 2023 (Tati Awalia and Sari 2023) Supported by Zuchro (2022), which stated that there is a relationship between maternal age (p=0.003; OR 0.119) with antenatal care visits at the Bandar Jaya Health Center, Lahat Regency in 2021 (Zuchro et al. 2022) This indicates that although there is a tendency for younger women to be more active in using antenatal care services, these results are not strong enough to state that age directly influences the decision to use such services.

This factor highlights the importance of looking at age as a single, stand-alone variable and considering the broader social and cultural context. Women ≤ 35 may have better access to modern health information, be more open to new health practices, and better understand the importance of antenatal care for maternal and child health. They also tend to be more active in using social media or other platforms that can provide information about health services. In contrast, women > 35 years old may have different experiences and knowledge, including previous experience in pregnancy or health care. They may be influenced by more traditional cultural norms or

beliefs, which may limit the use of modern health services. In addition, factors such as more complex health conditions in old age can also be a barrier for them to take advantage of antenatal care services. These results also suggest that although age has a role in health behavior, other factors, such as education, support from a partner, and accessibility of health facilities, may have a significant influence. Therefore, further research is needed to dig deeper into the relationship between age and antenatal service utilization and identify other factors that may contribute to differences in the utilization of these services. Although the results suggest a tendency for younger women to use antenatal care more, it is crucial to take a more comprehensive approach to understanding the dynamics that influence these decisions. Further research and interventions focusing on health education and social support can help improve the utilization of antenatal services in all age groups.

The Chi-Square test results on the variable of education level showed a very significant relationship with the utilization of antenatal services, with a p-value of 0.000. These findings indicate that women with higher education levels are more active in antenatal care services, with 58% reporting using such services. In contrast, only 13% of women with low education avail of antenatal services. The results of this study are supported by Tati (2023) who stated that there is a relationship between pregnant women's education (p-value 0.027) and compliance with antenatal care visits at the Muara Pinang Health Center, Empat Lawang Regency in 2023 (Tati Awalia and Sari 2023) Supported by Zuchro (2022), who stated that there is a relationship between education (p=0.000; OR 2,625) with antenatal care visits at the Bandar Jaya Health Center, Lahat Regency in 2021 (Zuchro et al. 2022)

This significant difference emphasizes the importance of education in women's empowerment related to reproductive health. Highly educated women usually have better access to health information through social media, public health



programs, and health training. They tend to understand better the importance of antenatal care and its impact on maternal and child health, which can increase their motivation to use the service. Education also contributes to improving women's ability to make better decisions regarding their health. With better knowledge of the importance of pregnancy screenings, they are more likely to seek proper and regular care.

On the other hand, women with low education may have less access to information or have a limited understanding of the benefits of antenatal services, which can prevent them from taking advantage of those services. The findings also suggest that interventions focusing on health education and awareness-raising among women, especially those with low education, can help improve the utilization of antenatal services. Programs that target women in communities with low levels of education can provide the necessary information about the importance of antenatal care and how to access such services. These results emphasize the importance of improving women's education levels to empower them in health decision-making, particularly antenatal care. Through better education, women will be more aware of their health and contribute to future generations' health.

The Chi-Square test results on the occupational status variable showed a significant difference in the utilization of antenatal services, with a p-value of 0.016. These findings show that working women have a higher proportion of using antenatal services, which is 43%, compared to non-working women, who only reach 28%. The results of this study are supported by Indrastuti (2019), who states that it shows that the occupational factor ($p=0.001$) has a relationship with the utilization of antenatal care services in the Working Area of the Kalongan Health Center, Semarang Regency (Indrastuti 2019). Supported by Cahyani (202), who stated that work ($p=0.04$) is related to the use of antenatal care services at the Trucuk I Health Center, Klaten Regency (Cahyani 2020). Several factors can explain this difference. First, working women often have better access to health-related information and resources. They may be exposed to workplace wellness programs, seminars, or information shared by peers, which can increase their awareness of the importance of antenatal care.

Additionally, they may have more managerial skills necessary to plan and organize visits to health services. Second, working women often have additional motivation to maintain their health, support their careers, and fulfill family responsibilities. By maintaining good health, they can reduce the chances of absenteeism at work and ensure that they can meet the demands of work and family.

On the other hand, women who are not working may face various barriers to accessing health services. They may lack adequate information about antenatal services or feel they don't have enough social support to address challenges in healthcare. In some cases, financial or transportation limitations can also prevent them from taking advantage of the service. These findings indicate that to improve the utilization of antenatal services among women, it is essential to develop programs that support women in all occupational statuses. For example, health

counseling aimed at women who are not working can help raise their awareness of the importance of antenatal care and provide them with the information they need to access services. In addition, interventions involving women's economic empowerment can improve access to and use of health services so that all women, regardless of their employment status, can get the care they need. Overall, these results suggest that employment status is an essential factor in the utilization of antenatal services and provides insight into the need for more inclusive strategies to support women's health.

The Chi-Square test results show that husband support has a very significant influence on the utilization of antenatal services, with a p-value of 0.000. The findings show that women who receive support from their husbands have a much higher proportion of using antenatal services, at 62%, compared to only 10% of women who do not receive support. The results of this study are supported by Indrastuti (2019) who states that it shows that the family support factor ($p=0.015$) has a relationship with the utilization of antenatal care services in the Working Area of the Kalongan Health Center, Semarang (Indrastuti 2019) In line with Prastyawati (2024) who stated that there is a relationship between husband support (p-value 0.000) and Antenatal Care (ANC) compliance of pregnant women in Pandansari Village, Sumber District (Prastyawati, Silvian, and Ekasari 2024) Husband's support can affect the use of health services in several ways. First, supportive husbands are more likely to encourage their wives to take advantage of antenatal services and educate themselves about the importance of health care during pregnancy. They may also play an active role in healthcare-related decision-making, providing the motivation and resources needed to access services (Aryanti, Karneli, and Sella, 2020). In addition, emotional and social support from husbands can help women feel more comfortable and confident using health services. When husbands are involved, women tend to feel more supported in facing challenges that may arise during pregnancy and antenatal care.

Conversely, a lack of support from husbands can cause women to feel isolated and not have enough resources to seek the care they need. These findings show the importance of involving husbands in health education and counseling programs for women, especially in reproductive health. Couples targeted interventions can improve their understanding of the importance of support in maternal and child health and strengthen shared decisions regarding healthcare utilization. Overall, husband support is critical in selecting AKDR and using antenatal services. Recognizing and promoting this role in health interventions can improve women's reproductive health and better pregnancy outcomes.

The Chi-Square test results show that the accessibility of health facilities has a significant relationship with the utilization of antenatal services, with a p-value of 0.000. The findings suggest that women with easy access to health facilities are much more active in antenatal services, with 65% reporting using them, compared to only 7% of women who experience difficult access. The results of this study are supported by Tasi (2021), who stated that the variable of service accessibility ($p=0.035$) has a relationship with the behavior of using ANC services in



the working area of the Tarus Health Center (Tassi 2021) Supported by Hariani (2024) who stated that there is an accessibility relationship (p -value = 0.010) with the Integrated ANC at the North Lombok Regency Winner Health Center in 2024 (Hariani 2024) These stark differences underscore the importance of accessibility as a determining factor in reproductive health. Easy access allows women to more easily get information, schedule checkups, and get the care they need during pregnancy. Factors such as the proximity of healthcare facilities, the availability of transportation, and flexible hours of service can contribute to this ease of access. When women have good access, they are more likely to regularly utilize antenatal services, which can improve maternal and infant health.

On the other hand, women who face barriers to access, such as long distances, high transportation costs, or lack of transportation facilities, tend to have difficulty obtaining the necessary health services. This can lead to delays in essential care and potentially pose health risks to both mother and baby. These findings point to the need for interventions that focus on improving health service accessibility, especially in areas with inadequate infrastructure. For example, governments and health institutions can work together to improve transportation access to health facilities and ensure that these facilities are available in strategic locations that are easily accessible to the public. In addition, counseling programs that raise awareness about the importance of antenatal services and how to access them can also help. By addressing accessibility issues, it is hoped that more women will be able to take advantage of antenatal services, which can ultimately positively impact maternal and child health in the community. Overall, these results emphasize that the accessibility of health facilities is a critical factor in the utilization of antenatal services and provides essential insights for more effective health policy planning and implementation.

CONCLUSION

The conclusions of the analysis show that variables such as education level, employment status, husband support, and accessibility of health facilities significantly affect women's empowerment in antenatal care decision-making at the Rantau Prapat City Health Center. Although age did not show a significant association, higher levels of education and active employment status were positively associated with service utilization. The husband's support and accessibility of health facilities also proved very important, with a significant p -value. Health facility accessibility has the highest Odds Ratio (68,130), indicating that women with easy access are much more likely to avail of antenatal services. These findings support the need for multivariate analysis to dig deeper into the relationship between variables and provide insights for developing more effective health policies.

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THE UTILIZATION OF TECHNOLOGY FOR THE TEACHING-LEARNING PROCESS AT CICOSAT COLLEGES

Angelica Kathrina C. Corpuz

ABSTRACT

The utilization of technology for the teaching-learning process involves integrating digital tools, resources, and platforms into educational settings to enhance the learning experience. This includes the use of Learning Management Systems (LMS), multimedia presentations, online collaboration tools, and various educational software. The goal is to improve student engagement, motivation, and academic performance while also aiding teachers in delivering effective instruction. Technology in education can provide personalized learning experiences, facilitate access to information, and support innovative teaching methods. This study examines the utilization of technology in the teaching-learning process at CICOSAT Colleges, focusing on its impact on student motivation, engagement, faculty motivation, and overall effectiveness, as well as the challenges encountered. The research aims to determine the effects of technology on classroom-based learning by addressing key questions related to the level of technology utilization, its effectiveness in enhancing motivation and engagement, the challenges faced in technology integration, and proposed measures for improvement. The findings reveal that technology significantly enhances both student and faculty motivation and engagement by creating technology-supported environments tailored to diverse learning styles. However, challenges such as inadequate internet connectivity and insufficient technological facilities impede effective technology integration and negatively impact the quality of education. Despite these challenges, the study shows that the utilization of technology has a positive impact on the educational process. In conclusion, the integration of technology in the teaching-learning process at CICOSAT Colleges significantly enhances student motivation and engagement, as well as faculty motivation. The use of diverse digital applications allows teachers to create a learning environment aligned with students' learning styles, fostering constructive and interactive learning experiences. However, challenges such as limited internet connectivity and technological resources hinder the effective use of technology, impacting both students' and faculty members' ability to perform tasks efficiently and affecting the quality of education. Thus, the study recommends that CICOSAT Colleges provide vital technologies, such as maintaining computer labs and offering laptops and tablets, to support students' academic success. Continuous innovation and training should be prioritized, with efforts to advance technology interventions and enhance teacher training on new technologies. Additionally, ongoing professional development for educators, the implementation of alternative learning strategies, and sustained collaboration are essential for creating an effective learning environment that maximizes the benefits of technology. This study underscores the importance of integrating technology into education and offers actionable recommendations to enhance its utilization at CICOSAT Colleges.

KEYWORDS: Technology Integration, Student Engagement, Teaching Effectiveness

1. INTRODUCTION

1.1 Rationale

The integration of technology into education has revolutionized teaching and learning processes, enabling personalized, interactive, and efficient pedagogical practices. Learning Management Systems (LMS), multimedia tools, and collaborative platforms such as Google Classroom empower educators and students to access resources, engage in real-time discussions, and enhance overall academic performance. At CICOSAT Colleges, the shift towards technology-driven instruction is aligned with global educational trends, especially following the challenges posed by the COVID-19 pandemic. Despite these advancements, barriers such as inadequate infrastructure, insufficient training, and resource disparities persist, necessitating a thorough investigation into how technology can be better utilized.

1.2 Research Objectives/Questions

This study aims to evaluate the extent of technology utilization in the teaching-learning process and its impact on student and faculty engagement. Specifically, it seeks to answer the following questions:

1. What is the level of utilization of technology in the teaching-learning process at CICOSAT Colleges?
2. How effective is technology in enhancing student motivation, engagement, and faculty motivation?
3. What challenges are encountered in integrating technology into teaching and learning?
4. What measures can improve technology utilization at CICOSAT Colleges?

1.3 Theoretical Background

This study draws upon Constructivism (Piaget, 1955) and Connectivism (Siemens, 2003):



- Constructivism emphasizes learning as an active process where knowledge is built through experience. Technology supports constructivist learning by enabling collaborative, real-world problem-solving activities.
- Connectivism highlights the role of technology and networks in facilitating knowledge acquisition. Tools like LMS allow learners to access vast resources and engage in continuous, connected learning.

1.4 Literature Review

Research highlights the transformative potential of technology in education. According to Bradley (2021), LMS platforms foster collaborative and autonomous learning. Kunter et al. (2013) emphasize that educators' enthusiasm in using technology directly impacts student engagement and learning outcomes. However, studies by Edwards (2009) and Muilenburg & Berge (2015) point to systemic barriers, such as resource shortages and digital illiteracy, which hinder effective technology integration.

II.METHODOLOGY

2.1 Research Design

This study employed a mixed-method explanatory sequential design:

- Quantitative Phase: Surveys assessed technology utilization, effectiveness, and challenges.
- Qualitative Phase: Semi-structured interviews explored the contextual factors influencing technology integration.

2.2 Research Locale

The study was conducted at CICOSAT Colleges, San Fernando, La Union, involving three departments: CCJE, HM/BA, and

Pharmacy. The institution's adoption of LMS and other platforms provided an ideal context for evaluating technology utilization.

2.3 Data Measure/Instruments

- Survey Questionnaire:
 - Likert-scale items captured data on technology utilization, effectiveness, and challenges.
- Interview Guide:
 - Validated by experts to ensure clarity and relevance, focusing on barriers and proposed solutions.

2.4 Data Gathering Procedures (with Ethical Guidelines)

- Participants were informed about the study's purpose, and informed consent was obtained.
- Surveys were distributed to 333 students and 35 faculty members.
- Interviews were conducted with a subset of participants to collect qualitative data.
- Confidentiality and anonymity were maintained, adhering to ethical research standards.

2.5 Data Analysis

- Quantitative Data: Weighted mean was used to analyze survey responses, categorizing results into descriptive equivalents.
- Qualitative Data: Thematic analysis identified recurring themes such as resource gaps, training needs, and connectivity issues.

III.RESULTS AND ANALYSIS

Presentation/Report on the Results or Findings

Table 1: Level of Technology Utilization

Dimension	Weighted Mean	Descriptive Equivalent	Key Observations
Student Motivation	3.20	Moderately Utilized	Teachers effectively use multimedia tools, but resource disparities exist.
Student Engagement	3.31	Fully Utilized	Group chats, digital content sharing, and LMS tools are widely adopted.
Faculty Motivation	2.89	Moderately Utilized	Limited access to tools affects collaboration and training opportunities.

Table 2: Challenges in Technology Integration

Challenge	Frequency (Students)	Frequency (Faculty)	Key Observations
Poor Internet Connectivity	64%	52%	Affects virtual classes and delays access to digital resources.
Insufficient Technological Tools	60%	52%	Resource shortages limit engagement.
Low LMS Proficiency	35%	40%	Inadequate training hinders effective utilization.

Analysis of the Results/Findings

The findings indicate that while technology moderately enhances motivation and engagement, systemic challenges constrain its effectiveness. Poor internet connectivity emerged as the most

significant barrier, followed by insufficient access to devices and training gaps. Thematic analysis of interview responses revealed that participants perceive technology as a valuable tool but lack the necessary support systems to maximize its potential.



IV.DISCUSSION

The study underscores the potential of technology to transform education by fostering collaboration, motivation, and engagement. However, its effectiveness is contingent on addressing infrastructural and systemic barriers.

Comparison with Other Studies

The findings align with Kunter et al. (2013), who emphasized the role of enthusiastic and resource-supported teaching in improving engagement. Similarly, Bradley (2021) highlighted the benefits of

LMS in promoting autonomous learning, echoing the results observed at CICOSAT Colleges.

Some participants reported moderate satisfaction with technology, which may stem from variability in digital literacy levels and the uneven availability of resources.

Practical Implications

The results suggest the need for targeted investments in infrastructure, training programs, and equitable access to resources to enhance the teaching-learning process.

Recommendations

Table 3: Recommendations for Improving Technology Utilization

Challenge	Objective	Proposed Solution	Responsible Parties
Poor Internet Connectivity	Ensure reliable access	Upgrade internet infrastructure and provide connectivity tools.	School Administration, IT Department
Insufficient Resources	Bridge resource gaps	Allocate funds for laptops, tablets, and multimedia tools.	Management, Department Heads
Low LMS Proficiency	Enhance digital literacy	Conduct workshops on LMS functionality and multimedia integration.	HR, Faculty Development Units
Technical Issues	Minimize disruptions	Establish IT help desks and provide troubleshooting guides.	IT Support Staff

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A GENDER-CENTRIC ANALYSIS OF COGNITIVE BIASES IN INVESTMENT

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ABSTRACT

In traditional economic theories, people are viewed as having perfect knowledge, which is a critique of behavioural finance especially on grounds of cognitive biases. The research aims at determining gender-related cognitive biases in relation to investment among people of Manipur. The research establishes that there are quite noticeable gender-related biases like overconfidence, loss aversion, and anchoring. The research shall adopt a quantitative research design with the target population of 75 participants and the t-tests used in the analysis of the data. According to the research, it was evident that there is evidence of gender differences in overconfidence, loss aversion, and anchoring biases. However, herd behaviour, confirmation and availability do not show significant evidence of gender differences. The implications of these results are for the delivery of effective financial literacy and education.

KEYWORDS: Behavioural finance, Cognitive bias, Gender differences, Investment decisions

INTRODUCTION

One of the largest sub-discipline that exists in behavioural finance is investment behaviour, which refers to how people make their assets allocation decision procedures. Traditional models of economic rationality often times ignorantly make the assumption that there are only rational economic individuals who make decisions purely based on information that is available to them and the rationality of this information. On the other hand, behavioural finance questioned such assumptions more especially due to the impact of psychological factors, particularly cognitive prejudices on investment decisions (**Kahneman & Tversky, 1979; Barberis & Thaler, 2003**).

Cognitive biases are defined as systematic distortions in assessment and decision-making that lead relatively often to adverse financial consequences (**Tversky & Kahneman, 1986**). Some of these biases are: confirmation bias, which involves people disregarding evidence that goes against their existing beliefs and accepting only the information that supports the existing beliefs; loss aversion, which involves people having a distaste for loss more than they have a taste for equivalent gain; and overconfidence, which involves people estimating that they are far more knowledgeable and skilled than they actually are (**Barber & Odean, 2001; Shefrin, 2007**).

The study of cognitive biases is equally important when it comes to the difference in the investment behaviour between genders. Several researchers have pointed out that the various traits like risk taking propensity, confidence, and socialisation might act in a way that would mean that men and women are likely to approach financial decision making in a different manner (**Bajtelsmit & Bernasek, 1996; Powell & Ansic,**

1997). **Barber and Odean (2001)** have pointed out that women, because of their risk-adept approach, tend to opt for more careful trading strategies while men are characteristically over-optimistic and hence tend to trade more frequently.

LITERATURE REVIEW

Research on cognitive biases in the context of investment shows that gender differences are most pronounced for some bias such as herding behaviour, overconfidence and risk aversion. **Barber and Odean (2001)** discovered that men are more overconfident than women and they trade 45% more, which is an illustration of the overconfidence bias recognized in the literature. Due to getting involved in more transactions, higher transaction costs as well as poor timing, the net return of male investors is normally low. Recent research has supported the claims of this paper by providing evidence of overconfidence differences across the genders. For instance, **Lundeberg, Fox and Puncchhar (2021)** pointed out that investors are overconfident among the biases; it also showed that males are more overconfident rather than female in the use of investment. This paper established that this overconfidence leads to high risk taking, trading frequently resulting into worst position in terms of low net return and high transaction cost and impacts on inferior decision making. Gender differences with respect to loss aversion is the other crucial dimension. Although being conservative will lead to the less reward, women take less risky assets as compared to men for more safe, non-volatile types of very low risk investments (**Croson & Gneezy 2009**). It notably may results in lower overall returns from a reluctance to adopt increasingly risky though higher return assets; but at least yield steadier long-run financial outcomes. More specific studies have also been done on the gender factor giving more light on loss aversion. **Nofsinger and Varma (2022)** confirmed



that women remain more loss-averse than men in the present economy. These gender differences affect their investments and make them more incline to risk-free investments. Their research also looks at ways on how this aspect of risk avoidance among women leads to a more stable, but possible lower rate of income generation. Systematic reviews and meta-analyses, like **Chong et al. (2020)**, have investigated gender differences in financial risk-taking and provided more insights into how gender shapes risk preferences when it comes to investment decisions. Likewise, Research on gender-based differences in herding behaviour has also been carried out. Based on the research of **Baker and Nofsinger (2022)**, women are better to follow trend than men. Women tend to exhibit this behaviour because they are more risk-averse and more prone to herd mentality, wanting simply not be wrong all by themselves risking their financial future. **Baker, Kumar and Singh (2021)** investigated how availability bias influences the investment decisions by male and female investors alike. Their study determined that males are more likely than females to be influenced by recent market highs or lows, especially when it comes to investing in individual stocks. This was associated with more access to financial news and a greater tendency for day trading. By contrast, women were increasingly using the long game and diversified investing traits that counteract availability bias's side-effects over shorter time-horizons.

OBJECTIVE OF THE STUDY

The study attempts to identify whether there exist significant difference in how cognitive biases(overconfidence, loss aversion, confirmation, availability, herd behaviour, anchoring) demonstrate investment behaviour among males and females of Manipur. The main objective of the study is stated as

1. To analyse the differences of cognitive biases in investment between males and females in Manipur.

RESULTS

Variables	Group	Frequency	Percentage (%)
Gender	Male	43	57.3
	Female	32	42.7
	Total	75	100
Age	Below 25	06	8
	25 – 34	39	52
	35 – 44	13	17.4
	45 – 54	10	13.3
	55 – 64	06	8
	65 above	01	1.3
	Total	75	100
Education	Secondary	03	4
	Graduate	40	53.3
	Postgraduate	27	36
	Doctorate	02	2.7
	Others	03	4
	Total	75	100

Table 1: Demographic-Wise Details of Respondents (n = 75)

Source: Primary Data

Table 1. shows the demographic sample of 75 individuals out of which 57.3% being male(43 individuals) and 42.7% being

HYPOTHESES OF THE STUDY

- H₀₁ : There is no significant difference in the level of overconfidence between males and females in investment decisions.
- H₀₂: There is no significant difference in the level of loss aversion between males and females in investment decisions.
- H₀₃: There is no significant difference in the tendency to follow herd behaviour between males and females in investment decisions.
- H₀₄: There is no significant difference in the influence of anchoring in investment decisions between males and females.
- H₀₅: There is no significant difference in the prevalence of confirmation bias between males and females in investment behaviour.
- H₀₆: There is no significant difference in the impact of availability bias between males and females in investment decisions.

RESEARCH METHODOLOGY

The study employs a quantitative research design based on questionnaire and survey method. A combination of purposive sampling and snowball sampling technique were employed on select individuals who are likely to have made investment decisions. The targeted sample population were from within the state of Manipur. A total of 75 participants were recruited and a questionnaire were employed to obtain demographics like gender, age and education level along with their cognitive bias behaviour towards investment decisions. The collected data were analysed using SPSS. Cronbach's Alpha reliability test was administered on each cognitive bias elements observed in the study. Additionally, a t-test comparing cognitive bias between males and females on their investment decisions was administered. The results were then tabulated to allow for a clear and brief understanding and interpretation.

female(32), indicating a rather balanced distribution of genders. The age distribution of the respondents reveal a majority(52%)



of them falling under the age group of 25-34 years(39 individuals), followed by the age group of 35-44 years(17.4%) with 13 individuals. Additionally,13.3% of the respondent belong to the age group of 45-54 years(10 individuals). Smaller portion of the respondents are represented by the age group of below 25 years(8%) and above 65 years(1.3%) with 6 and 1 individuals respectively. The educational level of the respondents show a majority(53.3%) of graduates with 40

individuals followed by postgraduates(36%) with 27 individuals. A smaller group of respondents has a secondary education(4%, i.e. 3 individuals), a doctorate degree(2.7% i.e. 2 individuals) while 4 individuals(3%) is marked under the category of 'others'(professional courses). The sample as a whole is characterised by a slightly higher percentage of men, a large proportion of young to middle-aged adults, and an overall high degree of educational proficiency.

Table 2. t - test of Gender Specific Cognitive Biases in Investment decisions.

Variables	Male		Female		t	p	Equality of Mean	
	Mean	SD	Mean	SD			Mean difference	Std. Error difference
Overconfidence	6.2340	1.86749	7.6429	2.43758	-2.632	.012*	-1.40881	.53517
Loss Aversion	6.4255	2.08248	8.0357	2.44165	-2.915	.005*	-1.61018	.55244
Herd Behaviour	6.8085	2.02847	7.6429	1.68246	-1.921	.059	-.83435	.43433
Anchoring Bias	6.5319	1.96547	7.3571	1.52058	-2.033	.046*	-.82523	.40592
Confirmation bias	6.2766	1.69015	6.1071	1.59488	.435	.665	.16945	.389939
Availability Bias	6.4255	1.87367	6.8929	1.49912	-1.187	.239	-.46733	.39365

Source: Computed from Primary Data; * Significant at 5% Level of Significance

To analyse and compare cognitive biases in investments among genders t-test was conducted (table 3). The results shows that the mean overconfidence of females (mean = 7.6429) is higher than that of males (mean = 6.2340) while $t = -2.632$ and $p = .012$, which indicates a statistically significant difference in the overconfidence of female compared to males on investment decisions. Thus, the null hypothesis H_{01} is rejected. The analysis of loss aversion also shows a higher mean score for females (mean = 8.0357) compared to males (mean = 6.4255); $t = -2.915$ and $p = .005$ indicating a significant difference where females are more weary of loss averse than males. Therefore, H_{02} is also rejected. The herding behaviour among genders shows no significant difference with the p value of .059 just above the significant level of 0.05 although mean score of females(7.6429) was slightly higher than males(6.5319). The null hypothesis H_{03} is accepted indicating there is no strong evidence of differences in herd behaviour between the gender. Anchoring bias showed a higher mean for females (7.3571) than males (6.5319) where $t = -2.033$ and $p = 0.46$. this implies a significant difference where females tend to be influenced by anchoring bias in investment decision. So the null hypothesis H_{04} is rejected. Additionally, confirmation bias does not show a significant difference between males and females with a mean score of 6.2766 for males and 6.1071 for females where $t = .435$ and $p = .665$. A high p value indicates no significant differences in the confirmation bias among males and females, and so H_{05} is accepted. Finally, availability bias showed a slightly higher mean value for females (6.8929) than males (6.4255) where $t = -1.187$ and $p = .239$. The higher p value indicates no significant difference between males and females in availability bias. The null hypothesis H_{06} is accepted. In summary, the t-test reveals a significant difference between males and females with regards to overconfidence, loss aversion and anchoring bias in investment decisions. It also suggested that no significant difference between males and females were found in herd behaviour, confirmation bias and availability bias in investment decisions. According to this findings the null hypothesis H_{01} ,

H_{02} and H_{04} is rejected whereas the null hypothesis H_{03} , H_{05} and H_{06} are accepted.

DISCUSSIONS

The present study contributes substantial knowledge towards gender-specific cognitive preferences in investment among the people of Manipur. The outcomes also show significant variations in males and females in terms of overconfidence, loss aversion, and anchoring bias. Females are significantly more overconfident than males, though this is opposite to what is prevalent in the literature which attributes overconfidence to the male investors particularly in the market (Barber & Odean, 2001). This variation might be specific to the social-cultural and economic periphery of Manipur where the strategizing capabilities of females in financial matters are slowly emerging. Additionally, female investors exhibit stronger loss aversion which supports the research finding that women tend to be more risk-averse than men (Croson & Gneezy,2009). It stands to reason that as women are more loss averse, this will see them gravitating towards conservative options and away from the racy opportunities offering more significant upside even at the expense of broad market return offerings. This study also showed a statistically significant difference in anchoring bias, for female participants were more affected by this type of bias as compared to male participants to make their financial decisions based on the preliminary data or references. This means that women base or act on early impression or facts which may increase their cautious financial behaviour. Conversely, the study yields similar results with regards to gender differences in herding behaviour, confirmation bias, and availability bias. These findings suggest that both men and women investors in Manipur may be similarly influenced to identify with the herd, seek to corroborate their own beliefs or be influenced by the information that is easily accessible while investing. The fairly small differences in these biases may also suggest that there are not large gender differences in investment behaviour in the region, presumably because both genders are likely to be exposed to similar levels of financial information



and financial education. The study is inclined to state that investors cannot afford to ignore gender-sensitive cognitive biases affecting their investment decisions. These biases are not separately exert their influence on individual returns but they together play significant role in affecting the financial markets which is a collective sum of many investors' actions.

CONCLUSION

This study gives a breakthrough into the effects of cognitive biases in investment decision making among male and female investors in Manipur. The study also found that there was a significant gender differences on overconfidence, loss aversion and anchoring biases with females scoring higher. These findings are crucial in an oversaturated financial decision making environment to both politicians and investors as well as to the Financial Counsellors. Knowledge of these biases makes it possible for us to develop specific financial education programs that will involve the use of teaching techniques that directly disregard this particular cognitive bias among both male and female. Therefore, increasing female investors' awareness of overconfidence and anchoring bias should contribute to a more effective investment plan. In the same way, women may also be better investors if their loss aversion tendencies is also given attention by educators. While a number of biases like herd behaviour, confirmation bias or aversion to risk do not differ much according to gender they are nonetheless important variables in investment decisions. Educational and advisory financial services must continue turning the tide against such biases so that people will be more likely to make investing decisions based on what is reasonable and sensible. The ability to recognize and address their own cognitive biases in investment decisions, are the key elements of making more sound financial decisions for men and women equally. Customising financial advice and education strategies to counter this bias, of course will lead better informed investors not just in Manipur but everywhere. There is scope for further work to extend our knowledge on cross-country differences relating to gender heterogeneity in financial behaviour, allowing the identification of any cultural and economic distinctions that could help inform future research.

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ORPHAN DISEASE TREATMENT

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ABSTRACT

- *Background and aims: Orphan diseases, or rare diseases, are defined in Europe as diseases that affect less than 5 out of every 10,000 citizens. Given the small number of cases and the lack of profit potential, pharmaceutical companies have not invested much in the development of possible treatments.*
- *However, over the last few years, new therapies for rare diseases have emerged, giving physicians a chance to offer personalized treatment. With this paper, we aim to present some of the orphan neurological diseases for which new drugs have been developed lately.*
- *MethodsWe have conducted a literature review of the papers concerning rare diseases and their treatment, and we have analyzed the existing studies for each orphan drug. For this purpose, we have used the Google Scholar search engine and the Orphanet.*
- *We have selected the studies published in the last 15 years. Results. Since the formation of the National Organization for Rare Diseases, the Orphan Drug Act, and the National Institutes of Health Office of Rare Diseases, pharmacological companies have made a lot of progress concerning the development of new drugs.*
- *Therefore, diseases that until recently were without therapeutic solutions benefit today from personalized treatment*
- *We have detailed in our study over 15 neurological and systemic diseases with neurological implications, for which the last 10–15 years have brought important innovations regarding their treatment. Many steps have been taken towards the treatment of these patients, and the humanity and professionalism of the pharmaceutical companies, along with the constant support of the patient's associations for rare diseases, have led to the discovery of new treatments and useful future findings*

INTRODUCTION

Orphan diseases, also known as rare diseases, affect a small percentage of the population, often leaving patients with limited treatment options. This project aims to review existing medications and potential therapeutic approaches for rare diseases, highlighting the challenges and opportunities in orphan disease treatment.

Orphan diseases, affecting approximately 3.5% of the global population, have long been neglected due to limited market incentives and lack of awareness. However, recent years have witnessed significant progress in orphan disease treatment, driven by advances in genetics, precision medicine, and collaborative research efforts.

Orphan diseases are rare diseases, defined in Europe as having an incidence lower than 5 per 10,000 citizens. It is not unusual for a family doctor to encounter less than one such case per year. Because of this, there is also a delay in the diagnosis process and the decision-making process, with studies showing that approximately half of the patients with rare diseases receive on average one misdiagnosis.

Some of the pathologies may be congenital and present from birth, while others appear during adulthood. There are rare new diseases being described every week in the medical literature, with a total of over 6000 orphan diseases. Because of the lack of profit potential and the costs and logistics necessary to organize clinical trials for these pathologies, the development of specific therapies is not a priority for pharmaceutical companies

Beginning in 1982, signs of progress were made concerning the research in this field, with the foundation of the National Organization for Rare Diseases (NORD) and the approval of the Orphan Drug Act by the Congress of the United States.

These encouraged the pharmaceutical companies by providing tax relief to those who participated in the research for new orphan drugs. It would also assure a 7- year exclusivity for the product if used for the treatment of an orphan disease .Orphan diseases, also known as rare diseases, affect millions of people worldwide, yet they remain largely neglected in terms of research, diagnosis, and



CLASSIFICATION OF ORPHAN DISEASE

A) On the genetic basis

1. **Genetic Orphan Diseases:** These are caused by mutations or alterations in a person's DNA.
Examples include:
 - Cystic Fibrosis: A genetic disorder that affects the lungs and digestive system.
 - Duchenne Muscular Dystrophy (DMD): A severe form of muscular dystrophy caused by a mutation in the dystrophin gene.
2. **Non-Genetic Orphan Diseases:** These are not primarily caused by genetic factors. They might result from infections, environmental factors, or unknown causes.
Examples include:
 - Idiopathic Pulmonary Fibrosis: A chronic lung disease with no known specific cause.
 - Primary Biliary Cholangitis: An autoimmune disease that affects the bile ducts in the liver.

B) By Body System Affected

1. **Neurological Orphan Diseases:** Affect the nervous system.
 - Amyotrophic Lateral Sclerosis (ALS): A progressive neurodegenerative disease affecting motor neurons.
2. **Hematological Orphan Diseases:** Affect the blood or bone marrow.
 - Paroxysmal Nocturnal Hemoglobinuria (PNH): A rare, life-threatening disease of the blood.
3. **Metabolic Orphan Diseases:** Involve metabolic pathways.
 - Phenylketonuria (PKU): A metabolic disorder caused by a deficiency of the enzyme phenylalanine hydroxylase.
4. **Cardiovascular Orphan Diseases:** Affect the heart or blood vessels.
 - Pulmonary Arterial Hypertension (PAH): A type of high blood pressure that affects arteries in the lungs and the heart.

C). By Prevalence and Geographic Distribution

1. **Ultra-Rare Diseases:** Affect fewer than one in a million people.
 - a. Fibrodysplasia Ossificans Progressiva (FOP): A disorder where soft tissues progressively turn into bone.
2. **Rare Diseases with Regional Prevalence:** These may be more common in specific regions due to genetic, environmental, or cultural factors. Sickle Cell Disease: More prevalent in Sub-Saharan Africa, India, and the Middle East due to genetic inheritance patterns.
3. **Globally Rare Diseases:** Diseases that are rare worldwide.
 - a. Gaucher Disease: A genetic disorder where fatty substances accumulate in cells and certain organs.

D). By Prevalence and Geographic Distribution

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CYSTIC FIBROSIS (CF)

Treatment

CFTR Modulators:

- Ivacaftor: Helps improve the function of the CFTR protein in specific mutations, allowing better chloride ion transport.
- Lumacaftor: Works to stabilize the defective CFTR protein, improving its function.
- Combination Therapies: Ivacaftor and lumacaftor are often used together to address different aspects of CFTR dysfunction in various mutations.

Chest Physiotherapy:

- Techniques like postural drainage, vibratory devices, and high-frequency chest wall oscillation (HFCWO) are used to help clear thick mucus from the lungs.
- Regular sessions (multiple times per day) are crucial for preventing infections and maintaining lung function.

Enzyme Replacement Therapy:

- Pancreatic enzymes (such as lipase, amylase, and protease) are taken with meals to aid digestion, as CF blocks enzyme release from the pancreas.
- Helps improve nutrient absorption and prevents malnutrition.



CHARACTERISTIC OF ORPHAN DISEASE

A) Epidemiological Characteristics

1. Rarity: Affects fewer than 200,000 people in the US or 5 in 10,000 people in the EU.
2. Low prevalence: Less than 5% of the population.
3. High mortality rate: Many orphan diseases are life-threatening.

B) Clinical Characteristics

1. Serious or life-threatening: Significant impact on quality of life.
2. Chronic or progressive: Long-term or worsening condition.
3. Debilitating symptoms: Pain, disability, or cognitive impairment.
4. Limited treatment options: Few or no effective treatments.

C) Genetic Characteristics

1. Genetic basis: Many orphan diseases have a genetic origin.
2. Mutations: Changes in DNA sequence or gene expression.

D) Pathophysiological Characteristics

1. Complex biology: Involves multiple biological pathways.
2. Multisystem involvement: Affects multiple organs or systems.
3. Heterogeneous presentation: Variable symptoms and severity.

ORGANIZATION WORKING ON ORPHAN DISEASE TREATMENT

1. National Organization for Rare Disorders (NORD)

* Location: United States

* Overview: NORD is a leading advocacy organization dedicated to individuals with rare diseases and the organizations that serve them. NORD provides patient assistance programs, promotes research, and advocates for public policies that support the rare disease community.

2. European Organisation for Rare Diseases (EURORDIS)

* Location: Europe

* Overview: EURORDIS is a non-governmental alliance of patient organizations and individuals active in the field of rare diseases. It works to build a strong panEuropean community of patient organizations and people living with rare diseases.

3. Genetic and Rare Diseases Information Center (GARD)

* Location: United States

* Overview: GARD, operated by the National Institutes of Health (NIH), provides comprehensive information about genetic and rare diseases to patients, their families, healthcare providers, and researchers.

4. The International Rare Diseases Research Consortium (IRDiRC)

* Location: International

* Overview: IRDiRC is a global initiative that unites research funding organizations, patient advocacy groups, and industry partners to foster and coordinate research on rare diseases. The goal is to accelerate the development of diagnostics and therapies for rare diseases



Challenges Faced by Orphan Disease Patients

- **Diagnosis Delay:** Due to their rarity, orphan diseases are often misdiagnosed or not recognized by healthcare providers, leading to delayed or incorrect treatment.
- **Lack of Treatments:** Pharmaceutical companies are often unwilling to invest in developing treatments for rare diseases due to the small number of patients. As a result, many orphan diseases have no approved treatments or only limited options.
- **High Cost of Care:** For many rare diseases, treatment options that do exist can be prohibitively expensive. Moreover, patients may need to see multiple specialists, further adding to the financial burden.
- **Limited Research:** Orphan diseases often receive insufficient research funding, and the scientific community may not have the knowledge or infrastructure needed to conduct studies. As a result, there is limited understanding of the underlying causes and potential treatments for these diseases.

LITERATURE SURVEY

1. Bell and Tudur Smith (2014)et.al: provide a comprehensive review of the classification systems used for orphan diseases, discussing the challenges in developing standardized treatments. Their work emphasizes the role of personalized medicine in addressing the heterogeneous nature of orphan diseases, which often require individualized therapeutic approaches (Bell & Tudur Smith, 2014).
2. Melnikova (2012)et.al: focuses on the innovations in rare disease research and orphan drug development. The article discusses how new technologies, such as next-generation sequencing, are facilitating the discovery of rare disease genes and the development of targeted therapies (Melnikova, 2012).
3. Mullard (2019)et.al: provides an overview of FDA drug approvals, highlighting the increasing number of orphan drugs being approved. This trend underscores the growing recognition of the need for effective therapies for rare diseases (Mullard, 2019).
4. Kay (2011)et.al: reviews the state-of-the-art gene-based therapies for orphan diseases, discussing the progress made in gene therapy and the road ahead. The author highlights the potential of gene therapy to provide long-term or curative treatments for many rare diseases (Kay, 2011).
5. Drummond et al. (2007)et.al analyzed the economic challenges posed by orphan drugs. The high costs of research and development (R&D), coupled with the small patient populations, make these therapies financially challenging. The authors call for alternative pricing models and public health policies to ensure patient access to these essential treatments (Drummond et al., 2007)
6. Austin, Dawkins, and Collier (2017)et.al: describe the role of the International Rare Diseases Research Consortium (IRDiRC) in uniting researchers and fostering global collaboration. Their work emphasizes the importance of collaborative efforts in advancing rare disease research and treatment (Austin et al., 2017).
7. Maria Luísa Bouwman et al.(2018) Orphan medicines are medicinal products intended for the diagnosis, prevention, or treatment of life-threatening or debilitating rare diseases.

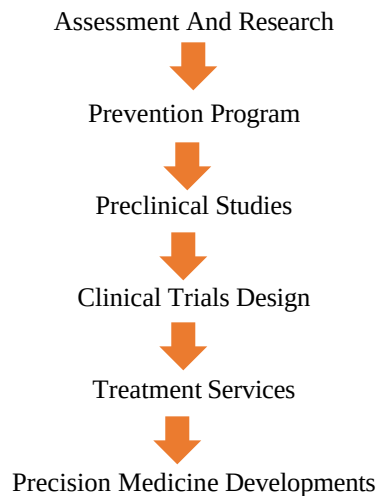
AIM: Orphan disease treatment: focus on medication for rare diseases that have limited treatment options

OBJECTIVES

1. To identify areas for future research and development in rare disease treatment: This objective aims to highlight the gaps in current knowledge and understanding, and to suggest areas for future research and development.
2. To discuss the potential of rare disease treatment in improving public health outcomes: This objective seeks to explore the broader implications of rare disease treatment for public health outcomes and healthcare systems.
3. To examine the role of patient advocacy and engagement in rare disease treatment: This objective aims to investigate the importance of patient advocacy and engagement in shaping rare disease treatment and research agendas.
4. To provide a comprehensive overview of current treatments for orphan diseases.
5. To identify the challenges and limitations of current treatments for orphan diseases.
6. To discuss emerging therapies and innovative approaches for orphan disease treatment.
7. To examine the role of personalized medicine in orphan disease treatment.
8. To analyze the impact of orphan disease treatment on patient outcomes and quality of life.
9. To review the regulatory frameworks and policies governing orphan disease treatment.
10. To identify areas for future research and development in orphan disease treatment.
11. To discuss the potential of orphan disease treatment in improving public health outcomes



PLANE OF WORK



CURRENT TREATMENTS

1. Approved Orphan Drugs

- **Targeted Therapies:** Some orphan diseases have specific drugs that have been developed and approved through regulatory pathways like the FDA's Orphan Drug Designation. These drugs are designed to target the underlying mechanisms of the disease.
Examples: Ivacaftor (Kalydeco): Used for certain mutations in cystic fibrosis.
Eculizumab (Soliris): Used for treating Paroxysmal Nocturnal Hemoglobinuria (PNH) and atypical Hemolytic Uremic Syndrome (aHUS).
- **Enzyme Replacement Therapy (ERT):** For diseases caused by enzyme deficiencies, such as certain lysosomal storage disorders, ERT provides the missing enzyme.
Examples: Imiglucerase (Cerezyme): Used for Gaucher disease. Laronidase (Aldurazyme): Used for Mucopolysaccharidosis type I (MPS I).

2. Off-Label Use of Existing Medications

Repurposing Drugs: Since many orphan diseases lack approved treatments, physicians often prescribe drugs that are approved for other conditions but have shown some efficacy in treating the symptoms or slowing the progression of a rare disease.

Examples: Sirolimus: Originally an immunosuppressant for organ transplants, used off-label for Lymphangioleiomyomatosis (LAM).

Hydroxyurea: Used off-label in managing sickle cell disease.

Gene Therapy

- **Emerging Field:** Gene therapy has become one of the most promising treatment options for certain orphan diseases, particularly those with a clear genetic cause. This approach aims to correct or replace the faulty genes responsible for the disease.

Gene therapy is an experimental technique to treat and prevent diseases by altering human genes. Adenoviral vector is one of the most commonly used viral vectors in gene therapy. It is capable of treating not only hematological diseases such as hemophilia, gaucher disease, and hemochromatosis, but also has made significant progress in treating genetic diseases, rare diseases, and tumors. Inheritance is a critical factor in rare diseases.

Examples: Luxturna (voretigene neparvovec): Used to treat inherited retinal diseases caused by mutations in the RPE65 gene.

Zolgensma (onasemnogene APOB100): Used for spinal muscular atrophy (SMA), delivering a functional copy of the SMN1 gene.

3. Stem Cell and Bone Marrow Transplantation

- **Curative Potential:** For certain genetic and hematologic orphan diseases, stem cell or bone marrow transplantation can offer a potential cure by replacing the defective cells with healthy ones. Hematopoietic stem cell transplantation (HSCT) is a treatment modality that uses human cells to modulate the immune system or to provide educational support. There are several pathways of transplantation for HSCT, including fetal liver cell transplantation, bone marrow transplantation, peripheral hematopoietic stem cell transplantation, and umbilical cord blood transplantation. Many clinical practices and applications have demonstrated that cord blood has beneficial effects in treating rare diseases.

Examples:

Hematopoietic Stem Cell Transplantation: Used in severe cases of sickle cell disease, thalassemia, and certain immunodeficiencies.



Bone Marrow Transplant: A treatment option for severe combined immunodeficiency (SCID) and some types of leukodystrophies.

FUTURE DIRECTION

Personalized Medicine

1. Development of targeted therapies: Researchers will focus on creating targeted therapies tailored to individual patients' genetic profiles. This approach will help optimize treatment outcomes and minimize side effects.
2. Increased use of biomarkers: Biomarkers will play a crucial role in predicting treatment response and monitoring disease progression. This will enable healthcare providers to make informed decisions about treatment strategies.

Gene Therapy

1. Advancements in gene editing technologies: Gene editing technologies like CRISPR/Cas9 will continue to advance, enabling more precise and efficient gene editing.
2. Development of gene therapies: Gene therapies will be developed for rare genetic disorders, offering new hope for patients with previously untreatable conditions.

Stem Cell Therapy

1. Research into regenerative medicine: Researchers will explore the potential of stem cells for regenerative medicine, focusing on their ability to repair or replace damaged tissues.
2. Development of stem cell therapies: Stem cell therapies will be developed for rare diseases, such as muscular dystrophy, offering new treatment options for patients.

RNA Therapies

1. Development of RNA-based therapies: Researchers will focus on developing RNA-based therapies, including RNA interference (RNAi) and antisense oligonucleotides.
2. Research into RNA therapies for rare diseases: RNA therapies will be investigated for their potential to treat rare diseases, such as spinal muscular atrophy.

CONCLUSION

Orphan diseases, despite their rarity, represent a significant and growing challenge in global healthcare. The complexity and diversity of these conditions, coupled with the small patient populations, have historically resulted in limited treatment options and a lack of awareness. However, advancements in biotechnology, genomics, and personalized medicine are beginning to change this landscape.

Innovative approaches, including gene therapy, drug repurposing, and the use of advanced diagnostic tools, hold great promise for the future. Collaborative efforts among researchers, patient advocacy groups, and industry stakeholders are essential to drive progress and overcome the unique obstacles associated with orphan diseases. Additionally, ongoing support for patient-centered research, coupled with a global commitment to improving rare disease infrastructure, will be crucial in ensuring that all patients have access to the care they need.

This review aims to provide an overview of the current state of orphan disease treatment, highlighting recent advances, challenges, and future directions. We will discuss the various approaches being explored, including gene therapy, stem cell therapy, RNA therapy, and precision medicine, and examine the potential of these approaches to transform the lives of patients with orphan diseases.

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AGRICULTURAL COOPERATIVES IN RURAL DEVELOPMENT AND COMBATING RURAL EXODUS IN MADAGASCAR: CHALLENGES AND OPPORTUNITIES – A REVIEW PAPER

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ABSTRACT

This article reviews the implications, issues, and challenges of agricultural cooperatives in rural development and the fight against rural exodus in Madagascar, with a particular focus on the Itasy and Analamanga regions. By collectively organizing small producers and facilitating their access to markets, cooperatives strengthen the economic resilience and autonomy of rural communities. However, their impact is limited by several factors, including a lack of financing, competition with large agribusiness companies, and difficulties in retaining members. The primary objective of the study is to identify how agricultural cooperatives can promote sustainable rural development in Madagascar while overcoming these challenges. The research question focuses on how these organizations can enhance their resilience and effectiveness in an uncertain economic environment. The literature suggests that practices such as participatory governance, economic inclusion, and capacity building can improve member retention and cooperative sustainability. To maximize their potential, this study recommends strategic actions such as improving access to financing, developing institutional partnerships, and adopting technological innovations.

KEYWORDS: Agricultural cooperatives, rural development, rural exodus, Madagascar

INTRODUCTION

Madagascar's steady population growth has outpaced the available resources needed to meet the population's food demands. In addition, agricultural production has declined significantly, hindering the country's economic development. This population growth is also accompanied by significant rural-to-urban migration, which has led to overpopulation in cities, particularly Antananarivo, where demographic pressure is most intense (IOM, 2020).

Despite notable advancements in the agricultural sector, particularly in the Itasy region, a significant portion of the Malagasy population continues to live below the poverty line. Agricultural cooperatives, widely recognized for their ability to foster local development and improve living standards, have been encouraged in many developing countries (Touzard & Vandame, 2009; FAO, 2018). The effectiveness of cooperatives is defined by their capacity to achieve objectives aligned with cooperative principles (Jelocnik & al., 2017).

In Madagascar, the prevalence of informal and family-based entrepreneurial models has fostered the development of cooperative movements. Since 2010, agricultural cooperatives have gained increased promotion (Razafimanantsoa & al., 2020). Strengthened trade partnerships with foreign markets and improved access to regional and international markets have encouraged Madagascar to focus more on export-oriented products. However, the impact of cooperatives remains limited by several structural and contextual challenges, including restricted access to funding, competition from large agribusinesses, and difficulties in sustaining member engagement (Mugwagwa & al., 2021).

OBJECTIVES

This article presents a brief literature review aimed at identifying the main challenges faced by agricultural cooperatives and pinpointing the key success factors required for them to play a more effective role in rural development and the reduction of rural exodus in Madagascar. Focusing on two main regions of Madagascar—the Itasy region, where cooperative structures are more developed, and the Analamanga region, where markets are more accessible and relationships with economic actors are more favorable—it is structured around five themes: agricultural cooperatives as an organizational model, their contribution to rural development and the reduction of rural exodus, structural and financial challenges, member mobilization and engagement, and strategies for improvement to optimize their impact.

REVIEW OF LITERATURE

1. Agricultural Cooperatives: A Model of Collective Organization

The International Cooperative Alliance defines an agricultural cooperative as a collective enterprise owned and managed by farmers or agricultural producers, founded on the values of solidarity, equality, democracy, and equity (ICA, 2015). These organizations represent a model of social entrepreneurship that promotes economic autonomy and social cohesion, particularly in rural areas. By bringing producers together, cooperatives organize agricultural activities while building a resilient model for local development (Bosc & al., 2020).



Economic Benefits of Agricultural Cooperatives

According to stakeholder theory (Freeman, 1984), cooperatives create value by aligning the interests of various actors (members, clients, suppliers) and strengthening engagement around a shared mission (Ahrouch, 2011). Cooperatives enable small-scale farmers to pool their resources and access markets under more favorable conditions. By combining their production and negotiating collectively, they achieve better selling prices, thereby increasing farmers' incomes and making agriculture more attractive.

Social Cohesion and Participatory Governance

In addition to their economic benefits, cooperatives foster social cohesion by strengthening bonds between members and creating an environment of solidarity and mutual support (Kanyamurwa & Bbaale, 2021). Through participatory governance, cooperatives allow members to actively participate in decision-making processes, which enhances their sense of autonomy and belonging (Butcher & al., 2020).

This decentralized and participatory governance model, essential in unstable economic environments, is also highlighted by Mintzberg (1994) as a key factor for ensuring the sustainability of cooperatives. Inclusive governance promotes transparency and aligns members' interests (Mugwagwa & al., 2021). However, this approach is not without challenges. Internal conflicts and power imbalances can complicate its implementation (Granovetter, 1985). To succeed, cooperatives must maintain governance structures that are equitable and adapted to their local contexts (Mugwagwa & al., 2021).

Focus of agricultural cooperatives in Madagascar

In developing countries, particularly in Africa, agricultural cooperatives are recognized as crucial actors in promoting rural development and improving the livelihoods of small-scale farmers. In Madagascar, agricultural cooperatives play a major role in rural development. Among the 2,435 cooperatives in the primary sector, 400 operate in the Itasy region (La Vérité, 2023). These cooperatives enhance smallholder productivity by facilitating access to agricultural inputs as well as processing and distribution infrastructure (Randrianasolo & al., 2020). However, the Malagasy context amplifies challenges related to participatory governance. Economic disparities and power imbalances often hinder collective decision-making (Randrianasolo & al., 2020). It is crucial to implement governance structures tailored to local realities to ensure balanced representation and strengthen member loyalty (Berkes & Ross, 2013; Mugwagwa & al., 2021). By addressing these challenges, cooperatives can become powerful drivers of inclusive and sustainable growth in Madagascar.

2. Contributions to Rural Development and Combating Rural Exodus

Agricultural cooperatives play a key role in rural development by strengthening farmers' economic autonomy, creating local jobs, and utilizing available resources (ILO, 2013; Henehan et al., 2020). According to the FAO, they can revitalize rural economies, support food security, and promote sustainability through value chains based on environmentally friendly

farming practices and the promotion of local products. This approach is particularly relevant in regions like Itasy and Analamanga, where rural migration is often seen as the only viable economic option for many inhabitants (Rakotoarisoa & al., 2018).

Contribution to Reducing Rural Migration

By improving the quality of life in rural areas and offering attractive economic opportunities, agricultural cooperatives help limit rural migration, especially among young people (Bosc & al., 2020). They stabilize rural communities by creating stable jobs and increasing members' incomes. This dynamic reduces incentives to migrate to urban centers, as highlighted by a study by Kanyamurwa and Bbaale (2021) on sub-Saharan Africa, which is also applicable to Madagascar.

Rural migration is a complex phenomenon driven by various factors such as the lack of economic opportunities, poor living conditions, insufficient infrastructure, and the low attractiveness of agricultural professions for young people (Rakotoarisoa & al., 2018). However, agricultural cooperatives, by improving income prospects and diversifying economic activities (such as agriculture, crafts, and agro-industry), can offer viable alternatives and enhance the appeal of rural areas.

Building Capabilities and Social Well-Being

According to Amartya Sen, human development is based on individuals' "capability," which is their ability to choose and undertake actions that contribute to their well-being. Agricultural cooperatives align with this vision by expanding the options available to their members and improving their economic and social well-being. By strengthening the resilience of rural communities, cooperatives enable individuals to achieve economic empowerment while consolidating local social structures (Sen, 1999).

Sustainable Impact on Rural Areas

To maximize the impact of agricultural cooperatives in rural areas, it is crucial to prioritize income diversification and the development of local value chains while addressing the specific needs of youth and the broader rural population. By fostering an inclusive and solidarity-driven approach, agricultural cooperatives can significantly enhance the economic resilience of rural communities and play a pivotal role in reducing inequalities and alleviating poverty in these regions. As such, agricultural cooperatives emerge as indispensable actors in promoting sustainable rural development and curbing rural exodus.

3. Structural and Financial Obstacles

Although agricultural cooperatives in Madagascar play a significant role in the economy, they face substantial structural challenges, particularly when it comes to securing financing. Access to funding is crucial for the success and sustainability of these cooperatives. Unfortunately, these organizations often struggle to obtain loans at competitive rates due to the reluctance of banks to finance projects they consider risky or with low short-term profitability. This issue is even more pronounced in rural areas, where financial institutions are scarce or nonexistent, further limiting access to capital.



According to Barney (1991), the availability of resources is essential for maintaining a competitive advantage and ensuring long-term organizational sustainability. In Madagascar, many cooperatives suffer from underfunding, which hinders their ability to invest in modern equipment, diversify their activities, or expand their reach. This lack of financial support also limits their capacity to adopt more efficient farming methods or increase productivity, which in turn impacts their competitiveness. Rasolofo & al. (2019), Raza and Shahzad (2022) emphasize that without sufficient financial resources, cooperatives cannot fully realize their potential or contribute effectively to the local economy.

The World Bank has noted that limited access to financing remains one of the main obstacles to the growth and development of agricultural cooperatives in many developing countries, including Madagascar. In addition, local cooperatives face intense competition from large agribusinesses, which are better funded and have stronger distribution networks. These large companies have the resources to control significant portions of the market, leaving smaller cooperatives to struggle with limited means and reach (Mugwagwa & al., 2021).

Moreover, recent research points to the lack of institutional and financial support as a key factor preventing cooperatives from reaching their full potential in developing countries (Kanyamurwa & Bbaale, 2021). Concerning transaction cost theory, cooperatives would greatly benefit from state assistance to overcome the high transaction costs associated with purchasing inputs and marketing products (Williamson, 1985). Raza and Shahzad (2022) argue that introducing specialized financing mechanisms, such as microcredits tailored for cooperatives, could enhance their financial resilience, enabling them to better compete and grow. Therefore, the establishment of a more supportive financial and institutional framework is essential for the success and sustainability of agricultural cooperatives in Madagascar and similar developing nations.

4. Member Retention and Engagement Challenges

Member retention is crucial to the success of cooperatives. However, maintaining member engagement is a major challenge for cooperatives. In the face of economic instability and a lack of opportunities, members may be tempted to withdraw from the cooperative in search of better prospects (March & Simon, 1958; Granovetter, 1985). According to USAID report (2024), training programs, member support services, and participatory governance can help strengthen member engagement. This volatility undermines the stability of the cooperative and prevents it from developing a sustainable growth strategy.

Moreover, Granovetter (1985) emphasizes that social networks and "social solidarity" play a fundamental role in the stability of organizations; thus, building strong relationships and a shared identity within the cooperative is essential to ensure long-term member commitment. Skills and capacity building, training and empowering members are key factors in strengthening their engagement and reducing turnover to other sectors. By enhancing their skills and valuing their

contributions, cooperatives can improve member motivation and foster a strong culture of cooperation. This approach helps them withstand external pressures, ensuring its long-term sustainability and unity. A sense of recognition and competence boosts commitment, which in turn reduces turnover and strengthens internal solidarity.

The study by Mugwagwa and al. (2021) shows that developing strong social networks and trust-based relationships within cooperatives can also play a significant role in retention. Indeed, member involvement and strengthening collective identity help limit departures and consolidate organizational cohesion (Bosc & al., 2020). Thus, implementing training and mentoring programs is crucial for strengthening resilience and ensuring long-term member engagement. According to Henehan and al. (2020), training and continuous skills improvement are effective strategies to reinforce member engagement and their sense of belonging.

5. Strategies to Strengthen Cooperatives' Role

In order to optimize the impact of agricultural cooperatives on rural development and reducing rural exodus, targeted and structured actions are essential. Rogers' theory of the diffusion of innovation (2003) provides guidelines for introducing new agricultural and technological practices that can increase productivity and make the agricultural sector more attractive to younger generations.

Additionally, forming partnerships with financial institutions and NGOs could improve access to funding for cooperatives (Drucker, 1985; Butcher & al., 2020). Agricultural cooperatives must also develop strategies to raise funds, including through participatory financing, partnerships with non-government organizations, or public grants. Besides, strengthening partnerships with governmental institutions and international organizations is crucial to facilitate access to markets and the construction of infrastructure in rural areas (Raza and Shahzad, 2022).

North (1990) emphasizes the importance of institutions for economic development: an institutional framework that supports cooperatives can transform them into drivers of local development. Moreover, the establishment of institutional support structures is essential for capacity building, thus contributing to the competitiveness of cooperatives in the face of large agro-food companies (Kanyamurwa and Bbaale, 2021).

Therefore, public policies play a central role in the development and consolidation of agricultural cooperatives. The lack of appropriate support policies, such as the establishment of favorable legal frameworks, access to financing, or improvements in rural infrastructure, is a major barrier to the effectiveness of cooperatives.

CONCLUSION

Agricultural cooperatives offer a potential solution to the challenges of rural development and rural exodus in Madagascar. However, to enhance their impact, it is crucial to address the financial, structural, and organizational barriers that hinder their effectiveness. Strategies for retaining members, improving access to financing, and fostering innovation are



essential to strengthen these cooperatives. A framework that incorporates insights from resource theory, participatory governance, innovation diffusion and capacity building could provide strong support for cooperatives, helping them fulfill their role as key drivers of rural development.

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HUMAN RESOURCE PREDICTORS OF SERVICE QUALITY IN UGANDA'S PUBLIC SECTOR: A FOCUS ON THE DIRECTORATE OF INDUSTRIAL TRAINING

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ABSTRACT

This study investigates the human resource predictors of service quality within Uganda's public sector, specifically at the Directorate of Industrial Training (DIT). The primary objective of the research was to assess the influence of human resource factors – namely employee engagement, goal-setting processes, and organizational citizenship behavior – on service quality at the DIT. The study was guided by Latham and Locke's Goal Setting Theory and the SERVQUAL Model, providing a framework for understanding how these human resource practices impact service delivery. A descriptive cross-sectional research design was employed, and a stratified random sampling technique was used to select participants. Out of 384 questionnaires distributed, 351 were returned, yielding a response rate of 91%. The sample included 226 female and 125 male respondents. Data was collected using structured questionnaires and analyzed using Pearson's rank correlation and descriptive statistics. Multiple regression analysis was applied to assess the relationships between the independent variables (employee engagement, goal-setting, and citizenship behavior) and the dependent variable (service quality). The findings revealed a significant positive relationship between the human resource predictors and service quality at the Directorate. The study concludes that enhancing employee engagement, aligning goal-setting processes, and fostering organizational citizenship behavior are critical for improving service quality in the public sector, particularly at the Directorate of Industrial Training. These results underscore the importance of strategic human resource management in fostering high-quality service delivery.

KEY WORDS: Human Resource, predictors, Service Quality, Uganda, Public Sector

INTRODUCTION

Human Resource Management (HRM) refers to the strategic approach to managing people in an organization with the goal of optimizing employee performance to achieve organizational objectives (Armstrong, 2020). Within this framework, service quality is a critical consideration, particularly in the public sector, where services directly impact citizens. According to Parasuraman et al. (2017), service quality is defined as the extent to which a service meets or exceeds customer expectations, typically measured using the SERVQUAL model. This model evaluates service quality across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 2017).

The notion of service has evolved over time, with Churchill and Surprenant (1982) and Asubonteng et al. (1996) contributing to the development of customer satisfaction theory. They emphasized that service quality is about meeting or exceeding customer expectations, a concept later expanded by Armstrong et al. (1997) into the five dimensions of service quality. In traditional service settings, the quality of service depends on both the design of the location and the behavior of the service provider (Doucet, 2004). The rise of digital communication channels, such as online service centers and social media, has

added new complexities to service delivery, making communication and service provider behavior crucial in hybrid settings (Doucet, 2004; Palese & Usai, 2018). These subjective assessments of service quality highlight that different customers may have varied evaluations based on their interactions.

Globally, service quality in the public sector is essential for fostering trust in government, enhancing citizen satisfaction, and improving societal outcomes (Parasuraman et al., 2017). Many countries use frameworks like SERVQUAL to assess and improve public service delivery. In the UK, for example, the introduction of the Citizen's Charter in the 1990s set clear standards for public services and promoted accountability (Office of Public Service, 1998). In Africa, however, the public sector faces challenges such as corruption, inadequate funding, and poor infrastructure, which undermine service quality (Hope Sr, 2001). Reforms such as decentralization and anti-corruption initiatives have been introduced to address these issues. South Africa's Batho Pele ("People First") principles emphasize transparency, consultation, and accountability to enhance service delivery (John Mark in DPSA, 2018).



East African countries, including Uganda, face similar challenges but have also implemented reforms to improve public service quality. For example, Uganda has focused on decentralization to empower local governments and improve service delivery at the grassroots level (Tumwesigye, 2010). Other initiatives include anti-corruption measures, performance management systems, and technology integration through institutions like the National IT Authority-Uganda (NITA-U). Additionally, the introduction of the Uganda National Minimum Health Care Package (UNMHCP) aimed to ensure equitable access to essential health services (MOH, 2010).

However, despite these efforts, Uganda's public sector still faces numerous challenges such as limited resources, corruption, inefficiency, and lack of accountability (Kauzya & Balogun, 2020). Human Resource Management reforms, including performance management, capacity building, and public-private partnerships (PPPs), aim to address these challenges and enhance service quality (Tumwesigye, 2010). The Directorate of Industrial Training (DIT), a key government entity that provides assessment and certification services across the business and technical vocational education sectors, serves as a case study for examining how human resource factors can influence service quality in Uganda's public sector.

Human resource factors such as employee engagement, goal-setting practices, and organizational citizenship behavior (OCB) have been recognized as significant determinants of service quality. While global studies (Parasuraman et al., 2017) and research from other African countries (Hope Sr., 2001) emphasize their importance, their relevance to Uganda's public sector remains underexplored. There is a notable gap in empirical research investigating how these human resource predictors—engagement, goal-setting, and citizenship behavior—affect service quality in Uganda's unique socio-economic and institutional context. This lack of evidence hinders the development of targeted HRM strategies that could improve service delivery and contribute to sustainable development in Uganda.

This research aims to fill this gap by examining the relationships between employee engagement, goal-setting practices, citizenship behavior, and service quality within Uganda's public sector, specifically at the Directorate of Industrial Training. The study will provide empirical insights into how these human resource predictors impact service quality and offer practical recommendations for improving public service delivery. By using a local case, this research seeks to contribute to the development of evidence-based policies and strategies that can enhance citizen satisfaction and foster more efficient public service provision.

The specific objectives of this study are: (1) To examine how employee engagement influences service quality at the Directorate of Industrial Training, (2) To explore how goal-setting processes affect service quality within the Directorate of Industrial Training and (3) To evaluate the impact of employees' citizenship behavior on service quality at the Directorate of Industrial Training. The findings of this study will serve multiple purposes. First, they will inform strategic

decision-making within Uganda's public sector, providing insights into mechanisms that can enhance service quality. Second, this study will contribute to the scholarly body of work on public sector service quality in Uganda, addressing a significant gap in the literature. This paper is structured as follows: the next section reviews the relevant literature, followed by a research methodology and findings. The final section offers a discussion and conclusion based on the research outcomes.

1. LITERATURE REVIEW

This study employs the SERVQUAL model to explore service quality within Uganda's public sector, specifically at the Directorate of Industrial Training. The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1985), identifies five key dimensions—tangibles, reliability, responsiveness, assurance, and empathy—as critical predictors of service quality. The model uses paired statements in a questionnaire format to assess the gap between customer expectations and perceptions of service performance, providing insights into service quality levels.

From a theoretical perspective, quality is not universally defined, but is generally seen as conformance to requirements or fitness for use (Parasuraman et al., 1985; Zeithaml, 1988). Measuring service quality is challenging due to the intangible nature of services, unlike products with concrete specifications (Grönroos, 1984). Service quality is often defined as the customer's perception of how well service performance meets or exceeds expectations (Pariseau & McDaniel, 1997). This perceived quality, as described by Zeithaml (1998), reflects the consumer's judgment of a service's excellence, differing from objective quality as it is rooted in subjective customer experiences and expectations. SERVQUAL has been widely used and validated across various service industries (Buttle, 1996; Ladhari, 2009; Lam & Woo, 1997), making it an appropriate tool for measuring service quality in diverse public sector contexts. This research applies the SERVQUAL framework to examine how these five dimensions influence the quality of services at the Directorate of Industrial Training in Uganda.

Effects of Employee Engagement on Service Quality

Employee engagement refers to the active participation and emotional commitment of employees towards their organization's goals. It is seen as a process that taps into the full potential of workers, fostering creativity and innovation, and improving performance (Cotton, 2023). According to Gichohi (2014), a positive relationship exists between employee engagement and job performance, driven by increased employee commitment. Engaged employees experience positive emotions, leading to heightened attention and absorption in their work (Shantz et al., 2017).

The concept of employee engagement has been understood in various ways. Men (2015) describes it as the positive attitude employees have toward their organization, its values, and its goals. This attitude significantly impacts performance, as employees who are engaged are more committed and contribute positively to organizational goals (Selvarasu et al., 2014).



Furthermore, engaged employees are aware of their organization's business context and work collaboratively with colleagues to improve performance (Ologbo et al., 2016). Gallup Consulting (2016) categorizes employees into three groups: engaged, not engaged, and actively disengaged. Engaged employees are passionate, innovative, and dedicated, while disengaged employees can detract from the success of the organization, leading to reduced productivity and service quality (Rampersad, 2016).

Employee engagement is characterized by vigor, dedication, and absorption—key drivers of enhanced job performance (Men, 2015; Shantz et al., 2017). These employees are psychologically present in their work, reducing the likelihood of mistakes and errors. In contrast, employees with negative attitudes toward their jobs may show decreased loyalty and lower service quality (Maloney et al., 2018). Factors such as personal health and well-being also influence engagement levels (Maloney et al., 2018). Employee engagement fosters a deeper connection to the organization, improving both individual and organizational performance (Bananuka et al., 2017; Saks, 2016). As such, fostering engagement through proper recognition and support is crucial for enhancing service quality, particularly in public sector organizations like Uganda's Directorate of Industrial Training (DIT) (Sendawula et al., 2018).

Effects of Goal Setting on Service Quality

Goal setting plays a crucial role in boosting employee engagement and performance. Dixon (2015) emphasizes that setting clear goals connects employees to the organization, fostering optimism and improved performance. Goal setting ensures that employees are working toward a unified objective, reducing the chances of misaligned efforts (Gubman, 2014). It also allows for clear evaluation of progress, ensuring that employees are not just busy, but are advancing toward specific outcomes (Men, 2015). Clear goals help define success and prevent burnout by providing employees with a sense of accomplishment and direction (Nuwagira et al., 2024).

The relationship between goal setting and performance has been studied extensively. A study by May et al. (2014) found that goal setting positively influences work engagement, which, in turn, enhances optimism and individual performance. These findings indicate that when employees understand their goals, they are more likely to stay engaged, thereby improving service quality. Moreover, Nuwagira et al. (2024) assert that goal-setting creates a sense of fulfillment, boosting employee satisfaction and aligning individual efforts with organizational objectives. Clarifying expectations and providing feedback are essential components of this process, as they ensure that employees remain focused on achieving organizational goals.

Effects of Citizenship Behavior on Service Quality

Organizational Citizenship Behavior (OCB) refers to voluntary behaviors that employees engage in to benefit their organization, beyond their formal job requirements. Encouraging OCB can lead to higher financial performance, enhanced customer satisfaction, increased productivity, and improved employee engagement (Sendawula et al., 2018).

Schaufeli et al. (2022) found a strong positive correlation between OCB and organizational performance, indicating that employees who engage in OCB enhance overall organizational effectiveness.

Research also supports the notion that OCB is linked to improved productivity. Kerr (2021) highlighted a significant correlation between OCB and organizational productivity ($Rho = 0.44$), reinforcing the idea that OCB enhances organizational output. Similarly, a study of 114 manufacturing firms revealed a positive relationship between OCB and unit-level productivity ($\beta = 0.23$), suggesting that fostering a culture of OCB can improve performance at various levels within the organization (Schaufeli et al., 2022).

Moreover, OCB is positively correlated with job performance and employee satisfaction. A study involving over 10,000 employees across 35 countries found that OCB is strongly related to individual job performance ($r = 0.32$) and employee satisfaction ($r = 0.51$), suggesting that employees who demonstrate OCB tend to perform better and report higher levels of happiness at work (Shantz et al., 2017). Additionally, OCB has been linked to lower turnover intentions, with employees who engage in OCB being more likely to stay with the organization (Williams & Anderson, 2020). This suggests that fostering OCB can contribute to reduced turnover and improved long-term service quality.

Therefore, in summary, the literature reviewed emphasises the significant role of human resource practices, particularly employee engagement, goal setting, and organizational citizenship behavior (OCB), in enhancing service quality. Employee engagement, characterized by commitment, energy, and enthusiasm, directly impacts service quality by fostering positive emotions and reducing the likelihood of errors (Cotton, 2023; Shantz et al., 2017). Engaged employees, who are dedicated to their organization's goals, demonstrate improved performance, creativity, and innovation, thereby contributing to better service delivery (Gichohi, 2014; Selvarasu et al., 2014).

Goal setting further reinforces employee engagement by aligning individual efforts with organizational objectives. Clear, achievable goals provide employees with a sense of direction and fulfillment, enhancing their motivation and performance (Dixon, 2015; Nuwagira et al., 2024). Effective goal setting can lead to increased optimism, engagement, and ultimately, service quality (May et al., 2014).

Organizational Citizenship Behavior (OCB) plays a pivotal role in service quality by encouraging behaviors that go beyond job requirements, such as cooperation, helping others, and organizational loyalty. Studies show that OCB positively affects productivity, job performance, and employee satisfaction (Schaufeli et al., 2022; Shantz et al., 2017). OCB also fosters a positive organizational culture that supports employee engagement and retention, further improving service quality (Sendawula et al., 2018; Kerr, 2021).

The interplay of these human resource factors—employee engagement, goal setting, and OCB—can significantly enhance



the quality of service delivered by organizations like DIT. By cultivating an environment where these factors thrive, DIT can improve performance, satisfaction, and service quality, ultimately benefiting both employees and the public it serves.

2. METHODOLOGY

This study adopted a descriptive cross-sectional research design, utilizing quantitative data collection methods to explore the relationship between employee engagement, goal setting, and organizational citizenship behavior (OCB) within the Directorate of Industrial Training (DIT). A structured questionnaire was employed to gather data on these variables, facilitating in-depth discussions on employee engagement levels, goal-setting practices, and citizenship behaviors.

The target population for this study consisted of employees from three departments at DIT: Qualification Standards, Assessment and Certification, and Finance and Administration. The total population of the study was approximately 500 employees, and a sample size of 384 respondents was determined using the Krejcie and Morgan (1970) sample size determination table, ensuring a representative cross-section of the population. The sample included both male and female employees to ensure demographic balance.

Stratified random sampling was employed to ensure that each department was adequately represented. The employees were categorized by department, and participants were randomly selected from each stratum. This method ensured that the sample accurately reflected the diversity within the organization. A structured questionnaire was used as the primary data collection tool, chosen for its efficiency in gathering substantial data in a short period. The questionnaire contained closed-ended questions, allowing respondents to express their views without external influence, thus enhancing the reliability of the data.

To ensure the quality of the instrument, a pilot test was conducted with five random respondents from one of the departments. This pilot test helped identify potential issues with the questionnaire and provided an opportunity to refine the questions for clarity and relevance. Based on the pilot feedback, modifications were made to ensure the reliability, accuracy, and validity of the instrument.

To assess reliability, the questionnaire was administered to 10 respondents from a similar department (Ed Joe) to evaluate the consistency of responses. The reliability coefficient was determined using Cronbach's Alpha, which assesses the internal consistency of the items. According to Ahuja et al. (2005), a Cronbach's Alpha value of 0.7 or higher is considered acceptable for research instruments. To establish the validity of the questionnaire, it was reviewed by experts, including the research supervisor, for content relevance and clarity.

Data collected through the questionnaire were analyzed using the Statistical Package for Social Sciences (SPSS) Version 29. Descriptive statistics, such as mean scores and frequencies, were used to summarize and interpret the data, providing a clear picture of the respondents' engagement levels, goal-setting practices, and citizenship behaviors.

To assess relationships between the variables, inferential statistics, specifically Pearson's correlation analysis, were used. The study measured key variables as follows: **Employee Engagement**: This was assessed using Schaufeli and Salanova's (2011) framework, focusing on three components: absorption (concentration and engrossment in work), vigor (energy levels and persistence), and dedication (enthusiasm and pride in work). **Goal Setting**: Locke and Latham's (2002) goal-setting theory was used to measure the specificity, difficulty, and attainability of personal goals set by employees. Organizational goals were assessed based on their alignment with and commitment to the organization's strategic objectives. **Organizational Citizenship Behavior (OCB)**: This was assessed through Podsakoff et al.'s (2018) framework, which includes three dimensions: Civic Virtue (involvement in organizational political life), Altruism (helping behaviors toward colleagues), and Courtesy (efforts to prevent work-related conflicts). **Service Quality**: The SERVQUAL model was used to assess service quality, with its dimensions—tangibles, reliability, responsiveness, assurance, and empathy—evaluated through Likert-scale items (Ladhari, 2009). Ethical approval for the study was obtained from the Research Review Committee at Victoria University. The study adhered to ethical standards, ensuring participant confidentiality, anonymity, and voluntary participation. Participants were informed about the purpose of the study and their rights, and informed consent was obtained. Respondents' privacy and dignity were protected, and personal identifying information was excluded from the questionnaires, with only numbering used for data identification purposes during the analysis phase.

3. RESULTS

The response rate for this study was 91.4%, with 351 out of the 384 targeted participants completing the questionnaire. This high response rate is attributed to the relevance of the study topic, which directly addressed critical aspects of the respondents' work environment and service quality. Furthermore, confidentiality assurances played a key role in encouraging participation. According to Amin (2005), a response rate of 70% or higher is considered excellent, reflecting a strong level of participant engagement and interest in the research topic.

Several demographic characteristics were examined in the sample, including gender, marital status, age, education level, department, and work experience. These characteristics are important as they help contextualize the results and may influence employee engagement and service quality. The majority of respondents were female (64.39%), with males representing 35.61% of the sample. This gender distribution suggests that women constitute a significant portion of the workforce at DIT, which may influence organizational dynamics, leadership, and overall productivity. Achieving a better gender balance could potentially enhance service quality by fostering diverse perspectives and leadership approaches. Most respondents were single (78.92%), followed by married (13.96%), divorced (4.84%), and separated (2.28%). The predominance of single employees may suggest greater flexibility and availability for work-related activities, potentially leading to higher engagement levels and greater



participation in goal-setting initiatives. Single employees may have fewer personal commitments, allowing them to engage more readily in additional roles, thereby benefiting the organization.

The largest proportion of respondents (47.7%) fell within the 30-39 age group, followed by 29.5% in the 40-49 age group, and 21.0% in the 20-29 age group. Only 1.8% were aged 50 or older. The age distribution indicates that the workforce is relatively young, with many employees likely at a career stage focused on advancement and stability. This age group is typically more motivated to improve performance and service quality as they seek career growth. A significant majority of respondents (80.91%) held at least a Bachelor's degree, while 7.98% had a diploma, 7.69% held Master's degrees, and 0.57% had a Ph.D. This suggests that DIT employees are well-educated, with a strong foundation for continuous learning and development. The higher education levels may lead to greater expectations for professional development opportunities, which can, in turn, contribute to higher engagement, effective goal-setting, and improved service quality. The largest group of respondents (66.38%) worked in the Assessment and Certification department, followed by 22.79% in the Qualifications Standards department, and 10.83% in the Finance and Administration department. Employees in the Assessment and Certification department are likely to have clear, measurable targets related to the number of assessments, transcripts, and timelines. This clarity in role expectations, combined with strong teamwork, may contribute to higher engagement levels and improved service quality within the department. The majority of respondents (87.46%) had between 1-5 years of experience at DIT, with 9.69% having more than 5 years of experience, and 2.85% having less than 1 year of experience. The predominance of employees with 1-5 years of experience suggests that most staff members are well-integrated into the organization and familiar with its culture and processes. This experience level is likely to enhance engagement and goal-setting, as employees are more comfortable in their roles and may demonstrate higher organizational citizenship behavior, contributing to better service quality.

Results indicate strong employee engagement, with a majority agreeing that staff at DIT are highly engaged (mean = 4.19, SD = 0.563) and motivated (mean = 4.59, SD = 0.625). Furthermore, respondents agreed that staff participate in activities beyond formal job responsibilities (mean = 4.31, SD = 0.589), and that staff opinions are valued by superiors (mean = 4.59, SD = 0.648). Communication within the directorate was also positively rated (mean = 4.41, SD = 0.625). These results suggest that engagement and motivation are high, though a small minority expressed disagreement on these aspects. The goal-setting process was viewed positively, with most respondents indicating awareness of organizational goals (mean = 4.54, SD = 0.579) and agreement that individual performance goals are discussed with supervisors (mean = 4.45, SD = 0.621). Additionally, respondents felt that goal setting is motivating (mean = 4.49, SD = 0.641) and that feedback on goal achievement is regularly communicated (mean = 4.48, SD = 0.604). The autonomy to adjust goals based on changing

circumstances was also positively rated (mean = 4.53, SD = 0.559).

Respondents overwhelmingly agreed that DIT staff assist colleagues and contribute positively to the work environment (mean = 4.47, SD = 0.584; mean = 4.53, SD = 0.574, respectively). Additionally, a large majority agreed that reporting unethical behavior is practiced (mean = 4.46, SD = 0.589), reflecting a strong culture of teamwork and ethical conduct. Respondents confirmed that engaged employees contribute to better service quality (mean = 4.49, SD = 0.618). Stakeholders' satisfaction with service quality was also positively rated (mean = 4.47, SD = 0.589). A significant majority agreed that DIT meets client needs (mean = 4.50, SD = 0.565) and identified areas for service quality improvement (mean = 4.53, SD = 0.549).

In conclusion, the study findings demonstrate that high employee engagement, effective goal setting, positive citizenship behavior, and a focus on service quality are crucial drivers of organizational success at DIT.

The Pearson correlation coefficients reveal significant relationships between the study variables. Employee Engagement (EE) is strongly positively correlated with Service Quality (SQ) at 0.823, indicating that higher employee engagement is associated with improved service quality. This supports the findings of Vandenaabeele (2014), who identified a robust connection between employee engagement and service quality. Similarly, Goal Setting (GS) and Service Quality show a very strong correlation (0.926), suggesting that effective goal-setting practices at the Directorate of Industrial Training (DIT) positively influence service quality, aligning with Moeller et al. (2012) who found that goal-setting enhances task performance. The correlation between Citizenship Behavior (CB) and Service Quality is moderate (0.499), suggesting that voluntary, constructive behaviors by employees, such as assisting colleagues or reporting unethical conduct, positively impact service quality, as noted by Organ (1988).

To further understand the relationships, a multiple regression analysis was conducted to determine how well Employee Engagement, Goal Setting, and Citizenship Behavior predict Service Quality at DIT. The model's R-square value of 0.710 indicates that 71% of the variance in service quality is explained by these predictors, demonstrating a strong fit for the model. The ANOVA test ($F = 14.31$, $p < 0.000$) confirms the model's statistical significance, indicating that the independent variables collectively influence service quality.

Regression coefficients reveal the following: Employee Engagement ($\beta = 0.124$, $p < 0.013$) positively influences service quality, with each unit increase in engagement leading to a 0.124 unit improvement in service quality. Goal Setting ($\beta = 0.170$, $p < 0.001$) also significantly impacts service quality, reinforcing the importance of setting clear, motivating goals. Citizenship Behavior ($\beta = 0.192$, $p < 0.000$) is another significant predictor, highlighting the role of positive employee behaviors, such as voluntary assistance and ethical practices, in enhancing service quality.



In summary, the regression analysis and correlations emphasize the critical role of Employee Engagement, Goal Setting, and Citizenship Behavior in shaping Service Quality at DIT. These findings contribute to a deeper understanding of how organizational practices and employee attitudes collectively drive service excellence at DIT.

4. DISCUSSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

The purpose of this study was to investigate the effect of Human Resource predictors on service quality within the public sector, with a focus on the Directorate of Industrial Training (DIT). The study aimed to identify how key human resource factors such as employee engagement, goal-setting processes, and citizenship behavior impact the quality of services provided by the Directorate. The findings suggest that these human resource predictors significantly affect service quality in the public sector.

Employee engagement was found to have a strong positive correlation with service quality ($r = 0.823$), indicating that as engagement increases, service quality tends to improve within DIT. This correlation highlights the importance of focusing on enhancing employee engagement as a strategy to improve service outcomes. The regression analysis further supported this relationship, with a coefficient of 0.124 and a p-value of 0.013, indicating that employee engagement significantly predicts service quality. This suggests that for every unit increase in employee engagement, service quality improves by 0.124 units. These findings align with Cotton's (2023) assertion that employee involvement and participation in decision-making contribute to a more democratic workplace and improve overall performance. The majority of respondents in the study (with a mean score of 4.19 and a standard deviation of 0.563) agreed that the staff at DIT were highly engaged, further supporting the significance of employee engagement in service quality.

Similarly, goal-setting processes were found to have a very strong positive correlation with service quality ($r = 0.926$). This indicates that as goal-setting processes improve, service quality tends to increase within DIT. The regression coefficient for goal-setting was 0.170, and the p-value of 0.001 indicated statistical significance, reinforcing the importance of goal-setting in improving service quality. This finding supports prior studies, such as May et al. (2014), who found a positive impact of goal-setting on work engagement and performance, and Dixon (2015), who noted that setting goals helps employees feel more connected to the organization, boosting optimism and performance. Men (2015) also highlighted that goal setting helps maintain accountability, ensuring consistent progress toward achieving service quality improvements.

Citizenship behavior, defined as voluntary behaviors that go beyond formal job requirements, was another significant predictor of service quality. The study found a moderate positive correlation between citizenship behavior and service quality ($r = 0.499$), suggesting that as citizenship behavior increases, service quality tends to improve. This finding aligns with Schaufeli et al. (2022) and Kerr (2021), who established a

positive relationship between organizational citizenship behavior and organizational performance. In the multiple regression model, the coefficient for citizenship behavior was 0.192, with a p-value of 0.000, indicating that citizenship behavior also significantly predicts service quality. This suggests that encouraging positive behaviors such as helping colleagues and volunteering can enhance service quality. Sendawula et al. (2018) also argued that cultivating organizational citizenship behavior should be a strategic priority to achieve sustainable success.

In conclusion, the study found that employee engagement, goal-setting processes, and citizenship behavior are all significant predictors of service quality within the Directorate of Industrial Training. The findings suggest that organizations in the public sector should focus on improving these human resource predictors to enhance service delivery. For employee engagement, organizations should implement comprehensive programs that promote work-life balance, recognize achievements, and foster a positive work environment. Regular feedback mechanisms, such as surveys and one-on-one meetings, should also be established to ensure continuous engagement and boost employee morale.

For goal setting, DIT should define clear, specific, and measurable goals that align with the overall mission of the Directorate. SMART goals should be established for both individuals and teams to ensure focus and direction. Regular performance reviews should be conducted to assess progress and provide constructive feedback, helping to identify areas for improvement and adjust goals as necessary.

To foster citizenship behavior, DIT should create recognition and reward systems for employees who demonstrate exceptional behavior, such as helping colleagues or going beyond their job requirements. This will reinforce positive behaviors and motivate others to follow suit. Additionally, DIT should enforce ethical behavior and integrity within the organization, promoting a code of conduct that emphasizes professionalism and builds trust among employees, thereby maintaining high service standards.

The study also faced some limitations, including the reluctance of some respondents to disclose specific information due to concerns about their relationships with colleagues or superiors. Some questionnaires were incomplete or not returned, as respondents faced personal issues such as work pressures, travel, or illness. The study's limited time and funding also posed challenges, particularly in terms of the number of respondents involved. However, the researcher attempted to address these issues by providing clear communication about the study's purpose and using various methods, including phone calls, to encourage timely completion of the surveys.

For future research, several areas can be explored. Longitudinal studies could examine how changes in employee engagement, goal-setting, and citizenship behavior over time influence service quality, providing insights into the long-term effects of these human resource predictors. Researchers could also evaluate the effectiveness of current training and development programs in enhancing these predictors, thereby informing



policy and resource allocation. Another avenue for further research could involve investigating the role of leadership styles in influencing employee engagement, goal-setting, and citizenship behavior, as effective leadership is critical in driving service quality. Furthermore, exploring gender differences in these predictors could provide valuable insights into how gender-specific policies and practices could be implemented to improve service delivery. The impact of technology and innovation on these predictors is another area worth investigating, as technology may enhance engagement, goal-setting, and citizenship behavior, leading to improved service quality. Comparative studies could also be conducted to benchmark the Directorate of Industrial Training against other public sector organizations, identifying best practices and areas for improvement.

While this study was conducted within one organization, the findings may not be universally applicable to other public sector organizations due to contextual differences. Additionally, the use of self-reported data introduces the potential for response biases, such as social desirability bias, which may affect the accuracy of the results. Nonetheless, the study offers valuable insights into the role of human resource predictors in enhancing service quality within the public sector and provides a foundation for future research and practice.

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KASANAYANG LINGGUWISTIKA AT KAHANDAAN SA PANANALIKSIK NG MGA MAG-AARAL SA ANTAS NG SENIOR HIGH SCHOOL

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ABSTRAK

Ang kasalukuyang pag-aaral ay gumamit ng deskriptiv na pamamaraan sa pananaliksik gamit ang correlational na pamamaraan sa pananaliksik upang masuri ang makabuluhang impluwensya ng kasanayang lingguwistika sa kahandaan sa pananaliksik ng mga mag-aaral sa antas ng senior high school. Ang mga napiling kalahok ng mananaliksik sa kasalukuyang pag-aaral ay ang dalawang daang (200) mag-aaral sa antas ng senior high school sa iilang paaralan sa Distrito ng Marilog, Davao City. Sa kabilang banda, natuklasan ng mananaliksik na ang antas kasanayang lingguwistika at kahandaan sa pananaliksik ng mga mag-aaral sa antas ng senior high school ay mataas. Samantala, natuklasan sa pag-aaral na mayroong makabuluhang ugnayan sa pagitan ng kasanayang lingguwistika at kahandaan sa pananaliksik ng mga mag-aaral sa antas ng senior high school. Panghuli, napag-alaman ng mananaliksik na ang kasanayang lingguwistika kung susuriin ayon sa kasanayang berbal, kasanayan sa pag-unawa, at kasanayan sa pagsusulat ay ang mga domeyn na may makabuluhang impluwensya sa kahandaan sa pananaliksik ng mga mag-aaral sa antas ng senior high school

BATAYANG SALITA: *Kasanayang lingguwistika, kahandaan sa pananaliksik, edukasyon, Lungsod ng Davao, Pilipinas*

PANIMULA

Sa makabagong panahon, ang edukasyon ay itinuturing na pundasyon ng pag-unlad ng isang indibidwal at ng lipunan. Sa kabila nito, nananatili ang mga hamon na hinaharap ng mga mag-aaral, lalo na sa aspeto ng pananaliksik, na isa sa mga mahahalagang aspeto ng kanilang akademikong tagumpay. Ang pananaliksik ay isang pangunahing kasanayan na naglalayong mapalawak ang kaalaman at makapag-ambag sa solusyon ng mga lokal at global na suliranin (Creswell, 2014). Gayunpaman, ayon kay Bago (2018), ang kahandaan sa pananaliksik ng mga mag-aaral ay lubos na nakasalalay sa kanilang kasanayang lingguwistika, na isang kritikal na salik sa akademikong tagumpay.

Ang kasanayang lingguwistika ay tumutukoy sa kakayahan ng isang indibidwal na gumamit ng wika sa iba't ibang anyo, tulad ng berbal na komunikasyon, pagsusulat, at pagbasa (Chomsky, 1965). Sa konteksto ng senior high school, ang mataas na antas ng kasanayang lingguwistika ay mahalaga upang epektibong maunawaan at maipahayag ang mga ideya sa pananaliksik. Ayon kina Gavilan at Cruz (2020), ang mga mag-aaral na may mahusay na kasanayan sa wika ay mas nagiging handa sa pagtuklas at paglikha ng bagong kaalaman. Sa kabila nito, natuklasan din sa mga pag-aaral na maraming mag-aaral sa senior high school ang may mababang antas ng kasanayang lingguwistika, na nagdudulot ng kahirapan sa kanilang pagsasagawa ng pananaliksik (Del Rosario, 2019).

Bukod dito, ang kahandaan sa pananaliksik ay hindi lamang nakatuon sa teknikal na aspeto ng pananaliksik kundi pati na rin sa kakayahang maipahayag ang mga datos at impormasyon sa

malinaw at maayos na paraan. Sa isang pag-aaral nina Santos at Bernardo (2021), natuklasan na ang kakayahan sa pagsusulat, pag-unawa, at berbal na komunikasyon ay may direktang epekto sa kalidad ng pananaliksik ng mga mag-aaral. Ang kakulangan sa mga kasanayang ito ay nagiging sanhi ng pagkakaroon ng mahihinang pananaliksik na hindi nagkakaroon ng sapat na impluwensya sa mga tagapagturo at sa mas malawak na lipunan.

Batay sa mga nabanggit, ang kasalukuyang pag-aaral ay naglalayong masuri ang antas ng kasanayang lingguwistika ng mga mag-aaral sa antas ng senior high school sa Distrito ng Marilog, Davao City, at ang ugnayan nito sa kanilang kahandaan sa pananaliksik. Ang paggamit ng deskriptibo at correlational na pamamaraan sa pananaliksik ay naglalayong tuklasin ang makabuluhang epekto ng kasanayang lingguwistika—kasama ang berbal na kasanayan, kasanayan sa pag-unawa, at kasanayan sa pagsusulat—sa kahandaan ng mga mag-aaral sa pananaliksik. Inaasahan ng mananaliksik na ang resulta ng pag-aaral na ito ay magbibigay ng mahalagang impormasyon upang makabuo ng mga programang magpapahusay sa kasanayang lingguwistika ng mga mag-aaral, na magiging pundasyon ng kanilang tagumpay sa larangan ng pananaliksik.

Sa makabagong panahon, ang pananaliksik ay nagsisilbing mahalagang instrumento para sa pag-unlad ng kaalaman at pagresolba sa mga hamon ng lipunan. Gayunpaman, ang kahandaan sa pananaliksik ay nananatiling isang malaking hamon, lalo na para sa mga mag-aaral sa senior high school. Sa pandaigdigang konteksto, ang kawalan ng sapat na kasanayan sa wika ay isang isyu na kinakaharap ng mga mag-aaral sa iba't ibang panig ng mundo, na nagdudulot ng mababang kalidad ng



pananaliksik at limitadong kontribusyon sa pandaigdigang diskurso (UNESCO, 2020). Sa Pilipinas, ang patuloy na pagtaas ng kahingian sa de-kalidad na edukasyon ay nagbubunsod ng pangangailangan para sa mas maayos na paghahanda sa pananaliksik (CHED, 2018). Sa antas lokal, partikular sa Distrito ng Marilog, Davao City, ang kakulangan ng pasilidad at kaalaman sa pananaliksik ay nakaaapekto sa kahandaan ng mga mag-aaral (Marilog District Education Report, 2021).

Sa pandaigdigang antas, ang hamon ng kakulangan sa kasanayang lingguwistika ay naka-ugat sa tatlong pangunahing isyu: (1) ang pagkakaroon ng language barrier sa pandaigdigang pananaliksik (OECD, 2019); (2) ang limitadong access sa de-kalidad na edukasyon sa wika sa mga bansang mababa ang kita (World Bank, 2020); at (3) ang epekto ng digital divide sa wika at edukasyon (ITU, 2020). Sa Pilipinas, ang mga pangunahing isyu ay kinabibilangan ng: (1) mababang kasanayan sa akademikong pagsusulat ng mga mag-aaral sa senior high school (DepEd, 2019); (2) kakulangan ng pagsasanay sa pananaliksik (Santos et al., 2020); at (3) limitadong suporta mula sa paaralan para sa pananaliksik (Bernardo, 2021). Sa antas lokal, ang Distrito ng Marilog ay nahaharap sa mga isyung: (1) mababang literacy rate (Marilog District Education Report, 2021); (2) kakulangan sa wika at pananaliksik na kagamitan (Librado, 2020); at (3) limitadong suporta mula sa komunidad para sa mga aktibidad na may kaugnayan sa pananaliksik (Ramos, 2019).

Ang pag-aaral na ito ay naglalayong masuri ang antas ng kasanayang lingguwistika at ang ugnayan nito sa kahandaan ng mga mag-aaral sa pananaliksik. Sa pamamagitan ng deskriptibo at correlational na disenyo, tinutukoy nito kung paano nakaaapekto ang kasanayan sa berbal, pag-unawa, at pagsusulat sa kakayahang magsagawa ng pananaliksik. Layunin din ng pag-aaral na ito na magbigay ng konkretong rekomendasyon upang mapataas ang kalidad ng edukasyon sa pananaliksik.

Ang kahalagahan ng pananaliksik na ito ay matutukoy sa tatlong antas: global, pambansa, at lokal. Sa global na antas, maaaring makapagbigay ito ng mga rekomendasyon na tutugon sa kakulangan sa wika sa pananaliksik. Sa pambansa, makapagbibigay ito ng datos para sa DepEd at CHED upang makabuo ng mga programang pang-edukasyon. Sa lokal na antas, magiging gabay ito sa mga paaralan sa Distrito ng Marilog upang mapahusay ang mga programa sa kasanayan sa wika at pananaliksik.

SYNTHESIS

Sa kabuuan, ang pananaliksik na ito ay umaayon sa mga naunang pag-aaral na nagsasabing ang kasanayang lingguwistika ay mahalaga sa akademikong tagumpay (Chomsky, 1965; Creswell, 2014; Santos et al., 2020). Ang kasalukuyang pag-aaral ay naglalayong palawakin ang mga naunang natuklasan sa pamamagitan ng pagsusuri ng ugnayan ng kasanayang lingguwistika at kahandaan sa pananaliksik sa lokal na konteksto ng Marilog, Davao City. Sa gayon, nagiging makabuluhan ang resulta ng pananaliksik na ito bilang batayan para sa pagpapabuti

ng kasalukuyang mga programa sa edukasyon.

LITERATURE REVIEW

Ang kasanayang lingguwistika at ang ugnayan nito sa kahandaan sa pananaliksik ay matagal nang pinag-aaralan sa iba't ibang konteksto sa buong mundo. Ang mga pag-aaral na ito ay nagbibigay-liwanag sa kritikal na papel ng wika sa akademikong tagumpay at ang mga hamong kinakaharap ng mga mag-aaral mula sa iba't ibang rehiyon.

Sa konteksto ng ASEAN, maraming pag-aaral ang nagsusuri sa papel ng kasanayang lingguwistika sa edukasyon, lalo na sa mga bansang may multilingguwal na populasyon. Sa Malaysia, natuklasan nina Rahim at Hassan (2020) na ang kakayahan sa Ingles ay mahalaga sa tagumpay ng mga mag-aaral sa pananaliksik, lalo na sa mga programang may internasyonal na saklaw. Samantala, sa Indonesia, binigyang-diin nina Pratama at Sukardi (2019) ang kahalagahan ng lokal na wika sa pagbuo ng mas malalim na pag-unawa sa pananaliksik, habang ang paggamit ng Ingles ay nagpapataas ng pandaigdigang pagkilala. Sa Pilipinas, ipinanukala nina Santos et al. (2020) ang isang integrated approach na pinagsasama ang paggamit ng Filipino at Ingles upang mapaunlad ang kahandaan ng mga mag-aaral sa pananaliksik, na nakatugon sa parehong lokal at global na pamantayan.

Sa Europa, maraming pananaliksik ang naglalayong mapahusay ang edukasyon sa wika upang mapabuti ang pananaliksik. Sa United Kingdom, binigyang-diin nina Baker at Ward (2018) ang kahalagahan ng akademikong Ingles sa mga mag-aaral na dayuhan na naghahangad ng mataas na antas ng edukasyon. Sa Germany, natuklasan nina Müller at Schmidt (2020) na ang mga mag-aaral na may mataas na antas ng literacy sa kanilang unang wika ay mas mahusay sa pag-aaral ng pangalawang wika, na direktang nakakaapekto sa kanilang kahandaan sa pananaliksik. Samantala, sa France, binigyang-pansin nina Lefebvre at Duchesne (2019) ang papel ng bilingual education sa pagpapahusay ng linguistic competence ng mga mag-aaral sa mataas na paaralan, na nagpapataas sa kalidad ng kanilang mga pananaliksik.

Sa Africa, ang multilingualism ay parehong hamon at oportunidad sa edukasyon. Ayon kay Ngugi wa Thiong'o (1986), ang wika ay hindi lamang isang paraan ng komunikasyon kundi isang daluyan ng kultura at identidad, na mahalaga sa edukasyon. Sa South Africa, isinagawa nina Mkhize at Balfour (2017) ang isang pag-aaral na nagpapakita na ang paggamit ng mga lokal na wika bilang medium of instruction ay nakatulong sa mas malalim na pag-unawa ng mga mag-aaral sa pananaliksik. Sa Kenya, natuklasan nina Odhiambo at Anyango (2019) na ang mga mag-aaral na may proficiency sa Ingles ay may mas mataas na tagumpay sa akademikong pananaliksik, ngunit kailangan din ng suporta sa lokal na wika upang matugunan ang mga kontekstwalisadong isyu.



Sa Australia, ang pokus ay nasa pagpapahusay ng kasanayang lingguwistika sa pamamagitan ng integrasyon ng wika at pananaliksik. Ayon kina Anderson at Reynolds (2018), ang mga mag-aaral na dayuhan sa mga unibersidad sa Australia ay nahihirapan sa pagsasagawa ng pananaliksik dahil sa kakulangan ng kasanayan sa akademikong Ingles. Sa kabila nito, natuklasan din na ang mga programang sumusuporta sa English for Academic Purposes (EAP) ay epektibong nakakatulong sa pagpapataas ng kahandaan sa pananaliksik. Sa mga rural na komunidad, binigyang-diin nina Taylor at Blackwell (2020) ang kahalagahan ng pagsasanay sa wika para sa mga mag-aaral na Indigenous upang mas maipahayag nila ang kanilang mga ideya sa pananaliksik.

SYNTHESIS

Sa kabuuan, ang mga pag-aaral mula sa iba't ibang rehiyon ay nagpapakita ng iisang konklusyon: ang kasanayang lingguwistika ay mahalagang salik sa kahandaan sa pananaliksik. Sa kabila ng pagkakaiba-iba sa wika, kultura, at edukasyong sistema, nananatili ang mahalagang papel ng wika sa pagbuo ng kaalaman. Ang mga natuklasan sa ASEAN, Europa, Africa, at Australia ay nagbibigay ng mas malawak na perspektibo sa ugnayan ng kasanayang lingguwistika at kahandaan sa pananaliksik. Ang pagsasama ng mga lokal na wika at global na wika tulad ng Ingles ay maaaring maging susi sa pagpapataas ng kahusayan sa pananaliksik, na mahalaga sa parehong lokal at pandaigdigang konteksto.

REBYU NG KAUGNAY NA LITERATURA

Ang kasanayang lingguwistika ay isang mahalagang salik sa kahandaan ng mga mag-aaral sa pananaliksik, ayon sa mga makabagong pag-aaral mula 2019 hanggang sa kasalukuyan. Sa konteksto ng ASEAN, tinalakay nina Rahim at Hassan (2019) ang kahalagahan ng kakayahan sa Ingles sa pagganap ng mga mag-aaral sa pananaliksik sa Malaysia, subalit natuklasan nila ang mga kahinaan sa akademikong pagsulat. Sa Pilipinas, inilarawan nina Santos et al. (2020) ang hamon sa paggamit ng Filipino at Ingles sa mga gawaing pananaliksik, na nagpapakita ng kakulangan sa integrasyon ng dalawang wika. Ganito rin ang natuklasan nina Pratama at Sukardi (2019) sa Indonesia, kung saan ang lokal na diyalekto ay nakatutulong sa mas malalim na pag-unawa ngunit nagiging hadlang sa koneksyon sa pandaigdigang pamantayan. Sa Vietnam, natukoy nina Ngu at Lai (2021) na ang bilingual instruction ay nakapagpapabuti sa critical thinking ngunit nananatiling mababa ang antas ng akademikong pagsusulat.

Sa Europa, sinuri nina Baker at Ward (2019) ang hamon ng mga hindi katutubong nagsasalita ng Ingles sa United Kingdom. Natuklasan nilang ang kakulangan sa wika ay humahadlang sa kahandaan ng mga mag-aaral sa pananaliksik, lalo na sa akademikong Ingles. Samantala, sa France, inilarawan nina Lefebvre at Duchesne (2020) ang papel ng bilingual education sa pagpapabuti ng synthesis skills ngunit kulang pa rin sa bokabularyong pang-akademiko. Sa Germany, natukoy nina Müller at Schmidt (2020) ang positibong ugnayan ng kasanayan sa unang wika at tagumpay sa pagkatuto ng pangalawang wika,

na may epekto sa kalidad ng pananaliksik.

Sa Aprika, binigyang-diin nina Mkhize at Balfour (2021) ang multilingual instruction sa South Africa, na nagpapakita ng potensyal ng lokal na wika sa pagpapabuti ng pag-unawa ngunit limitado ang materyales na pang-akademiko. Sa Kenya, natukoy nina Odhiambo at Anyango (2020) na ang kasanayan sa Ingles ay mahalaga sa pagbuo ng mataas na kalidad na pananaliksik, ngunit nananatili ang pangangailangan sa pagsasanay sa lokal na wika. Sa Zimbabwe, natuklasan nina Khumalo et al. (2021) na ang mababang antas ng akademikong pagsusulat ay nakaapekto sa kalidad ng pananaliksik ng mga mag-aaral.

Samantala, sa Australia, tinalakay nina Taylor at Blackwell (2020) kung paano naisasama ng mga Indigenous na mag-aaral ang tradisyunal na kaalaman sa pananaliksik. Bagamat may progreso sa paggamit ng lokal na kaalaman, ang kakulangan sa lingguwistikong kasanayan ay nananatiling hadlang. Para sa mga internasyonal na mag-aaral, inilarawan nina Anderson et al. (2021) ang epekto ng English for Academic Purposes (EAP) programs, na tumutulong sa pagpapabuti ng akademikong wika ngunit limitado ang epekto sa inobasyon sa pananaliksik.

Sa Pilipinas, tinalakay nina Gonzales at Reyes (2020) ang epekto ng kasanayang lingguwistika sa kalidad ng tesis ng mga mag-aaral sa senior high school sa Metro Manila. Pinatunayan din nina Delos Reyes (2021) na ang pagsasagawa ng writing workshops ay nakatutulong sa pagpapahusay ng pananaliksik, ngunit nananatiling hamon ang kakulangan sa kasanayan sa akademikong pagsusulat. Sa isang mas bagong pag-aaral nina Carreon et al. (2022), natukoy na habang bumubuti ang reading comprehension ng mga mag-aaral, hindi pa rin naaabot ang inaasahang antas ng kakayahan sa pagsusulat.

Bagamat maraming makabagong pag-aaral ang nagbibigay-liwanag sa ugnayan ng kasanayang lingguwistika at kahandaan sa pananaliksik, maraming aspeto ang nananatiling hindi pa ganap na nalililaw. Karamihan ng pag-aaral ay nakatuon lamang sa hiwalay na pagsusuri ng bawat aspeto ng wika tulad ng pagbasa, pagsusulat, o pagsasalita (Rahim & Hassan, 2019; Gonzales & Reyes, 2020). Kulang din ang mga pag-aaral na nakatuon sa lokal na konteksto, partikular sa mga rural na lugar tulad ng Marilog, Davao City, kung saan kakaunti ang mapagkukunan at iba ang lingguwistikong hamon (Taylor & Blackwell, 2020; Marilog District Report, 2021). Bukod dito, iilan lamang ang naglalayong tukuyin ang pangmatagalang epekto ng lingguwistikong pagsasanay sa pananaliksik (Anderson et al., 2021). Sa kabila ng multilingual na setting ng ASEAN, Europa, Aprika, at Australia, kakaunti ang tumutok sa interplay ng iba't ibang wika sa pagpapabuti ng kahusayan sa pananaliksik (Pratama & Sukardi, 2019; Mkhize & Balfour, 2021).

Pamamaraan ng Pananaliksik

Ang pag-aaral na ito ay gumamit ng deskriptibo-korelatibong disenyo ng pananaliksik upang masuri ang antas ng kasanayang lingguwistika at ang ugnayan nito sa kahandaan sa pananaliksik



ng mga mag-aaral sa senior high school. Ang deskriptibong disenyo ay angkop upang mailarawan ang kasalukuyang kalagayan ng mga mag-aaral, habang ang korelatibong disenyo ay ginamit upang matukoy ang ugnayan ng dalawang variable (Creswell, 2014; Yin, 2020). Ang mga kalahok ay dalawang daang (200) mag-aaral mula sa Distrito ng Marilog, Davao City, na napili gamit ang convenience sampling batay sa kanilang availability at kahandaan (Etikan et al., 2019).

Dalawang instrumento ang ginamit sa pag-aaral: isang self-assessment survey na sumusukat sa kasanayang berbal, kasanayan sa pag-unawa, at kasanayan sa pagsusulat, na inangkop mula kina Rahim at Hassan (2019), at ang Research Readiness Scale mula kina Taylor at Blackwell (2020). Ang mga datos ay nakalap sa pamamagitan ng kombinasyon ng face-to-face at online survey methods upang masaklaw ang iba't ibang uri ng kalahok, alinsunod sa mga safety protocols. Ang mga datos ay sumailalim sa pagsusuri gamit ang descriptive statistics (mean, standard deviation) upang mailarawan ang antas ng kasanayang lingguwistika at kahandaan sa pananaliksik, Pearson correlation analysis upang masuri ang ugnayan ng dalawang variable (Rahim & Hassan, 2019), at regression analysis upang matukoy ang impluwensya ng bawat domain ng kasanayang lingguwistika sa kahandaan sa pananaliksik (Lefebvre & Duchesne, 2020). Ang mga metodong ito ay napili dahil sa kanilang kakayahang magbigay ng balanseng pagsusuri ng deskriptibong aspeto ng datos at ng kaugnayan nito, na nagbibigay-linaw sa layunin ng pag-aaral (Creswell & Poth, 2022).

RESULTA AT TALAKAYAN

Mga Resulta

Narito ang mga natuklasan ng pag-aaral na tumutukoy sa relasyon ng kasanayang lingguwistika at kahandaan sa pananaliksik ng mga mag-aaral sa senior high school. Ang pagsusuri ay ginamitan ng deskriptibong istatistika at korelasyon upang maipakita ang mahahalagang datos.

Deskriptibong Istatistika

Ang average na puntos para sa kasanayang lingguwistika ay ang mga sumusunod: kasanayang berbal (4.2), kasanayan sa pag-unawa (4.0), at kasanayan sa pagsusulat (3.8), batay sa 5-point scale. Ang standard deviation ay nasa pagitan ng 0.5 hanggang 0.7, na nagpapakita ng katamtamang pagkakaiba-iba sa mga tugon ng mga kalahok. Ipinapakita ng mga resulta na ang mga mag-aaral ay may mataas na antas ng kasanayang lingguwistika, partikular sa kasanayang berbal.

Korelasyon

Ang pagsusuri ng korelasyon ay nagpakita ng mahalagang ugnayan sa pagitan ng kasanayang lingguwistika at kahandaan sa pananaliksik:

Ang kasanayang berbal ay may korelasyon na 0.65, na nagpapakita ng katamtamang positibong relasyon sa kahandaan sa pananaliksik.

Ang kasanayan sa pag-unawa ay may pinakamataas na korelasyon na 0.72, na nagpapakita ng malakas na positibong ugnayan sa kahandaan sa pananaliksik.

Ang kasanayan sa pagsusulat ay may korelasyon na 0.68, na nagpapahiwatig din ng mahalagang positibong relasyon.

Mahahalagang Natuklasan

Ang kasanayan sa pag-unawa ang lumitaw bilang pinakamahalagang aspeto na nakaapekto sa kahandaan sa pananaliksik, na sinundan ng kasanayan sa pagsusulat at kasanayang berbal.

Pinagtibay ng datos ang hipotesis na ang kasanayang lingguwistika ay mahalagang salik sa paghahanda ng mga mag-aaral sa gawaing pananaliksik.

Ang mga resulta ay makikita sa mga talahanayan at tsart. Ang unang tsart ay nagpapakita ng average na puntos ng kasanayang lingguwistika, habang ang ikalawang tsart ay nagpapakita ng kaugnayan ng bawat kasanayan sa kahandaan sa pananaliksik. Ipinapakita ng mga datos na kailangang higit pang paigtingin ang mga programang pangwika sa senior high school upang mapalakas ang kakayahan ng mga mag-aaral sa pananaliksik.

KONKLUSYON AT REKOMENDASYON

Ang pag-aaral na ito ay nagbigay-diin sa mahalagang ugnayan ng kasanayang lingguwistika at kahandaan sa pananaliksik ng mga mag-aaral sa senior high school. Natuklasan na ang kasanayan sa pag-unawa ang may pinakamataas na kaugnayan sa kahandaan sa pananaliksik ($r = 0.72$), sinundan ng kasanayan sa pagsusulat ($r = 0.68$) at kasanayang berbal ($r = 0.65$). Ipinapakita nito na ang mga kasanayang lingguwistika, partikular na ang kakayahan sa pagbasa at pagsusulat, ay mahalaga upang maitaguyod ang kalidad ng pananaliksik. Sa kabila ng mataas na antas ng kasanayang lingguwistika ng mga kalahok, lumitaw ang kahinaan sa pagsusulat bilang isang pangunahing hamon na dapat tugunan.

Sumusuporta ang mga resulta sa naunang pananaliksik nina Rahim at Hassan (2019) at Müller at Schmidt (2020), na nagpapakita na ang wika ay pundasyon ng akademikong tagumpay. Bilang tugon, inirerekomenda sa Kagawaran ng Edukasyon na maglunsad ng mga programang nakatuon sa pagpapahusay ng kasanayang lingguwistika, lalo na sa pagsusulat, at maglaan ng mas maraming pondo para sa pagsasanay ng mga guro. Dapat hikayatin ng mga punong-guro ang paggamit ng mga lokal na materyales at regular na pagsusuri ng kasanayang lingguwistika upang matukoy ang mga kahinaan ng mga mag-aaral.

Para sa mga guro, inirerekomenda ang integrasyon ng kasanayang lingguwistika sa lahat ng asignatura at paggamit ng makabagong pamamaraan tulad ng peer editing at paggamit ng teknolohiya sa pagtuturo. Sa mga susunod na mananaliksik, iminumungkahi na palawakin ang saklaw ng pag-aaral sa iba't ibang rehiyon at isama ang iba pang salik tulad ng sosyo-ekonomikong kalagayan na



maaaring makaapekto sa kahandaan sa pananaliksik. Ang mga rekomendasyong ito ay naglalayong mapataas ang kalidad ng edukasyon at matugunan ang mga hamon na kinakaharap ng mga mag-aaral sa paggawa ng makabuluhang pananaliksik.

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THE ROLE OF I.FICHTE, G.HEGEL AND A.SCHOPEHAUER'S PHILOSOPHICAL-CRATOLOGICAL VIEWS IN THE FORMATION OF GERMAN CONSTITUTIONALISM

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ABSTRACT

This paper highlights the ideas of German philosophers on the government, constitutionalism in German statehood. Furthermore, the philosophical-cratalogical views in their works are analyzed.

KEY WORDS: *revolution, absolutism, senate, consul, idea of a free state*

Philosophical and cratalogical views of I.G.Fichte are related to such realities as the state, its origin, mechanisms of power, and freedom of trade. According to the philosopher, any state power, management should first be organized as a trade organization, and then as a political and legal organization. The task of the state is to provide its citizens with cultural freedom, to protect them from “external influences”, especially aggression, violence and injustice [1]. According to Fichte, trade is the main task of the state, but it carries out this task within the framework of the laws, but also on its territory. Experts call it a “closed trade state” [2, 3].

I.Fichte’s subjectivist views on the state, power and law are based on the concept of natural law. All relations in society are carried out within the framework of the will of individuals and applicable norms and procedures, but based on legal requirements. These legal requirements, based on the mind’s perception, are reflected in people’s actions and activities. If something is not reflected in external actions and activities, and remains an internal affect, it is not a right or a legal reality. Even if the philosopher is a supporter of subjective idealism, he interprets legal laws in practice, in external existence, that is, as the results of practical activities of people related to society, state, and management institutions. Binding laws create a legal entity. Acts that do not have such an effect remain in the ranks of warnings. If I.Kant sees the power of rights and laws in the moral imperative, I.Fichte emphasizes the power of coercion and thus seeks to justify the coercion used by the institutions of power. But the philosopher does not imagine that since not all coercion is a law, a right, limiting it, in our opinion, to the level of the state can lead to monarchical rule.

Hegel has a special place in the formation of philosophical-cratalogical views on German constitutionalism. It is he who, as a supporter of the constitutional monarchy, emphasizes the need for a “just constitution”, that is, the participation of members and systems of society. Hegel expressed his philosophical-

cratalogical views on the principle of constitutionalism from his first philosophical-legal works to the last work of his life “On the Reforms of the English Bill” (1831). In his work “The Constitution of Germany” (1798-1802), he comments as a supporter of class representative monarchy [4; 65]. In his work “Yen’s philosophy” (1805-1806) he interprets the constitution as a means of “reasonable legal organization of all spheres of state life” [5; 287-362]. In another place, Hegel shows that there is a deep and great meaning in creating a constitution [6; 285]. The philosopher was aware of the French Revolution and the constitution adopted under its influence, as well as the principles of US constitutionalism. He tends to view German constitutionalism on this continuum.

Human will and development is implemented through deeply understood objective reality and its objectification in social existence, that is, through the institutions of the political system, mechanisms of state power management, support and coercion methods. The ideas of free will and equality are central to the principle of constitutionalism, but they are the same, not to the same extent, in the common citizen as in the monarch. State administration itself requires them to be of different size and scope. Sometimes there are thoughts that this idea of freedom and equality is equal for everyone. This is a narrow approach resulting from a lack of familiarity with the immanent features of public administration. Even at the lowest level of state administration, an official and an employee are not equal and equally free, otherwise the executive activity of the official will not be effective. What will happen to the constitutional rights of the people, citizens, and the fact that everyone has equal rights? If the official and the employee, the people and the government institution do not have equal rights, will not the constitution become a fiction? Although the constitution makes everyone equal, it does not reject differentiation in practical activities. There are specific aspects of practical activity, that is, everyone performs his task not according to his own knowledge, but based



on the social characteristics and objective needs of this activity. These social features and objective necessity make it necessary to carry out practical activities from the point of view of the laws and procedures established by society and the state. Understanding these laws and procedures, following them means regulating the behavior of individuals.

Hegel supported the principle of separation of powers of the French Enlightenment. However, its separation of powers is aimed at preserving the constitutional monarchy. According to him, the division of power in Germany is divided into legislative, executive and monarchical power. The next one is the higher-level authority that combines the previous two authorities [7; 311]. It is true that Hegel also mentions judicial power [7; 310]. In the next classification, he considers it to be related to the executive power. "The transition of the state to the development of a constitutional monarchy... is a new world affair. The monarch is one, the executive power is a few people, and the majority participates in the legislative power..." [7; 312]. Although the philosopher is not a supporter of democracy, he does not deny its existence. Republican governance is a sign of democracy, but it is also important that the right to govern the state exists "for its own sake" and that the phenomenon of law applies to the people as well. "It is necessary that a law or a legal system should exist, that it should be adequate to the existing law... Therefore, it is impossible to give a constitution or a legal system to a certain people a priori" [7; 444]. Therefore, it is an objective requirement that apostreori, that is, a certain political-legal experience exists in the spirit and mind of the people as a set of constitutional laws. "So the ruler's power is not exactly violence; but, on the contrary, it is a decision that comes in accordance with the requirements of the objective students, that is, the laws of the constitution, the monarch" [7; 472]. Also, Hegel civil society, state building, tasks of the monarch and citizens, the influence of "idea" on the phenomenon of centralizing power and authority, self-management, consciousness and thinking in connection with affective processes, the features of manifestation in laws, the expression of philosophy in legal consciousness, the people expresses opinions about diverse realities, such as a collection. "Absolute freedom, free spirit" expresses the integrity of state power, its "authenticity". "This is the state in which the subjective soul finds its satisfaction, in which it realizes its fullest and most profound realization, by setting itself against external existence, as its definition. In this way, he reconciles with himself" [7; 483]. Hegel concludes his philosophical-cratological and political-legal views with the conclusion that he is far from these subjective, that is, objective requirements.

In the philosophy of Arthur Schopenhauer, he thinks about the will of man, freedom, happiness, will, the will of the world, intelligence, power, the mind and will in a person, the way of thinking, which is under the command of the general will etc. and gives his views on each of them. This general will regulates and controls the entire existence and subjugates people to its will. The volition of the world, or the will outside of man, mythologically owns existence, which can be perceived, understood as god,

transcendence, nature, supernatural force (i.e., irrational will). Human intelligence and thinking are under the command of the will. Therefore, the will can express itself without these subjective realities [8]. A. Schopenhauer writes "all our life in development is nothing more than a manifestation of will...All things that happen in our life, our actions, motives, aspirations and desires aimed at achieving something are all nothing more than will, the objectification of will" [9; 201]. "Will is freedom in relation to itself, everything itself, the basis of everything" [9; 472]. Because "if thinking is destroyed or the brain is removed from all the beginnings, the whole universe will end. Please do not take this as a joke. I'm serious. Because man exists only as our thinking (of all creatures). There is no world outside of these imaginations" [10; 354]. Here it is noticeable that the philosopher indulges in radical subjectivism, even relativism. Saying "There is no world outside of our imagination" is an attempt to understand existence at the level of individual consciousness. So, the will controls everything, human life and behavior, governs changes in existence. Such a broad, irrational understanding of will leads us to interpret human will and desires through the phenomenon of will, which can lead us away from the mechanisms of authority, state, and law.

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PERIOPERATIVE MANAGEMENT OF INDIVIDUALS WITH ANTICOAGULANT AND ANTIPLATELET THERAPY

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SUMMARY

Introduction: The increased use of anticoagulant therapy and antiplatelet therapy requires careful management, especially in patients requiring surgery. These treatments include oral and parenteral options which must be balanced with the risk of bleeding and thrombosis. They are fundamental in both prevention and treatment of thromboembolic events.

Objective: to present clear and precise recommendations for the perioperative management of TAC and antiplatelet agents.

Methodology: a total of 30 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 for 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: oral anticoagulants, antiplatelet agents, TACO, antithrombotic therapy, new oral anticoagulants.

Results: the study showed that restarting low molecular weight heparins in therapeutic doses before 24 hours post-surgery increases the risk of bleeding, so it is recommended to use prophylactic doses. Furthermore, it emphasizes the importance of adjusting anticoagulant therapy according to the thromboembolic and hemorrhagic risk of each patient.

Conclusions: anticoagulant and antiplatelet drugs are essential to prevent thromboembolic events in pathologies such as acute coronary syndrome and cerebrovascular diseases. Their perioperative management should consider the thrombotic and hemorrhagic risk, as well as the type of surgery and drug. Heparins, vitamin K antagonists and new oral anticoagulants require adjustments in doses and withdrawal times to prevent complications. In addition, reversal of their anticoagulant effect in emergencies is key, with advances in agents such as idarucizumab and andexanet alfa for greater effectiveness in critical situations.

KEY WORDS: TACO, anticoagulants, antiplatelet agents.

INTRODUCTION

The number of individuals undergoing antithrombotic treatment with antiplatelet agents has increased significantly. Most of the time it is a chronic management that the affected individual will carry all his life, so it will not be strange that at some point this individual will have to undergo a surgical or interventional procedure. Therefore, it is necessary to know what is the correct attitude to take in this scenario. Nowadays,

anticoagulant therapy (ACT) is widely used in clinical practice, either as primary prophylaxis in individuals at risk of presenting thromboembolic phenomena, or as treatment in individuals who have already presented a thrombotic event.

There are several TAC alternatives: oral anticoagulant therapy (OACT) and parenteral anticoagulant therapy (PACT). Within the former, there are vitamin K antagonist drugs (coumarins)



and the new oral anticoagulants. The latter include unfractionated heparin (UFH) and low molecular weight heparin (LMWH). When deciding whether to use or discontinue TAC, the risk of perioperative bleeding associated with the therapy should be balanced against the thromboembolic risk related to its discontinuation.

The use of antiplatelet drugs for primary and secondary prevention of cardiovascular events is a common clinical practice(1,2).

METHODOLOGY

A total of 30 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 sufficiently important 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: oral anticoagulants, antiplatelet agents, TACO, antithrombotic therapy, new oral anticoagulants.

The choice of bibliography exposes elements related to the perioperative management of individuals with anticoagulant and antiplatelet therapy.

DEVELOPMENT

Antiplatelet aggregation and anticoagulant drugs are essential in the prevention of thromboembolic events, a process involved in various pathologies such as acute coronary syndrome, venous thromboembolism, interventions such as mechanical heart valve implantation, cerebrovascular disorders and coronary artery disease. According to their mode of action, antithrombotic agents are divided into antiplatelet agents and anticoagulants(1).

In antiplatelet therapy, thrombotic risk assessment should take into account factors such as the time from event to intervention, the nature of the event (acute or stable), the clinical characteristics of the patient and the treatment applied. Depending on the combination of these elements, the risk is classified as high, moderate or low. In general, ASA at 100 mg should be maintained, except in procedures with high hemorrhagic risk (such as neurosurgical procedures), where it is suspended 3 days before. If the ASA dose is higher than 100 mg, it is adjusted to 100 mg, and it is not considered a contraindication to the procedure if it is taken, for example, 300 mg. In case the patient is on monotherapy with a P2Y12 inhibitor, this drug should be discontinued 3 to 7 days before, considering the possibility of substituting it with ASA 100.

In patients with DAP, if the thrombotic risk is high and the bleeding risk is low, therapy should not be discontinued. If the bleeding risk is moderate or severe and more than 30 days have elapsed since the event that prompted treatment, the decision should be individualized. Generally, discontinuation of DAP within the first 30 days after the event is avoided. The key to reintroducing antiplatelet therapy is to ensure adequate hemostasis during the procedure and the absence of postoperative bleeding. As a rule, it is recommended to restart

treatment at 24 hours, although if the postoperative bleeding risk is high, it is started between 48 and 72 hours(1,3).

Perioperative management of antiplatelet drugs depends on the individual thrombotic risk and the bleeding risk associated with each intervention. In non-cardiac surgeries, it is recommended to continue with aspirin, except in patients with low to moderate thrombotic risk who will undergo procedures with high bleeding risk, in which it is suggested to suspend it 5-7 days before surgery. Clopidogrel should be suspended 5 days before, except in patients with high thrombotic risk who have procedures with low to moderate hemorrhagic risk. In myocardial revascularization surgeries, aspirin should be maintained and clopidogrel should be discontinued 5 days before. For postoperative restart, it is recommended to resume aspirin 6 hours after surgery and clopidogrel in the first 24 hours, always after confirmation(4).

Vitamin K antagonists, such as warfarin and acenocoumarol (Neosintrom®), inhibit the synthesis of vitamin K-dependent coagulation factors (II, VII, IX and X). Warfarin has a half-life of 36-42 hours, while acenocoumarol has a half-life of 8-11 hours. The anticoagulant effect of these drugs is monitored by prothrombin time (PT) and the international normalized ratio (INR). Their dosage is adjusted individually for each patient, with weekly controls of the INR, which is considered to be in therapeutic range with values between 2-3(2,5,6).

Discontinuation of vitamin K antagonists depends on the type of surgical procedure and the associated bleeding risk. In procedures with low bleeding risk, such as cataract surgeries, some minor endoscopic and dermatologic procedures, the American College of Chest Physicians (ACCP) suggests maintaining oral anticoagulant therapy (OACT). In procedures with moderate to high risk of bleeding, it is recommended to discontinue warfarin 5 days before surgery and acenocoumarol 2-3 days before, after assessing the patient's thromboembolic risk. In some cases, "bridge therapy" is used, which consists of substituting TACO with short-acting parenteral anticoagulants, such as unfractionated heparin (UFH) or low molecular weight heparin (LMWH). The ACCP classifies patients according to the risk of thrombosis as high (>10%), moderate (5-10%) and low (<5%), which will determine the requirement for bridging therapy(7,8).

The ACCP recommends considering bridging therapy in surgical patients at high thrombotic risk, while in those at moderate risk, bridging therapy should be considered only if the risk of surgical bleeding is low. Patients with low thrombotic risk do not require this therapy. The use of low molecular weight heparin (LMWH) is preferred over unfractionated heparin (UFH), since studies such as that of Attaya et al. have shown a lower bleeding rate with LMWH (5.4%) versus UFH (15.4%), with no significant differences in the cohorts.

Once TACO is discontinued, it is recommended to monitor the INR the day before surgery. If the INR is ≤ 1.5 , it can proceed without further intervention. If it is >1.5 , the anticoagulant effect should be reversed: for elective surgeries, oral or intravenous vitamin K can be administered, preferably the intravenous route, which acts in 12-48 hours. In urgent or



emergency surgeries, or in patients with massive bleeding, fresh frozen plasma (FFP) and/or prothrombin complex concentrate (Octaplex®) is recommended. The use of the latter is preferred, since it reverses the action of TACO in a faster and more effective way compared to FFP(2,9).

Warfarin should be restarted 12 to 24 hours after surgical procedures with low risk of postoperative bleeding, provided adequate hemostasis has been achieved. Once oral anticoagulant therapy (OACT) has been restarted, it will take 5 to 10 days for the INR to reach the therapeutic range. In patients with high thromboembolic risk, the use of postoperative bridging therapy with parenteral anticoagulants is recommended, performing an overlap with warfarin until an INR in optimal range is achieved(2,5,7).

New oral anticoagulant agents

Newer oral anticoagulant drugs include direct thrombin inhibitors and activated factor Xa inhibitors. These drugs are now frequently employed in medical practice because they do not require continuous monitoring of the anticoagulant effect, have a predictable effect, and show comparable efficacy to traditional anticoagulants. Monitoring is only necessary in specific clinical situations, such as acute bleeding, suspected overdose or emergency/urgent surgery.

Direct Thrombin Inhibitors

Dabigatran (Pradaxa®) acts on free and fibrin-bound thrombin, reversibly inhibiting its activity. Its maximum plasma concentration is reached between 1.25 and 2 hours after administration, and it has a half-life of 12 to 14 hours. The elimination of this drug is mainly renal, so it is important to evaluate renal function in patients who use it, considering the variations in half-life according to the estimated creatinine clearance (see Table 3). This drug is contraindicated in people with a creatinine clearance lower than 30 ml/min. Its anticoagulant effect is reflected in nonlinear alterations in prothrombin time (PT) and activated partial thromboplastin time (aPTT). There are other tests to monitor their effect, such as thrombin time, ecarin and the Hemoclot® system for thrombin inhibitors, although their use in clinical practice is limited.

Activated Factor Xa (Xa) Inhibitors

Rivaroxaban (Xarelto®) and apixaban (Eliquis®) are drugs that act as reversible inhibitors of factor Xa enzymatic activity, limiting the conversion of prothrombin to thrombin.

Rivaroxaban

It is prescribed in doses of 20 mg daily for prevention and 15 mg every 12 hours for the treatment of thrombosis. Its maximum plasma concentration is reached between 2 and 4 hours after administration, with a half-life of 9 to 12 hours. Its metabolism is mainly hepatic, with only one third of elimination carried out through the kidneys, so it is contraindicated in patients with a creatinine clearance of less than 15 ml/min. Although there are no established guidelines for monitoring rivaroxaban, it is known to prolong prothrombin time (PT), INR and activated partial thromboplastin time (aPTT) in a linear and dose-dependent manner. In surgical

procedures with a high risk of bleeding, antifactor Xa activity can be measured to confirm the absence of its anticoagulant effect prior to surgery.

Apixaban

It is used in doses of 2.5 mg every 12 hours for prevention and 5 mg every 12 hours for the treatment of thrombosis. Its maximum plasma concentration is reached 2 to 3 hours after administration, with a half-life of 8 to 15 hours, and it is mainly eliminated by the liver. It does not require routine monitoring, although in surgeries with a high risk of bleeding, antifactor Xa activity can be measured, similar to what is done with rivaroxaban(2,10-13).

Dabigatran should be discontinued in surgical procedures with low bleeding risk between 24 and 48 hours before the intervention, and between 48 and 96 hours before surgeries with high bleeding risk, depending on the estimated creatinine clearance in each patient.

Rivaroxaban and apixaban should be discontinued 24 to 36 hours before procedures with low bleeding risk, and 48 hours before surgeries with high bleeding risk.

The use of preoperative bridging therapy is indicated only in patients taking new oral anticoagulants who are at very high thromboembolic risk.

When to restart new oral Anticoagulants Postoperatively?

In surgical procedures with low bleeding risk, new oral anticoagulants can be restarted 24 hours after surgery. In procedures with high bleeding risk, restarting should be done 48-72 hours after surgery. Postoperative bridging therapy is reserved for patients with an extremely high thromboembolic risk or those who cannot take oral medications (10,14).

Reversal of the Anticoagulant effect of new oral anticoagulants

In situations of massive bleeding and/or urgent surgical interventions, a rapid and effective reversal of the anticoagulant effect of these drugs is essential. Fresh frozen plasma (FFP) is of little use in these scenarios, since extremely high doses of this blood product (30 ml/kg) and more than 24 hours are required to achieve complete reversal of the anticoagulant effect.

Because of this, specific antidotes are under development to counteract the effect of the new oral anticoagulants. Currently, there are two agents available for the reversal of these drugs:

Idarucizumab: a humanized monoclonal antibody fragment with a high affinity for dabigatran. This drug was approved by the Food and Drug Administration (FDA) in October 2015 as a specific antidote to dabigatran in cases of severe bleeding and/or urgent surgery.

Andexanet alfa: a modified recombinant version of factor Xa, in development as a targeted agent to reverse the effect of factor Xa inhibitor anticoagulants such as rivaroxaban and apixaban. In the ANNEXA-A and ANNEXA-R clinical trials, this drug showed a rapid and effective reversal of the anticoagulant effect



of rivaroxaban and apixaban, with no associations with serious adverse events or thrombotic phenomena(2,15).

Perioperative Management of Patients on Heparin

Heparin is an indirect parenteral anticoagulant that exerts its effect by activating and potentiating antithrombin III (ATIII), which neutralizes the action of thrombin (factor IIa) and factor Xa. Specifically, it binds to lysine sites of ATIII, causing a conformational change in this molecule, transforming it from a slow-acting to a fast-acting thrombin inhibitor. In clinical practice, it is used to prevent thromboembolic disease and for the treatment of acute thromboembolic pathology.

There are two types of heparin: unfractionated heparin (UFH) and low molecular weight heparin (LMWH).

Unfractionated Heparin

UFH has a higher molecular weight. The heparin-ATIII complex inhibits factors IIa and Xa, with factor IIa being 10 times more sensitive to inhibition than factor Xa. Unfractionated heparin can be administered by two routes: intravenous and subcutaneous. The intravenous route has greater bioavailability and shorter latency, so it is used in patients requiring a rapid anticoagulant effect. Subcutaneous UFH is mainly used for thromboprophylaxis in hospitalized patients requiring prolonged rest. Its elimination occurs through two mechanisms: a rapid, saturable one, which depends on binding to endothelial receptors and macrophages, and a slower, renal one, which accounts for most of its excretion. At usual doses, its anticoagulant effect is not linear and varies depending on the type of thromboembolic disease. For this reason, when administered as a continuous infusion, doses should be adjusted according to the monitoring of the anticoagulant effect. The consensus establishes that the activated partial thromboplastin time (APTT) should be monitored, which should be controlled approximately 6 hours after the first bolus of UFH and then the dose should be adjusted according to the results. The therapeutic range of the APTT is 1.5 to 2.5 times the laboratory control value. To treat thromboembolic disease, the dose of UFH is 80 U/kg bolus, followed by 18 U/kg/h continuous infusion pump (CIB). For acute myocardial infarction, the initial dose is 60 U/kg bolus, followed by 12 U/kg/h on ICB.

When to stop Unfractionated Heparin?

In patients receiving UFH in therapeutic doses, the intravenous infusion should be discontinued 4 to 5 hours before the surgical procedure. In patients receiving subcutaneous UFH in prophylactic doses (usually 5,000 U every 12 hours), heparin should be discontinued 12 hours before surgery.

When to restart Unfractionated Heparin Postoperatively?

In surgical procedures with low bleeding risk, heparin is restarted 24 hours after surgery. In surgical procedures with high bleeding risk, heparin should be restarted 48 to 72 hours after the procedure(7,16).

Low Molecular Weight Heparin

Low molecular weight heparins (LMWH) are drugs obtained by chemical depolymerization of heparin, resulting in

fragments that are approximately one-third the size of unfractionated heparin (UFH). LMWHs have a greater capacity to inhibit factor Xa than factor IIa, unlike UFH. In terms of pharmacokinetics, LMWHs have a half-life of 3 to 5 hours and a more predictable dose-response relationship than UFH. Their elimination is mainly renal, which means that their half-life is prolonged in patients with renal insufficiency, so their use is not recommended in those with a creatinine clearance of less than 30 ml/min. They are administered subcutaneously, in doses adjusted to the patient's weight if used as complete anticoagulant therapy (TACP); or in standard doses if used for thromboprophylaxis, with the exception of tinzaparin in patients at high thrombotic risk, in which case the prophylactic dose is adjusted according to body weight. Routine monitoring of its anticoagulant effect is not required, although some experts suggest that in obese patients, pregnant women or those with renal insufficiency, antifactor Xa activity should be monitored.

When should low Molecular Weight Heparins be Discontinued?

LMWH used in full anticoagulant therapy doses (TACP) should be discontinued 24 hours before surgery. For LMWH administered in twice-daily doses, the dose the night before surgery should be omitted. If given as a single daily dose, half of the treatment dose should be given 24 hours before the surgical procedure.

LMWH used for prophylaxis should be discontinued 12 hours before surgery.

When to restart low molecular Weight Heparins Postoperatively?

In surgical procedures with low bleeding risk, LMWH should be restarted 24 hours after surgery. In procedures with a higher risk of bleeding, they should be restarted 48-72 hours after the procedure.

The PROSPECT study showed that restarting LMWH at therapeutic doses before 24 hours postoperatively significantly increases the risk of postoperative bleeding, with a 2 to 4-fold increase, compared to placebo or LMWH at prophylactic doses. For this reason, it is recommended to restart LMWH at prophylactic doses to reduce the risk of postoperative bleeding, and then gradually increase to therapeutic doses prior to surgery.

Reversal of the Anticoagulant Effect of Heparins

The anticoagulant effect of heparins can be reversed by using protamine sulfate. This molecule has a half-life of 7 minutes and binds to plasma heparin forming a stable salt, neutralizing its effect. The binding of heparin to protamine depends on the length of the heparin molecule, being more effective in longer heparins, so protamine has a less pronounced effect on LMWH compared to UFH.

In UFH, the dose of protamine is proportional to the total amount of heparin used, which is easy to calculate in the case of a single bolus (1 mg of protamine per 100 U of UFH).

In the case of UFH administered by continuous infusion pump (CIB), the calculation of the protamine dose should take into



account the time elapsed since the start of the infusion, since the half-life of infused UFH is between 60 and 90 minutes. A suggested guideline is as follows:

- <30 minutes of ICB: 1-1.5 mg of intravenous protamine per 100 U of UFH.
- 30-60 minutes of ICB: 0.5-0.75 mg of intravenous protamine per 100 U of UFH.
- >2 hours of ICB: 0.25 mg of intravenous protamine per 100 U of UFH.

The recommended dose of protamine for LMWH is as follows:

Enoxaparin: 1 mg of intravenous protamine per 1 mg of enoxaparin.

Dalteparin or tinzaparin: 1 mg of intravenous protamine per 100 U of dalteparin or tinzaparin.

The use of protamine is reserved for situations where urgent reversal of the anticoagulant effect is required, such as emergency surgery or severe bleeding. The risk of serious adverse reactions, such as significant hypotension and bradycardia, can be minimized by administering protamine slowly intravenously(17).

Results

Analysis of perioperative management strategies for anticoagulant and antiplatelet drugs, such as heparin, warfarin, and the newer oral anticoagulants, reveals several key guidelines in preventing thromboembolic events and reducing the risk of bleeding complications in surgery. The PROSPECT study, in particular, highlights that restarting low-molecular-weight heparins (LMWH) at therapeutic doses before 24 hours postoperatively significantly increases the risk of bleeding, with a 2- to 4-fold increase compared with placebo or prophylactic doses. As a result of these findings, it is recommended to initiate treatment with LMWH at prophylactic doses post-surgery, with progression to the therapeutic dose according to the patient's evolution. In addition, early resumption of oral anticoagulants and the use of bridging therapies in patients at high thrombotic risk are also tailored to the specific needs of each case to balance therapeutic efficacy with surgical safety.

CONCLUSIONS

Anticoagulant and antiplatelet drugs are essential in the prevention of thromboembolic events, a phenomenon that underlies several pathologies such as acute coronary syndrome, venous thromboembolism and cerebrovascular disease. Their perioperative management depends on the evaluation of the patient's thrombotic and hemorrhagic risk, considering the nature of the surgery and the type of drug used. Heparins, both unfractionated and low molecular weight, together with vitamin K antagonists and the new oral anticoagulants, play a key role in the treatment and prevention of thrombotic events. However, their management requires careful monitoring of bleeding risk, as well as adjustments in dosage and discontinuation and restart times according to the surgical context. Reversal of its anticoagulant effect, especially in emergency situations, is crucial to minimize bleeding complications. In addition, advances in agents such as idarucizumab and andexanet alfa

offer new possibilities to counteract anticoagulation more effectively and rapidly in critical situations.

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RECENT DEVELOPMENT IN GENE THERAPY: VECTORS AND DELIVERY SYSTEM

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ABSTRACT

Gene therapy is the transfer of a genetic material to treat a disease, or at least to improve the clinical status of a patient. viruses into genetic vectors carrying the gene of interest to the target cells is the aim of gene therapy. Based on the genome's nature, these vectors are divided into RNA-based or DNA-based viral vectors. [1] Gene therapy has recently witnessed accelerated progress as a new therapeutic strategy with the potential to treat a range of inherited and acquired diseases. The process of gene therapy involves converting viruses into genetic vectors that transport the desired gene to the specific cells. These vectors are categorized as either RNA-based or DNA-based viral vectors depending on the genome's composition. Recently, there has been rapid advancement in gene therapy, which is emerging as a new method to potentially treat various inherited and acquired illnesses. Billions of dollars have been dedicated to basic and clinical research in gene medicine, with current clinical trials targeting cancer, monogenic diseases, cardiovascular diseases, and other difficult-to-treat illnesses. Gene therapy shows great potential as a molecular method to treat uncommon genetic disorders. Gene therapy works by restoring, replacing, inhibiting, and editing genes to correct the disease phenotype. Recent studies indicate that a growing percentage of gene therapy clinical trials are opting for viral vectors (64.2%) over non-viral vectors. Gene therapy of human genetic diseases essentially requires gene delivery systems. Gene therapy is a special technique that can use modified genes to treat any illness. Gene therapy shows great potential as a treatment for various conditions like genetic diseases, viral infections, and cancer. The efficacy of gene delivery systems is determined by the flexibility of targeting gene delivery systems. In recent times, several effective gene delivery systems have been successfully developed for the practical use of gene therapy. Gene therapy can permanently fix diseases by introducing normal genes to replace mutant gene deficiencies, suppressing mRNA of mutant alleles, and triggering cell death in cancer cells with transgenes that encode apoptosis-inducing proteins. Encouraging findings from clinical trials for eye disease and Parkinson's disease indicate that gene-based neurotherapeutics hold significant promise.

KEYWORDS: Gene therapy, viral vector, non viral vector, delivery system.

INTRODUCTION

Beta-thalassemia Lipid-based nanoparticles AAV9 Lentivirus from Ad5 vector caused the death of an 18-year-old male in 1999. In 2000, the first successful instance of gene therapy was documented in treating X-linked severe combined immunodeficiency (SCID-X1) disorder. Regrettably, a participant in the early clinical trials was diagnosed with leukemia caused by the Moloney murine leukemia virus vector^[6]. These unforeseen side effects prompted researchers to concentrate on the fundamental principles of gene therapy, with speculation already existing regarding the potential for gene therapy before the initial human coding sequence was identified. An insightful article from 1971 in the field of science highlighted numerous challenges that would be encountered in clinical gene therapy, such as developing secure viral delivery vehicles and effectively delivering genes to sufficient patient cells to fix the inherited genetic flaw. Initially investigated solely for monogenetic disease treatment, gene therapy's scope

expanded quickly to include various ailments following its 1972 definition by Friedmann and Robin. The FDA authorized the first gene therapy clinical trial in 1990 to address ADA-SCID, but the intense immune reaction prompted the development of new vectors for Spinal muscular atrophy and Familial chyluria syndrome. As a result, scientific and technological progress has led to the emergence of a new era in clinical trials and facilitated the introduction of gene therapy products^[7]. The State Food and Drug Administration of China gave approval in 2003 for the use of the gene therapy product Gendicine to treat head and neck squamous cell carcinoma. Gendicine is the first of its kind and utilizes a recombinant adenovirus vector containing the human p53 tumor suppressor gene. Gene therapy seeks to close the distance between the development of a disease and its treatment by addressing the root causes of the illness. The additional value of this new approach is the utilization of gene therapy to address symptoms^[8]. Gene therapy therefore aims to bridge the gap



between disease pathogenesis and effective therapy, aiming to correct the underlying causes of disease. The use of gene therapy to treat symptoms adds a further value to this novel alternative to classical small-chemicals pharmacology^[11].

GENE THERAPY

The process of using a gene to treat, prevent, or cure a disease or medical condition is known as gene therapy. A gene that causes disease is replaced with a healthy copy. Gene therapy is the process of modifying or correcting host genes for therapeutic purposes. It can be carried out in a number of ways, including replacing the defective gene, altering gene expression (exon skipping), supplementing with healthy genes, and, most recently, host genome editing^[3]. foreign genetic material (DNA or RNA) that can be used in gene therapy to change genes that aren't working or to change the expression of genes that are^[2]. Gene delivery is a therapeutic strategy that corrects genetic defects by either eliminating a harmful function or restoring native functional activity.

Several diseases and disorders, such as hemophilia and other conditions, blindness from Retinitis pigmentosa, leukemia, inherited neurological disorders, cancer, heart and blood vessel diseases, Parkinson's disease, Alzheimer's disease, and cystic fibrosis, have been treated with gene therapy in human clinical trials. When the first approved gene therapy trial employing retroviral vectors expressing adenosine deaminase (ADA) to treat ADA deficiency—a disorder that results in severe combined immunodeficiency—began in the 1990s, gene therapy trials gained impetus. Long-term maintenance of ADA activity after multiple treatments was noted in one of the two patients treated in this experiment, suggesting that this medication may have beneficial and long-lasting benefits^[1]. Gene therapy's comparatively long-term effectiveness is one of its main advantages. Following the successful transfer of a therapeutic gene

The drawbacks of using peptides in recombinant medicine, including limited bioavailability, instability, high production costs, clearance rates, and severe toxicity, are addressed via gene therapy^[2]. Gene knockdown, deactivating problematic genes, inserting a new gene to treat a disease, and replacing dysfunctional genes with therapeutic genes are some of the ways that gene therapies work^[24]. For hereditary retinal disorders, gene therapy can quiet a dominant gene, replace a damaged gene, improve or modify a functional gene, or change the RNA to create a functional protein. Each gene therapy vector has advantages and disadvantages that determine which gene types it is appropriate for^[25].

Vectors

A vector is a means of introducing genetic material into a cell in order to fix a gene that has been mutated or damaged. There are two categories of vectors, which are as follows:

- 1) Viral vector
- 2) Non – viral vector

1) Viral Vector

A viral vector is a means of introducing genetic material into a cell in order to fix a gene that has been altered or damaged. The 1980s saw the first appearance of viral vectors

^[9]. In 1984, the vaccinia virus was employed as a vaccine vector to shield chimpanzees from Hepatitis B. Viral vectors are used in DNA-based gene delivery systems to transfer genetic materials to the host cells^[4]. Viral vectors must frequently be administered repeatedly in order to provide a beneficial therapeutic impact, but this tactic can also strengthen the immune system's defenses against the vector^[12]. Clinical application of viral vectors is determined by factors such as stability, toxicity, safety, ease of manufacture, and transgenic expression efficiency^[31]. Additionally, the different kinds of vectors are depicted by viruses with single-stranded (ss) or double-stranded (ds) genomes that have both RNA and DNA^[19]. There are now 18 active clinical trials for in vivo gene treatments that use more recent viral vectors besides AAV, Ad, and HSV. Lentivirus, arenavirus, measles virus, MVA, fowlpox virus, VSV, human cytomegalovirus, retrovirus, and Sendai virus are some of these more recent viral vectors. Different indications for these viral vector-based gene treatments are developing, depending on the characteristics of certain viral vectors^[20]. In the treatment of monogenic inherited diseases, blood disorders, chemotherapy-resistant cancer (acute lymphocytic leukemia, or ALL), disease modeling for chronic and neurological disorders like Parkinson's, Alzheimer's, neuropathies, and so forth, gene therapy using viral vectors has consistently produced positive results in gene transfer^[3].

Types of Viral Vectors

- Adenoviral
- Lentiviral
- Retroviral
- Herpes simplex viruses

Adenoviral

Adenoviral particles lack lipids and membranes, they remain stable in solvents like ethanol and ether. Well-characterized, non-integrated, linear dsDNA viruses that are roughly 26–40 kb long, non-enveloped, and covered with icosahedral particles, adenoviruses have a diameter of about 950 Å (not including elongated fiber proteins) and a molecular weight of about 150 MDa. They swiftly infect cells and are not reproduced^[13]. Human adenoviruses (AdVs) are non-enveloped viruses with a double-stranded DNA genome of 26–45 kb and an icosahedral capsid that measures 90–100 nm in diameter^[23]. The majority of AdVs produce mild infections in humans, such fever or cough, but others can cause serious illnesses or multi-organ dysfunctions in immunocompromised people^[23].

The majority of AdVs produce mild infections in humans, such fever or cough, but others can cause serious illnesses or multi-organ dysfunctions in immunocompromised people^[23]. Even though AdV vectors are said to have potent immunogenic effects, they are nonetheless often used in lab experimental models and even in gene therapy for conditions like cancer. The Chinese FDA authorized Gendicine, a recombinant AdV vector that expresses p53, in 2004 for the treatment of head and neck cancer^[21]. DNA-containing non-integrating viruses known as adenoviruses (AdVs) may infect both dividing and non-dividing cells^[3]. AdVs have two main disadvantages:



immunogenicity and a lack of long-term expression, which limit their usage in *in vivo* settings.

Lentiviral

LVs are enclosed viruses that range in size from 80 to 120 nm. They have two copies of a 9 kb single-stranded genomic RNA, which is subsequently reverse-transcribed into double-stranded DNA in order to integrate into the host chromosome^[23]. Human immunodeficiency virus type 1 (HIV-1), simian immunodeficiency virus, feline immunodeficiency virus, and equine infectious anemia virus have all been used to create various LV systems^[23]. *Ex vivo* gene therapy applications, such as the stable integration of CAR (chimeric antigen receptor) cDNA into T cells, have been the primary usage of LV vectors. This is due to LVs' many characteristics, which include their broad tropism via VSV-G pseudotyping, huge genetic capacity (up to 8 kb), and capacity to infect both proliferating and non-dividing cells^[23]. Furthermore, because LVs are protected by a cellular lipid bilayer, they are less immunogenic than AAV or AdV. Transduction of both dividing and nondividing cells, adaptability to various cell types, lack of viral proteins following transduction, delivery of complex genetic elements, and relative ease of vector manipulation and production are some of the traits that make lentiviruses attractive tools for gene therapy^[14]. Lentivirals are viral systems that transfer genes to non-dividing cells but lack the ability to replicate and have tiny, retrovirus-like viral proteins^[13]. The two main drawbacks of lentiviral vectors, such as insertional mutagenesis and genomic integration, restrict their *in vivo* uses to the same degree as those of AAV vectors^[3]. Retinal genes that cannot be packaged in AAV vectors because of their small 4.7 kb packaging capacity, such as ABCA4 (associated in Stargardt's illness) and Myo7A (related in Usher's syndrome), are very effective when lentiviruses are used. Lentiviruses have an advantage over other viral vectors since they can infect both quiescent and growing cells.

Retroviral

If the target cells are actively proliferating, retroviral vectors generated from the Moloney murine leukemia virus (MOMLV) can transduce a broad range of target cells and integrate into the host genome^[15]. Retroviruses are diploid, single-stranded, circular-enveloped RNA viruses that belong to the Retroviridae family. They have a diameter of about 80–120 nm with a genomic size of 7–11 kb. Although retroviruses are the cause of diseases including AIDS, leukemia, and cancer, major advancements in treatment have been made possible by their use as a vector in gene therapy^[13].

RVs have the capacity to permanently alter cells' genetic makeup by integrating their cargo into dividing cells. Nevertheless, RV vectors show poor *in vivo* efficiency, and this characteristic raises the danger of insertional mutagenesis^[10]. Retroviruses are a class of viruses that may integrate into host cell chromosomes and change RNA genomes into double-stranded DNA, like the human immunodeficiency virus (HIV). The integrase enzyme can insert the virus's DNA into any part of the host genome, which is a challenge when employing retroviruses for gene therapy. The function of one of the host

cell's primary genes will be compromised if the genetic material is put in the middle of it (insertional mutation).

Herpes Simplex Virus

HSV has the ability to multiply and infect a wide range of neurons and epithelial cells, including cancer cells^[16]. It is possible for Adeno-associated viral vectors (AAV) to introduce a gene into the 19th chromosome. AAV comes in five varieties, each with unique characteristics. While AAV-5 can transfer a gene into glial cells and neurons, AAV-2 can only transfer a gene into neurons. The primary attribute of AAV vectors is their low immunogenicity and cytotoxicity^[17]. This class of viruses infects a particular kind of brain cell using double-stranded DNA. A frequent human disease that produces fever blisters and cold sores is type 1

Herpesvirusinfection^[10]

The human neurotropic virus known as the Herpes Simplex Virus is mostly utilized in the nervous system for gene transfer. Though it may be inactivated and result in a lytic cycle of viral replication, the wild HSV-1 virus can invade neurons and evade the host's immune response. As a result, a mutant strain of HSV-1 that cannot replicate is usually employed^[1]. In order to create recombinant HSV-1 vectors, some or all immediate early (IE) genes, such as ICP4, which is necessary for viral replication, have been deleted^[17].

2) Non-Viral Vectors

These types of delivery systems transfer genetic material to cells without the use of viruses. In order to transfer only the bare DNA, nonviral vectors usually use a plasmid-based gene delivery mechanism, often in combination with physicochemical techniques that make transfection easier. Therefore, although an innate immune response may still happen, the nonviral method may be less immunogenic and possibly safer than viral vectors.

Although the nonviral gene transfer technique is straightforward, it often has a lower effectiveness than the majority of viral vector-mediated gene transfer techniques. Furthermore, unless selection is used on *ex vivo* transfected cells, nonviral transfection is usually temporary and results in transient expression of the transgene^[15]. In order to introduce genetic elements through cell membranes, non-viral gene delivery is purposefully mediated by physical means. Needlestick injection, ballistic DNA injection, sono-poration, photo-poration, magneto-fection, and hydro-poration are examples of the physical way of gene delivery. Using a needle to directly introduce genetic elements is known as needle injection^[4]. In order to accommodate bigger genetic transfers, the synthetic vector can bind to condense the genetic information and engage electrostatically with RNA or DNA. Then, endocytosis allows non-viral chemical vectors to enter cells. Generally speaking, there are two non-viral vectors: polymers and liposomes. By forming lipoplexes, liposomes enable gene transfer in liposome-based non-viral vectors. When positively charged liposomes and negatively charged DNA come into contact, lipoplexes are naturally created.



Non-viral vectors based on polymers interact with DNA to create polyplexes.^[4]

Types of Non Viral Vector / Physical Method

- Cationic lipids
- Polymeric nanoparticles
- Electroporation^[15]
- Sonoporation
- Gene gun
- Ormacity^[1]
- Injection of naked DNA
- Photoporation
- Magnetofection
- Hydroporation

1. Electroporation

An electromagnetic pulse that makes holes in a cell membrane to let genetic elements in is known as electroporation^[15]. One technique for transferring DNA from cell membranes is electroporation, which involves brief, high-voltage pulses. The membrane becomes permeable to nucleic acid due to the temporary formation of tiny pores on its surface brought on by electrical shock. Although electroporation is applicable to many cell types, its usage in clinical settings has been restricted due to high cell death rates^[1].

2. Gene Gun

Another physical technique for DNA transfer is particle bombardment, also known as a "gene gun." This technique involves coating the DNA with gold particles and then putting it inside a machine that gives it the force it needs to enter the cell. However, DNA can cause a tumor if it is found in the wrong location within a genome, such as in a tumor suppressor gene. In clinical studies involving patients with X-linked severe immunodeficiency (X-SCID), this approach was attempted. Three out of twenty patients had their T cell leukemia successfully treated when HSCs were infected with a retrovirus that contained the modifying gene^[1].

3. Sonoporation

This technique introduces DNA into a cell by using an ultrasonic frequency. DNA moves throughout the cell as a result of this event, which is seen as an ultrasonic cavitation in the cell membrane [1]. A sound wave called sono-poration makes holes in a cell membrane so that genetic elements can enter.

4. Hydroporation

The hydrodynamic capillary effect that controls cell permeability is known hydro-poration.^[4]

5. Magnetofection

The process of concentrating nucleic acid particles into target cells by complexing magnetic particles with DNA and an external magnetic field. To expose the DNA-containing substance to only one cell layer, magnetic particles are complexed with DNA and a magnet is positioned beneath the cellular tissue culture container. The therapeutic gene binds to the magnetic nanoparticles in this approach, which is predicated on the idea of targeted medication delivery. The complex deposition and transfection rate are additionally accelerated by the electromagnetic field gradient created by the ground beneath the cell culture media^[1].

6. Ormasil

Another non-viral technique is the use of Ormasil, which is silica or modified organic silicate. Silica is a wonderful choice for gene delivery because of how easy it is to work with. Because of its low toxicity, silica is most frequently used in gene therapy in combination with amino silicones and nanoparticles. Delivery in the presence of serum, however, decreases the effectiveness of this technique because of the limiting factor of the reaction between serum proteins.^[1]

7. Photoporation

This process involves using a ray pulse to make holes in a cell membrane so that genetic materials can enter.

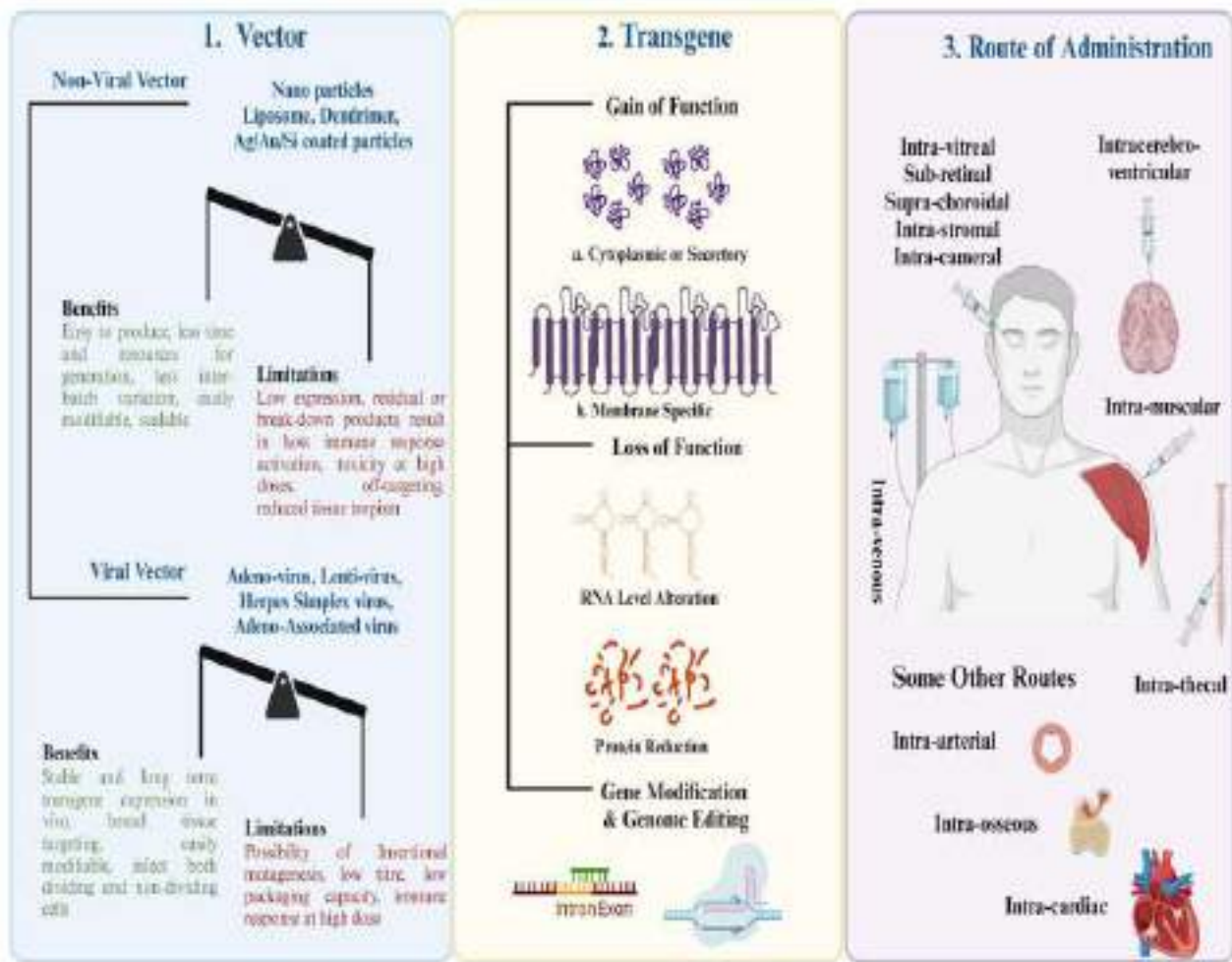


Fig no 1 : Development of Vector System ^[3]

Gene Delivery System

Virus-Mediated gene delivery systems make use of the virus's capacity to introduce its DNA into host cells ^[4]. Ex vivo modified cells, viral vectors, and non-viral vectors are among the gene delivery methods available for gene transfer and treatment. Direct injection of naked DNA, lipofection, and gene gun are the most widely utilized non-viral delivery methods for gene transfer in vivo. These techniques' low transduction efficiency is its main flaw. Viral vectors have been effectively used to deliver directly into the in vitro and in vivo environments due to their high delivery efficiency. Targeting uncommon or incurable illnesses that frequently lack traditional treatments is made possible by advancements in gene delivery. Actually, over 70% of uncommon illnesses are monogenic, and only 8% of these illnesses can be cured with a medication that has FDA approval ^[10]. Ex vivo modified cells, viral vectors, and non-viral vectors are among the gene delivery methods

available for gene transfer and treatment. The gene gun, lipofection, and direct injection of naked DNA are the most widely utilized non-viral delivery methods for gene transfer in vivo. These techniques' low transduction efficiency is its main flaw. Both in vitro and in vivo, genes have been effectively delivered into the pituitary gland using viral vectors, which have a high delivery efficiency ^[11].

In vivo and ex vivo are the two methods for delivering the desired gene. The genetic material is delivered directly to the patient's body using the in vivo method, either as a naked gene or encapsulated in a particle. The ex vivo method, on the other hand, entails removing the target cells from the patient or a healthy donor, genetically altering them, sometimes growing them, and then giving them to the patient. As a result, the patient and the transmission vector are not in direct contact.

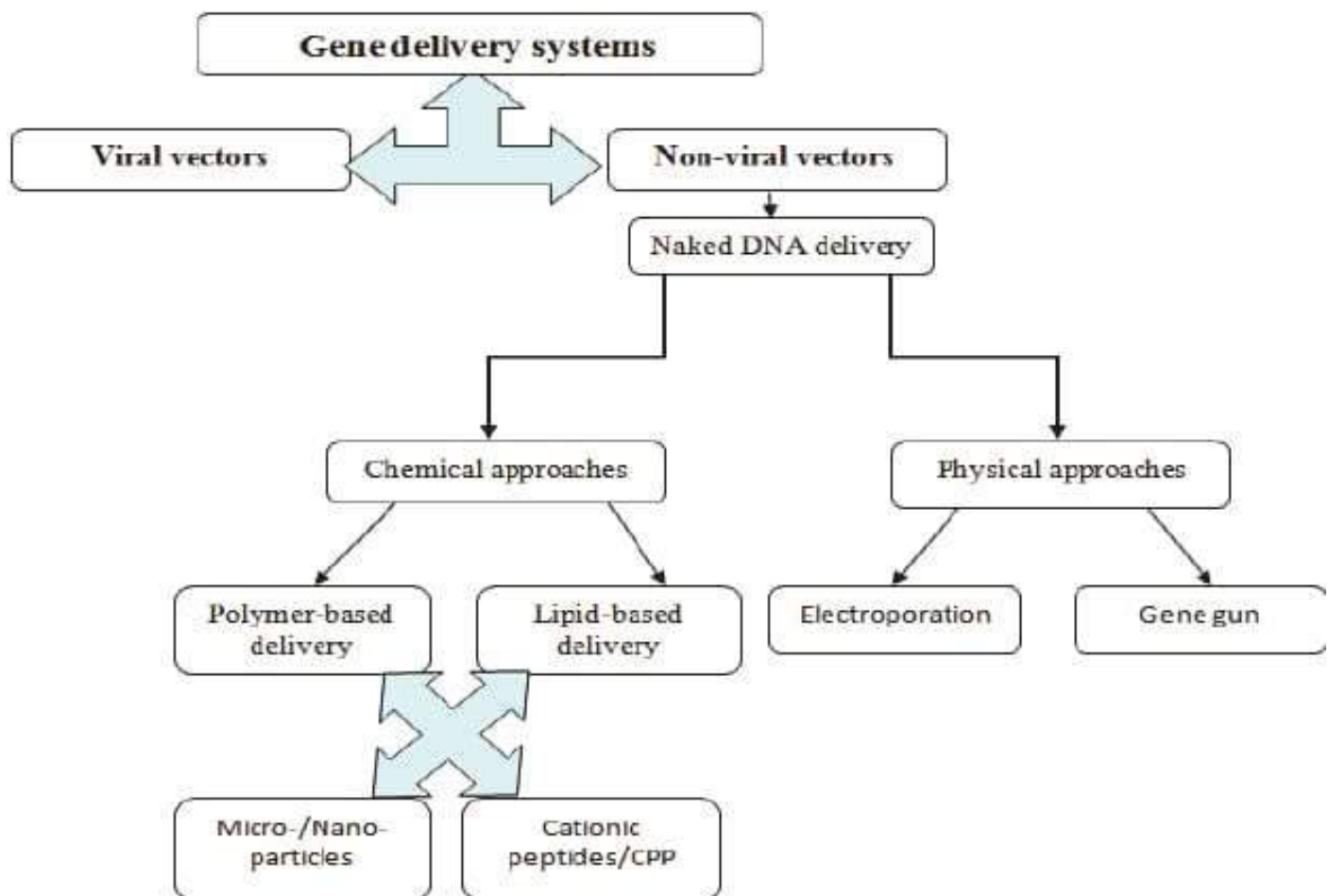


Fig no 2 . Gene Delivery System^[18]

Gene Editing Technology

A sequence-specific DNA binding module is used in genome editing technology to insert, remove, or modify DNA at specific loci in a living cell's genome. One of the most important methods for gene engineering is genome editing, which began with meganucleases, zincfinger nucleases (ZFNs), and transcription activator-like effector nucleases (TALENs). Importantly, Drs. Jennifer Doudna and Emmanuelle Charpentier's 2012 discovery of clustered regularly interspaced short palindromic repeats (CRISPR)-Cas9 (CRISPR associated protein 9) as a programmable nuclease greatly increased the potential for genome editing ^[23].

In prokaryotes, clustered regularly interspaced short palindromic repeats (CRISPR) were initially identified as an effector of the adaptive immune system. CRISPR is made up of a collection of little DNA sequences that are present in prokaryotic genomes and were obtained through prior bacteriophage infections. Prokaryotes can use it as a defense mechanism to prevent reinfection by similar bacteriophages. The use of gene editing for human diseases was made possible by the subsequent development of this technology into a tool for modifying genes in eukaryotic cells.^[30]

Applications

- Gene Therapy: Treating genetic diseases by editing genes in vivo.

- Cancer Treatment: Editing genes to selectively kill cancer cells.
- Gene Editing for Rare Diseases: Treating rare genetic disorders.
- Regenerative Medicine: Using gene editing to generate healthy cells for transplantation.
- Infectious Disease Treatment: Editing genes to confer resistance to infectious diseases .

Gene Editing Technologies

1. CRISPR/Cas9: A popular, precise, and efficient gene editing tool.
2. TALENs: Another precise gene editing tool using transcription activator-like effector nucleases.
3. ZFNs: Zinc finger nucleases for precise gene editing.
4. Base Editing: A novel approach for precise, irreversible conversion of one DNA base to another.
5. Prime Editing: A versatile, precise gene editing tool combining CRISPR/Cas9 and reverse transcription.

Benefits

1. Precision: Gene editing enables precise modifications to the genome.
2. Efficiency: Gene editing can be more efficient than traditional genetic engineering methods.
3. Flexibility: Gene editing can be applied to various cell types, organisms, and systems.



4. Therapeutic Potential: Gene editing holds promise for treating genetic diseases and improving human health.

APPLICATION

Cystic Fibrosis

- CF is a condition that causes the lungs to gradually deteriorate. Inflammation, blockage, deformity, and respiratory tract infection are some of its symptoms. There are certain benefits to directly delivering the cystic fibrosis trans membrane regulator (CFTR) gene to the target tissue, which is the cells of the respiratory tract epithelium. The host's lung's immunological and physical barriers, however, make it difficult for the gene to successfully enter the respiratory system. Research on CF has been spurred by advancements in tissue engineering, gene transfer techniques, and animal models [28].
- Adeno-associated virus AAV2 was the focus of the University of California. AAVs may be produced in vast quantities with relative ease and are safe for human use. AAV vector-delivered genes frequently exhibit long-term gene expression but are not permanently incorporated into the cell genome. The molecular modification of the virus, which made it specifically designed to enter the pig's airway cells, was a crucial component of the AAV study. In addition to their utility in CF gene therapy, these evolving vectors can be employed as a multifunctional gene transfer tool. Five variants of the AAV2 virus have been developed that are 240 times more successful than the AAV2 itself at infecting pigs' airway cells [29].

Hemoglobin-Linked Diseases

- Haemoglobin Thalassaemia is a collection of hereditary disorders that alter hemoglobin function, and about 270 million people worldwide are considered carriers. As of right now, scientists have discovered more than 200 β globin (HBB) gene variants linked to illnesses like sickle cell disease (SCD) and β -thalassaemia. SCD is an intriguing candidate for gene therapy since the most prevalent genotype of the disease is G6V, a single amino acid alteration in the HBB gene from glutamic acid to valine [10].

AIDS

- Gene therapy for AIDS included methods to stop the virus from replicating, like delivering dominant negative viral proteins to cells infected with HIV [9].

Parkinson's Disease (PD)

- This neurological condition, which affects over 4 million individuals globally, is typified by the death of dopaminergic neurons in the substantia nigra and striatum. Because the blood-brain barrier (BBB) stops medications from diffusing into the central nervous system (CNS), neurological disorders like Parkinson's disease (PD) are among the most difficult to treat with traditional therapies. Due in part to the finding that AAV9 could traverse the blood-brain barrier, significant progress has been made in overcoming this obstacle through the use of vector-mediated gene delivery. However, PD involves numerous genes, unlike the

disorders described above, making gene therapy treatment more difficult [10].

- It has been established that gene therapy is successful in treating Parkinson's disease (PD). For instance, one of the suggested approaches raises the brain's concentration of GABA, a neurotransmitter whose deficiency results in Parkinson's disease. 45 volunteers with severe Parkinson's disease participated in the trial, where tubes were inserted into the brain regions related to movement. Half of the subjects received an innocuous saline solution (as the control group) while the other half received injections of viruses containing the gene that boosts the production of GABA. The movement capacity of individuals who received gene therapy improved by 23% after 6 months, which was twice as much as that of the control group [1].

Alzheimer's Disease

- The term Alzheimer's disease refers to Among the most prevalent illnesses of the nervous system are mental ones, and Alzheimer's disease (AD) is the leading cause of dementia globally for which there are now no viable treatments. The widespread buildup of faulty tau in the brain is the cause of AD and certain frontotemporal dementias (FTDs), which are referred to as tauopathies. New methods for the study of AD and other neurological illnesses have been made possible by recent advancements in gene therapy-based methodologies, particularly recombinant AAVs (rAAVs) [27].

Breast Cancer

- The most prevalent cancer in women, breast cancer, has been treated with gene therapy. Molecular chemotherapy, proapoptotic gene therapy, anti-angiogenesis gene therapy, neutralization of the mutation, immunopotential (improving the immune response by accelerating and extending its development and extending its duration), and genetic modulation of resistance-sensitivity are some of these. The evaluation of gene therapy's effectiveness, toxicity, and immunity in breast cancer clinical trials has started.
- Gene therapy combined with radiation or chemotherapy has shown encouraging outcomes. As a result of advancements in vector design and novel gene therapy techniques, gene therapy is now widely used to treat breast cancer. The majority of clinical trials concentrate on TSG P53. Injecting the p53 adenoviral vector intramuscularly is the recommended technique.

CHALLENGES AND LIMITATION

Technical Limitations

- Delivery: Efficient delivery of genetic material to target cells.
- Vector design: Optimizing vectors for efficient gene transfer.
- Gene expression: Regulating gene expression levels.



4. Targeting: Specificity and accuracy in targeting cells.
5. Duration: Maintaining long-term gene expression.

Safety Concerns

1. Toxicity: Vector-induced toxicity.
2. Immune response: Immune reactions to vectors.
3. Insertional mutagenesis: Unintended genetic changes.

Biological Limitations

1. Cell heterogeneity: Variability in cell populations.
2. Gene regulation: Complexity of gene regulation.
3. Epigenetics: Influence of epigenetic factors.
4. Gene-environment interactions: Environmental impact on gene expression.
5. Evolutionary adaptations: Potential for adaptive response

Economic Limitations

1. High costs: Development, production, and administration expenses.
2. Limited accessibility: Restrictive pricing and availability.
3. Reimbursement: Uncertainty surrounding insurance coverage.
4. Pharmaceutical industry interests: Balancing profit and public benefit.
5. Funding: Limited government and private funding.

Clinical Limitations

1. Patient selection: Identifying suitable candidates.
2. Dosing and administration: Optimizing treatment regimens.
3. Monitoring and follow-up: Ensuring patient safety.
4. Combination therapies: Integrating gene therapy with other treatments.
5. Long-term follow-up: Monitoring patients over extended periods.

CONCLUSION

Gene remedy has advanced significantly in recent times because to considerable advancements in vector development and delivery systems, which have bettered safety and efficacy. Viral gene delivery styles are made up of contagions. New viral and non-viral vectors have surfaced, and enhanced delivery ways that have been altered to be replication-deficient have made it possible to transfer genes to the target cells for expression. The maturity of gene remedy exploration has been on contagious conditions, cancer, and monogenic diseases. Though they only regard for 0.6 of all gene remedy clinical studies, autoimmune and seditious diseases are among the underrepresented conditions that gene remedy may be suitable to cure. Recent advancements in gene remedy, such the creation of CRISPR- intermediated genome engineering and non-viral gene delivery, have significantly increased the liability of chancing gene curatives. Combining CRISPR technology with both viral and non-viral vectors, for case, may enhance remedial sweats, according to some exploration. Over the once ten times, there have been several advancements

in clinical gene remedy. One can list a number of noteworthy achievements, including the development of drugs for conditions including diabetes, Alzheimer's, Parkinson's, cystic fibrosis, and several types of cancer. To put it another way, gene remedy encompasses a variety of gene transfer ways and can be used to treat a broad diapason of ails.

SUMMARY

An overview of current developments in gene remedy vectors and delivery systems is handed in this review paper. Then, we go over the present and unborn operations of gene remedy in the treatment of several ails. also, look at the elaboration of both viral and non-viral gene delivery vectors. In addition to pressing the difficulties and constraints related to gene delivery, we also look at the function of gene editing technologies in gene remedy and suggest possible directions for unborn study in this field. A promising system for treating contagious infections, cancer, and inheritable diseases is gene remedy. still, an effective and secure vector distribution medium is pivotal to its success. Recent advancements in viral and non-viral vectors, similar as lentivirus, retrovirus, adeno- associated contagion, and cationic lipids, are stressed in this study.

FUTURE SCOPE

Three decades after the first gene therapy study in the 1990s, the science of cell and gene therapy has regained pace. There are currently over 1000 active cell and gene therapy trials for a variety of treatments, including neurological, immunological, ophthalmology, and cancer conditions. These demonstrate the backing of numerous network partners, including international patient care organizations, pharmaceutical companies, and regulatory bodies. With assistance from numerous government agencies, regulatory authorities, etc., the growth curve of clinical trials for gene and cell therapy in India is gradually increasing.

Scientists have been expanding and refining the uses of CRISPR/Cas9 to accomplish several kinds of genome editing. CRISPR/Cas9 can cause gene disruption, deletions, knockins, or targeted editing by taking use of the appropriate DNA repair pathway^[30].

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ADVANCES IN SURGICAL SITE INFECTION PREVENTION: THE ROLE OF NURSING PROTOCOLS

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ABSTRACT

Surgical Site Infections (SSIs) represent a significant global challenge, affecting millions of surgical patients each year. As one of the most common healthcare-associated infections (HAIs), SSIs not only increase patient morbidity and mortality but also impose substantial financial burdens on healthcare systems. This article provides a comprehensive review of advancements in SSI prevention, emphasizing the critical role of nursing protocols across preoperative, intraoperative, and postoperative care phases. Evidence-based strategies, challenges in implementation, and future directions are explored, alongside the pivotal role of multidisciplinary teams in addressing these infections. Through structured protocols, continuous training, and patient-centered approaches, nurses can effectively mitigate SSI risks and improve surgical outcomes.

KEYWORDS: *Surgical site infections, SSI prevention, perioperative nursing, infection control, nursing protocols, evidence-based practice, multidisciplinary care.*

INTRODUCTION

Surgical Site Infections (SSIs) occur within 30 days of surgery or up to one year if an implant is involved. They contribute significantly to postoperative complications, affecting approximately 2-5% of patients undergoing surgical procedures. SSIs account for up to 20% of all HAIs in hospitalized patients, with a global incidence rate varying by surgical procedure, geographical region, and healthcare facility resources.

The emergence of multidrug-resistant organisms has compounded the complexity of managing SSIs, necessitating preventive measures as a priority in surgical care. Nurses, being integral members of perioperative teams, play a crucial role in infection prevention through evidence-based practices and adherence to standardized protocols.

This review highlights the latest advancements in SSI prevention, focusing on nursing protocols as a foundation for safe surgical practices and improved patient outcomes.

Pathogenesis of SSIs

SSIs result from the interplay between microbial contamination, host immune responses, and surgical techniques. The primary sources of microbial contamination include:

- **Endogenous sources:** Skin flora such as *Staphylococcus aureus* and *Staphylococcus epidermidis*.
- **Exogenous sources:** Contaminated surgical instruments, operating room air, and hands of healthcare workers.

Host Factors and Immune Response

Host-related factors such as diabetes, obesity, malnutrition, and smoking significantly increase susceptibility to SSIs.

Immunocompromised states, such as those seen in cancer patients or individuals on immunosuppressive therapy, further exacerbate this risk.

Procedure-Related Risk Factors

Prolonged surgical duration, improper sterilization techniques, and the use of implants contribute to increased SSI rates.

Classification of SSIs

SSIs are categorized based on the depth of infection:

1. **Superficial incisional SSIs:** Affect the skin and subcutaneous tissue.
2. **Deep incisional SSIs:** Involve deeper tissues such as fascia and muscles.
3. **Organ/space SSIs:** Involve any part of the anatomy opened during surgery, excluding skin and subcutaneous tissue.

Global Burden of SSIs

Globally, SSIs are responsible for 8 million additional hospital days and billions in healthcare costs annually. Low- and middle-income countries experience disproportionately higher SSI rates due to limited access to resources, inadequate sterilization, and lack of standardized protocols. Addressing this burden requires a combination of advanced technology, education, and resource allocation.

Advances in SSI Prevention Strategies

Significant progress has been made in SSI prevention over the last decade, encompassing advancements in technology, pharmacology, and nursing protocols.

Preoperative Measures

1. Preoperative Skin Preparation

- Chlorhexidine-alcohol solutions are now the gold standard for preoperative skin antisepsis. Studies demonstrate a 40%



reduction in SSI rates compared to povidone-iodine solutions.

- o Innovations such as 2% chlorhexidine-impregnated wipes provide extended antimicrobial activity.

2. Antibiotic Prophylaxis

- o Administering antibiotics within one hour before incision has proven effective in reducing SSI risk. For colorectal surgeries, combination regimens including cephalosporins and metronidazole are preferred.

3. Screening and Decolonization

- o Preoperative screening for *Methicillin-resistant Staphylococcus aureus* (MRSA) and decolonization using mupirocin nasal ointment and chlorhexidine baths have been shown to lower infection rates.

4. Patient Optimization

- o Preoperative interventions such as smoking cessation, glycemic control, and nutritional supplementation enhance immune response and wound healing.

Intraoperative Measures

1. Sterile Environment Maintenance

- o Laminar airflow systems and HEPA filters in operating rooms minimize airborne contamination.
- o Strict adherence to sterilization protocols, including the use of sterile barriers and surgical drapes.

2. Temperature Regulation

- o Normothermia (36-38°C) during surgery enhances immune function and reduces the risk of hypothermia-induced SSIs.

3. Surgical Techniques

- o Minimally invasive surgeries reduce tissue trauma, blood loss, and exposure to contaminants.

4. Use of Antimicrobial Coatings

- o Antimicrobial-coated sutures and implants reduce biofilm formation, a significant cause of persistent infections.

Postoperative Measures

1. Wound Care Protocols

- o Early identification and management of wound complications are critical.
- o Negative pressure wound therapy (NPWT) has emerged as an effective method for managing complex wounds.

2. Patient Education

- o Educating patients on wound hygiene, signs of infection, and when to seek medical attention improves early detection and intervention.

3. Follow-Up and Surveillance

- o SSI surveillance programs help in tracking infection trends and evaluating the effectiveness of prevention strategies.

Nursing Protocols: The Cornerstone of SSI Prevention

Surgical Site Infections (SSIs) remain a significant concern in healthcare, contributing to prolonged hospital stays, increased healthcare costs, and heightened patient morbidity and mortality. Nursing protocols have emerged as an essential pillar in combating SSIs. These protocols, rooted in evidence-based practices, provide standardized guidelines for nurses to deliver consistent and high-quality care across various settings. From hand hygiene to postoperative wound care, nursing protocols address multiple facets of SSI prevention. This section delves into the critical components of nursing protocols, emphasizing their role in safeguarding patient outcomes.

Key Components of Nursing Protocols

1. Hand Hygiene

Hand hygiene is universally recognized as one of the most effective measures for preventing healthcare-associated infections, including SSIs. The World Health Organization (WHO) introduced the "Five Moments for Hand Hygiene" framework, which highlights specific instances when hand hygiene is crucial:

- Before touching a patient.
- Before performing aseptic procedures.
- After exposure to bodily fluids.
- After touching a patient.
- After touching patient surroundings.

Why It Matters: Studies consistently show that hand hygiene compliance reduces cross-contamination and the spread of pathogens. A 2020 study reported a 40% reduction in SSI rates in facilities where hand hygiene protocols were strictly enforced. Nurses, being the primary caregivers, are at the frontline of maintaining hand hygiene standards.

Implementation Strategies

- Availability of alcohol-based hand rubs at strategic points in healthcare settings.
- Regular training sessions and audits to reinforce compliance.
- Visual reminders such as posters and digital prompts to encourage adherence.

Challenges, such as workload, lack of resources, and skin irritation from frequent washing, can hinder compliance. Addressing these barriers through moisturizing hand rubs and fostering a culture of accountability ensures sustained adherence to protocols.

2. Implementation of Surgical Safety Checklists

The WHO Surgical Safety Checklist is a globally accepted tool designed to ensure the systematic application of critical infection prevention measures during surgical procedures. It is divided into three phases:

1. **Preoperative briefing:** Ensures patient identification, verification of surgical sites, and administration of prophylactic antibiotics.



2. **Intraoperative checks:** Verifies sterility of instruments, confirms team readiness, and maintains aseptic conditions.
3. **Postoperative debriefing:** Focuses on instrument count, documentation, and patient transfer protocols.

Role of Nurses: Nurses are responsible for facilitating checklist adherence, ensuring that all steps are completed and documented. They serve as coordinators, bridging communication gaps among surgical teams.

Impact on SSI Prevention: Research indicates that the consistent use of surgical safety checklists reduces surgical complications, including SSIs, by up to 30%. The checklist also fosters a culture of safety by promoting teamwork and accountability.

3. Sterile Technique Training

Maintaining aseptic conditions during surgical procedures is critical in preventing microbial contamination of surgical sites. Nurses undergo rigorous training to master sterile techniques, which include:

- **Proper Gowning and Gloving:** Ensuring that gowns and gloves are donned and removed without compromising sterility.
- **Handling of Sterile Equipment:** Adhering to "no-touch" techniques to avoid contamination.
- **Maintaining Sterile Fields:** Vigilance in preventing breaches in sterile barriers during procedures.

Importance of Simulation-Based Training:

Simulation-based training has proven effective in equipping nurses with the skills to maintain sterility in high-pressure environments. Such training allows nurses to practice handling complex situations without risking patient safety.

Examples of Impact:

A 2019 study demonstrated a 25% reduction in SSIs when nurses were regularly trained in sterile techniques, compared to those with no refresher training. Continuous education ensures that nurses remain proficient in current best practices.

4. Patient-Centered Care

Patient engagement is a cornerstone of effective SSI prevention. Nurses play a vital role in educating patients and their families about infection prevention measures, fostering a collaborative approach to care.

Preoperative Education:

Nurses educate patients on skin preparation techniques, including the use of antiseptic showers and avoiding shaving surgical sites with razors, which can cause micro-abrasions.

Postoperative Care Instructions:

Patients are guided on:

- Proper wound care techniques.
- Recognizing early signs of infection, such as redness, swelling, or discharge.
- The importance of maintaining follow-up appointments.

Fostering Compliance: Empathy and clear communication help build trust, encouraging patients to adhere to prescribed care protocols. Visual aids, such as pamphlets and videos, further enhance patient understanding.

Case Example: A nursing-led patient education program at a tertiary care hospital in the U.S. reduced postoperative SSIs by 18% within six months. Nurses ensured that patients understood and followed wound care protocols, which significantly improved outcomes.

5. Multidisciplinary Collaboration

Effective SSI prevention requires a team-based approach, with nurses collaborating with surgeons, anesthesiologists, infection control specialists, and other healthcare professionals.

Roles and Responsibilities:

- **Nurses:** Ensure adherence to infection prevention protocols and monitor patient progress.
- **Surgeons:** Implement evidence-based surgical techniques and ensure timely administration of antibiotics.
- **Anesthesiologists:** Maintain normothermia and monitor perioperative oxygen levels.
- **Infection Control Teams:** Conduct surveillance, analyze infection trends, and recommend interventions.

Interdisciplinary Rounds

Daily rounds involving the entire care team provide opportunities to discuss patient progress, address potential risks, and adjust care plans as needed.

Technology Integration

Tools like electronic health records (EHRs) enable seamless communication and documentation, ensuring that all team members have access to updated patient information.

Case Study

In a large-scale quality improvement initiative in the U.K., implementing multidisciplinary SSI prevention bundles resulted in a 50% reduction in infection rates. Nurses were instrumental in coordinating the efforts of diverse teams, ensuring that all components of the prevention strategy were effectively executed.

Case Studies and Real-World Applications

Case Study 1

In a tertiary care hospital in India, implementing a bundle of interventions, including hand hygiene compliance and preoperative antibiotic prophylaxis, reduced SSI rates by 35%.

Case Study 2

A European multicenter study found that integrating nurse-led surveillance programs resulted in a 20% reduction in SSIs, highlighting the importance of structured follow-up protocols.

Challenges in SSI Prevention

Despite significant advancements, several challenges persist:



- **Antimicrobial Resistance:** The emergence of multidrug-resistant organisms necessitates alternative prevention and treatment strategies.
- **Resource Constraints:** Limited access to advanced technologies in low-resource settings hinders comprehensive SSI prevention.
- **Adherence to Protocols:** Variability in compliance with standardized protocols due to knowledge gaps and lack of training.

Future Directions

1. **Technological Innovations**
 - o Development of biosensors for real-time wound monitoring.
 - o Use of artificial intelligence (AI) to predict SSI risks based on patient and procedural data.
2. **Enhanced Training Programs**
 - o Incorporating SSI prevention into nursing curricula and continuous professional development modules.
3. **Policy Advocacy**
 - o Promoting global policies to standardize SSI prevention practices across healthcare settings.

CONCLUSION

The prevention of Surgical Site Infections is a multidimensional challenge requiring a combination of advanced medical practices, robust nursing protocols, and multidisciplinary collaboration. Nurses, as the frontline caregivers, play a critical role in implementing and maintaining SSI prevention strategies. By adhering to evidence-based guidelines, fostering patient education, and embracing technological innovations, healthcare systems can achieve significant reductions in SSI rates, ultimately enhancing patient outcomes and safety.

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CONVERGENCE OF NATIONAL AND STATE HEALTH INSURANCE SCHEMES: A CASE STUDY OF AB PM-JAY AND DR. NTR VAIDYA SEVA

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ABSTRACT

Healthcare is essential for human development, improving productivity, and reducing the socio-economic burden of diseases. Despite progress in economic growth, India struggles with healthcare accessibility, particularly for vulnerable populations. The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) and Dr. NTR Vaidya Seva are two significant health insurance schemes designed to address this challenge. AB PM-JAY, the world's largest publicly funded health insurance program, offers cashless coverage for secondary and tertiary care, aiming to reduce catastrophic health expenditure nationwide. Dr. NTR Vaidya Seva, specific to Andhra Pradesh, targets Below Poverty Line (BPL) families with comprehensive coverage for critical health conditions. This study evaluates the potential convergence of these two schemes to maximize healthcare delivery. It explores how the integration of PM-JAY and Dr. NTR Vaidya Seva can enhance accessibility, streamline administrative processes, and improve health outcomes by providing more comprehensive and coordinated services. The trust model underpinning both schemes ensures transparency, efficient fund allocation, and quality control while promoting sustainability and adaptability. Findings indicate that convergence can reduce overlapping administrative efforts, expand coverage, and foster collaboration among stakeholders. The unified approach supports equitable healthcare access, mitigates financial barriers, and ensures resource optimization. This study underscores the transformative impact of leveraging both national and state initiatives, offering a roadmap for achieving universal health coverage and addressing India's dual burden of communicable and non-communicable diseases. Enhanced synergy between PM-JAY and Dr. NTR Vaidya Seva can significantly uplift the health scenario for millions, particularly for those most vulnerable.

KEY WORDS: Healthcare accessibility, Universal Health Coverage, AB PM-JAY, Dr. NTR Vaidya Seva, Health insurance, Vulnerable populations, Catastrophic health expenditure, Trust model, Administrative convergence, Comprehensive healthcare, Equity in healthcare.

INTRODUCTION

Health is a key factor in human resource development and is considered the true wealth of a society. It not only enhances human productivity but also reduces both private and public costs related to illness and disease. Health is recognized as a fundamental human right, and healthcare services play a vital role in lowering infant mortality, controlling death rates, managing diseases, and increasing life expectancy. According to the World Development Report 1993, improved health contributes to economic growth in four ways: it reduces productivity losses from worker illness, allows the use of natural resources previously limited by disease, boosts school enrolment and improves children's learning abilities, and frees up resources that would otherwise be spent on healthcare. The economic benefits are especially significant for poorer populations, who are most burdened by ill health and stand to gain the most from better resource utilization. Various studies have looked into the impact of out-of-pocket (OOP)[1]health expenses on poverty levels, showing that such costs can push households further into poverty. The negative effects of OOP spending are evident in the increased poverty and deteriorating welfare experienced by affected households. For instance, in

1995-96 an estimated 2.2% of the Indian population fell into poverty because of out-of-pocket spending (Peters et al 2002)[2] and it increased to around 3.2% in 1999-2000 (Garg and Karan 2009)[3]. A significant proportion of population may have had to sell their assets (productive) for inpatient care (Peters et al. 2002; Dilip and Duggal 2002)[4]. A significant proportion of population may have had to forgo treatment all together due to scarcity financial resources (NSSO, 60th Round, 2004). Health insurance can provide financial protection to households in the event of health shock and can reduce catastrophic out-of-pocket expenditure on health care (Joglekar, 2009)[5]. So that it can protect families from impoverishment and empower the patient to seek health care as a right (Gilson, 1998). In low-income and developing nations Out-of-pocket (OOP) payments and the absence of prepayment options like insurance maintain to be the primary foundations of health care finance. Unlike insurance, a disease not only directly lowers welfare but also enhances the risk of poverty because of the high cost of treatment. (Wagstaff, A and E. van Doorslaer, 2003)[6].



OBJECTIVES

1. To analyse PM JAY and Dr NTR Vaidya Seva schemes
2. To evaluate how PMJAY and Dr. NTR Vaidya Seva can complement each other to provide enhanced coverage for vulnerable populations.
3. Examine how the convergence of both schemes can increase healthcare accessibility,
4. Assess how the integration of PMJAY and Dr. NTR Vaidya Seva could lead to improved health outcomes by offering more comprehensive and coordinated healthcare services.
5. To assess the role of the trust model in promoting transparency, sustainability, and quality assurance in the implementation of converged healthcare schemes.
6. To analyze the potential for administrative and operational convergence between PM-JAY and Dr. NTR Vaidya Seva to streamline healthcare delivery and optimize resource utilization.

METHODOLOGY

The study employs a qualitative and descriptive research design to explore the convergence of PM-JAY and Dr. NTR Vaidya Seva. The Secondary data is employed for the study which include government reports, official documents related to both schemes, published research articles, policy briefs, and evaluations from national and international journals, as well as statistical data from the National Health Authority (NHA) and the Dr. NTR Vaidya Seva Trust regarding scheme implementation and outcomes. The data analysis involves a comparative approach, systematically comparing the features, funding mechanisms, and implementation models of PM-JAY and Dr. NTR Vaidya Seva. Additionally, the study includes an impact evaluation to assess healthcare accessibility, financial protection, and equity outcomes of both schemes. Andhra Pradesh is selected as the case study region due to the coexistence of both schemes, providing valuable insights into the practical aspects of scheme integration.

AB PM-JAY

VISION	MISSION
Achieving SDG 3.8: Ensuring financial protection against catastrophic health expenditure and access to affordable and quality healthcare for all[7]	Creating the world’s best health assurance programme on an efficient and technologically robust ecosystem[8]

1. Background

India's rapid economic growth has not translated into proportional progress in healthcare accessibility, posing significant challenges. Despite a young population, with over a quarter aged 15-29 by 2029, India faces a dual disease burden of communicable and non-communicable diseases (NCDs), alongside injuries. This has led to increased healthcare demand, but public healthcare remains underfunded, overburdened, and staff-deficient. Over half of healthcare needs are met by an unregulated, fragmented private sector concentrated in urban areas, resulting in catastrophic out-of-pocket expenditures (OOPE) that push many low-income families into poverty. To address these issues, the government has introduced health insurance initiatives, starting with Rashtriya Swasthya Bima Yojana (RSBY) in 2008, which primarily targeted primary care. In 2018, Ayushman Bharat was launched, aiming to reform healthcare through a two-pronged approach. The first component, Health and Wellness Centres (HWCs), upgrades Primary Health Centres to reduce the disease burden and hospitalization rates. The second, Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), is the world’s largest publicly funded health insurance scheme, covering over 12 crore families. AB PM-JAY provides cashless secondary and tertiary care, leveraging technology for seamless transactions. By combining public and private providers, Ayushman Bharat strengthens healthcare systems to enhance access, affordability, and equity.

2. Salient Features of AB PM-JAY[8]

1. **Annual Coverage:** Ayushman Bharat-National Health Protection Mission offers Rs. 5 lakh per family annually.
2. **Cashless Benefits:** Beneficiaries can access cashless benefits at empanelled public and private hospitals nationwide.

3. **Eligibility:** Benefits are determined by deprivation criteria from the SECC database.
4. **Package Rate Payments:** Treatment costs are covered at predetermined package rates.
5. **Cooperative Federalism:** The program emphasizes state autonomy and cooperative federalism.
6. **AB-NHPMC Council:** The Union Health Minister chairs the Ayushman Bharat National Health Protection Mission Council for policy guidance and coordination.
7. **State Health Agencies:** States will implement the scheme through State Health Agencies (SHAs).
8. **Fund Transfers:** Central Government funds are transferred to SHAs via an escrow account.
9. **Digital Transactions:** Paperless and digital transactions are enabled via a modular, scalable IT platform.
10. **Interoperable IT System:** The IT platform collaborates with NITI Aayog to ensure seamless integration.

3. Beneficiary Identification

PM-JAY targets the bottom 40% of the vulnerable population, covering over 12 crore households. Beneficiaries are identified using the SECC 2011 deprivation and occupational criteria for rural and urban areas. Households listed in RSBY but not in SECC 2011 are also included, ensuring broader coverage for social welfare programs.

3.1Rural Beneficiaries

All such families who fit into at least one of the following six deprivation criteria (D1 to D5 and D7) and automatic inclusion (Destitute/living on alms, manual scavenger households, and primitive tribal group, legally released bonded labour) were



covered by PM-JAY out of the seven deprivation criteria for rural areas:

- D1: There is only one room with a kucha roof and walls.
- D2: There are no adults aged 16 to 59.
- D3: Families without an adult male member aged 16 to 59
- D4: Families with a disabled member but no able-bodied adult member
- D5: SC/ST households
- D7: Landless households that rely heavily on physical labour for a living

3.2 Urban Beneficiaries

PM-JAY covers 11 occupational categories in urban areas, including street vendors, construction workers, sanitation workers, drivers, tailors, electricians, and many others. States implementing their own health insurance programs can use their own beneficiary lists, but they must ensure all eligible families identified in the SECC database are included. This allows states flexibility in using their existing databases while ensuring compliance with the SECC criteria for household eligibility.

4. Expansion of coverage by States under PM-JAY and convergence[14]

Many Indian states previously implemented their own health insurance programs, often covering only tertiary care and with varying eligibility criteria. PM-JAY was launched to address these gaps by offering comprehensive coverage for catastrophic illnesses, reducing out-of-pocket costs, and harmonizing state programs. It provides Rs. 5,00,000 annual coverage per family, including secondary and tertiary care, with nationwide portability, cashless transactions, and coverage for pre- and post-hospitalization expenses, benefiting over 59.74 crore people and ensuring equitable healthcare access across India.

5. Implementation Structure[15]:

PM-JAY's implementation follows a decentralized, three-tier framework. The National Health Authority (NHA), led by a CEO, oversees treatment protocols, data security, fraud prevention, health package management, and program transparency. The State Health Authority (SHA), also headed by a CEO, manages local implementation, infrastructure, and coordination. At the district level, the District Implementation Unit (DIU), led by the District Collector, handles Ayushman card creation, hospital empanelment, grievance redressal, awareness campaigns, and ensures effective hospital engagement and fraud control., enabling effective, decentralized program management.

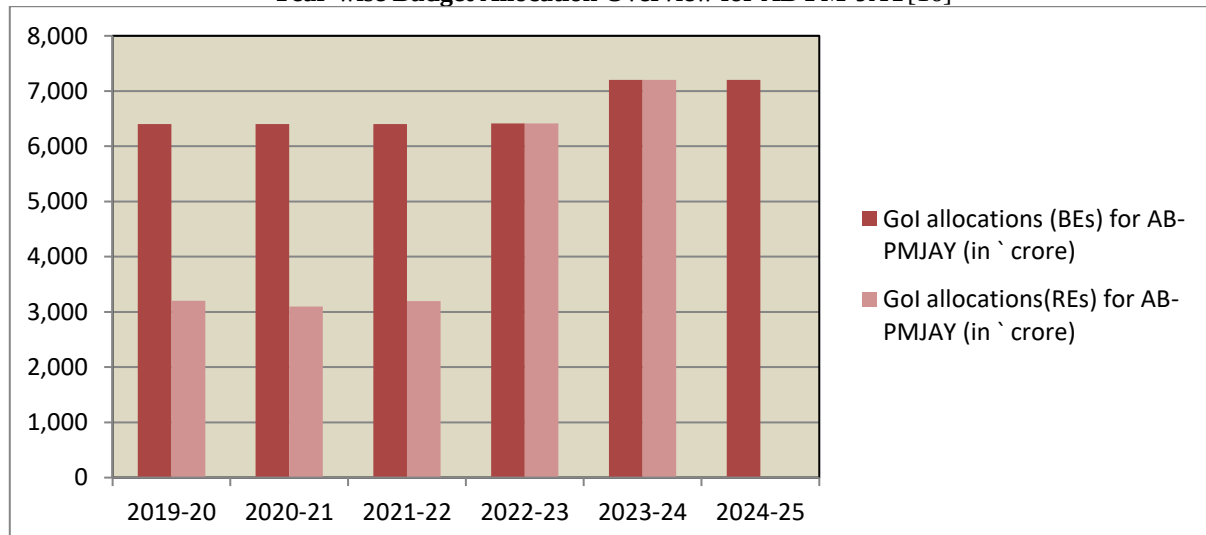
6. Implementation Models

AB PM-JAY offers states flexibility in choosing their implementation model: Trust, Insurance, or Hybrid. In the Trust Model, State Health Agencies (SHAs) directly manage the scheme, handling tasks like hospital empanelment and claims without insurance companies. The Insurance Model involves SHAs paying premiums to an insurer, which manages claims and financial risks, with profit caps ensuring affordability. The Hybrid Model combines both approaches, offering initial coverage via insurance and the rest managed through the trust, providing efficiency, flexibility, and cost-effectiveness. Currently, 23 states/UTs use the Trust Model, 7 use the Insurance Model, and 3 follow the Hybrid Model.

7. Scheme Funding

Ayushman Bharat PM-JAY is fully funded by the Government, with the cost shared between the Central and State Governments. The funding ratio is 60:40 for most states and UTs, 90:10 for North-Eastern and three Himalayan states, and up to 100% for some Union Territories. The scheme has issued over 35.4 crore Ayushman cards, covering millions in 33 states and UTs. It has facilitated 7.79 crore hospital admissions and ₹1.07 lakh crores in coverage, with 49% of benefits going to women. The scheme includes 30,529 empanelled hospitals, ensuring nationwide healthcare access and equity.

Year-wise Budget Allocation Overview for AB PM-JAY[16]



Source: Union Budget,



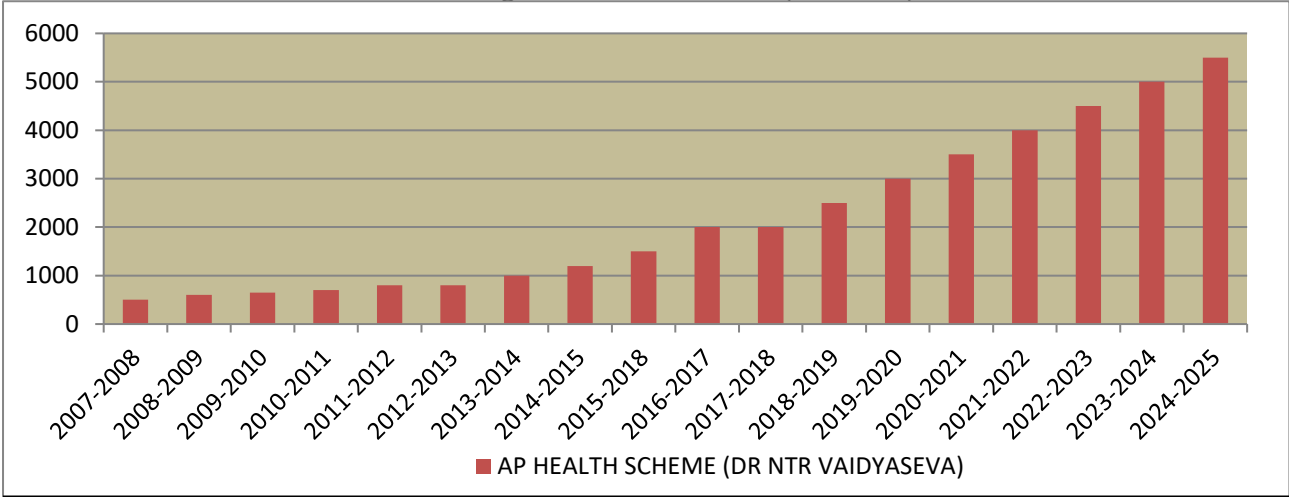
Andhra Pradesh Health Insurance Scheme(Dr NTR Vaidya Seva)

The Dr. NTR Vaidya Seva Scheme[17] evolved from the Rajiv Aarogyasri Scheme, expanding healthcare services for Below Poverty Line (BPL) families in Andhra Pradesh. This transition introduced a more comprehensive, cashless model, incorporating both public and private healthcare providers for secondary and tertiary care. The scheme enhances accessibility, quality, and transparency by integrating advanced technology and streamlining claims processing. Launched in 2007, the Rajiv Aarogyasri Scheme initially provided financial protection for serious ailments like cancer and heart disease, preventing families from falling into debt. Before this, the Chief Minister's Relief Fund supported medical expenses between 2004-

2007[18][19]. The scheme was a flagship health initiative of the Andhra Pradesh government that was launched in 2007 .the Aarogyasri scheme, initially an insurance model, transitioned to a trust model in 2011 to provide quality healthcare to Below Poverty Line (BPL) families in Andhra Pradesh[20] [21].. The government covers insurance premiums, ensuring no out-of-pocket expenses for beneficiaries. Star Health and Allied Insurance Company covers up to Rs. 1.5 lakh annually per family for various treatments at empanelled hospitals. Despite changes in government leadership, the scheme has consistently focused on improving healthcare access, preventing financial distress, and promoting long-term development. Successive governments have increased funding, ensuring its sustainability and effectiveness. [22] [23].

NO	Period of time	Scheme(Transition)	Ruling party
1	01.04.2007	Rajiv Aarogyasri Health Insurance Scheme (launched)	Congress
2	2009-2014	Rajiv Aarogyasri Health Insurance Scheme	Congress
3	2014-2019	Dr.Nandamuri Taraka Rama Rao Aarogya Seva	TDP
4	2019-2024	Dr. YSR Aarogyasri and converged with PM JAY	Ysrcp
5	2024 -present	Dr. NTR Vaidya Seva and converged with PM JAY	TDP

Year-wise Budget Allocation Overview (2007-2025)[24]



Source:AP budget manuals(2007-2024)

The Dr. Nandamuri Taraka Rama Rao Vaidya Seva Scheme[25], implemented by the government of Andhra Pradesh, aims to achieve Universal Health Coverage (UHC)[26] for Below Poverty Line (BPL) families through a unique Public-Private Partnership (PPP) model. This pioneering initiative provides comprehensive, cashless healthcare services, covering secondary and tertiary care for identified diseases, through a network of public and private providers. The scheme integrates demand-side financing, offering free screenings, outpatient consultations, health education, and treatment for common ailments at health camps and network hospitals, while strengthening the state's healthcare system, particularly in preventive and primary care. Managed by the Dr. Nandamuri Taraka Rama Rao Vaidya Seva Trust, chaired by the Chief Minister, the scheme ensures transparent and accountable services through an online web-based system for claims processing and patient management. It empowers patients to choose their treatment hospitals and supports them with help Desks at Primary Health Centres

(PHCs), District Hospitals, and network hospitals, staffed by Vaidya Mithras to assist illiterate patients. By offering a clear benefits package, preventing fraud, and providing UHC for the poor, the scheme is a significant step toward equity in healthcare.

Objectives of Dr NTR Vaidya Seva scheme[17]

- To provide free quality hospital care and equity of access to BPL families by purchase of quality medical services from identified network of health care providers through a self-funded reimbursement mechanism (serviced by Trust).
- To provide financial security against the catastrophic health expenditures.
- To strengthen the Government Hospitals through demand side financing.
- To provide universal coverage of health for both urban and rural poor of the State of Andhra Pradesh.



Framework of Health Insurance Coverage

1. Target Beneficiaries:

Covers Below Poverty Line (BPL) families identified through White Ration Card linked to Aadhaar. Financial coverage up to Rs. 5 lakh per family annually, with no co-payment.

2. Benefit Coverage: Free outpatient consultations, screenings at health camps. Covers 3,257 listed therapies across 31 categories for specific diseases.

3. Package Includes: End-to-end cashless services through Networked Hospitals(NWH). Covers initial treatment, post-discharge medication, and complications for up to 30 days. Free outpatient evaluation for listed therapies, including pre-existing conditions. Food and transportation costs for patients.

4. Follow-up Services: Provided for up to one year through fixed packages for long-term therapies. Includes consultations, investigations, medications, and other related services.

Important Stakeholders

1. Dr. Nandamuri Taraka Rama Rao Vaidya Seva Trust: Manages the scheme, benefiting 129.44 lakh families across 26 districts. Contracts network hospitals in Andhra Pradesh and Telangana.

2. District-Level Committees: Led by District Collectors, oversee implementation, health camps, and awareness campaigns.

3. Real-Time Online System: Streamlined operations for registration, treatment, follow-up, claim settlement, and payment processing.

Implementation Process

1. Patient Registration: Through Vaidya Mithra counters at PHCs, health camps, or directly at NWHs. Includes biometric identification with a digital image.

2. Treatment Process: Initial evaluation followed by pre-authorization for listed therapies. Emergency cases treated immediately with pre-authorization obtained later.

3. Health Camps: Key for health education, screenings, and referrals to NWHs.

Impact on Health Scenario

1. Improved Healthcare: Significant reduction in high-end diseases like cardiology, neurosurgery, and gynaecology conditions.

2. Quality Improvement: Enhanced hospital documentation, regulatory oversight, and care quality.

3. Health Awareness: Promoted through rural health camps and IEC activities.

4. Public-Private Partnerships (PPP): Successful partnerships in hemodialysis and advanced diagnostics in government hospitals.

5. Economic Impact: High beneficiary satisfaction with transformative effects on the health of economically disadvantaged populations.

6. Further Evaluation: Planned third-party evaluation for scheme alignment with objectives.

CONVERGENCE

The Pradhan Mantri Jan Arogya Yojana (PMJAY) and the Dr. NTR Vaidya Seva differ primarily in their geographical scope and coverage. PMJAY is a national health insurance scheme under the Ayushman Bharat initiative, launched by the Government of India. It aims to provide financial protection for medical expenses to economically vulnerable populations across the country. The scheme covers over 10 crore families (approximately 50 crore individuals) and offers cashless treatment for a broad range of medical services, particularly focusing on secondary and tertiary care.

In contrast, the Dr. NTR Vaidya Seva is a state-specific health insurance program implemented in Andhra Pradesh. This scheme provides comprehensive coverage for high-cost and critical health conditions such as cancer, heart disease, kidney failure, and other severe illnesses. While PMJAY has national coverage, Dr. NTR Vaidya Seva is tailored to meet the needs of the residents of Andhra Pradesh, offering specialized treatment options not covered under PMJAY. Both initiatives aim to reduce the financial burden of healthcare for low-income families, but PMJAY offers broader, nationwide support, while Dr. NTR Vaidya Seva focuses on specific health issues within the state of Andhra Pradesh. The Dr. NTR Vaidya Seva scheme, initially launched in 2007 as an insurance-based initiative, then transitioned to a trust model in 2011[27]. It was later integrated with Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) in 2019 to further expand its outreach and impact. Under this convergence, the Trust Model (also known as the assurance model) is the most common approach for implementation.

In the Trust Model[27], the State Health Agencies (SHAs) directly manage the scheme, handling critical tasks such as hospital empanelment, beneficiary identification, claims management, and audits. SHAs reimburse healthcare providers without involving insurance companies, ensuring a more streamlined and efficient process. To support these activities, SHAs may engage Implementation Support Agencies (ISAs). This model operates through a public-private partnership involving the Aarogyasri Healthcare Trust, private hospitals, and insurers, ensuring that the people of Andhra Pradesh have access to efficient and effective healthcare services.



Comparing the Trust Model in PMJAY and Dr. NTR Vaidya Seva

Benefit	PMJAY (National)	Dr. NTR Vaidya Seva (AP)
Transparency	High, with independent state-level agencies (SHAs) ensuring transparent fund allocation and claims processing	High, with the Trust ensuring transparent disbursement of funds and hospital reimbursements
Financial Efficiency	Trusts help allocate resources to healthcare providers effectively	Trust ensures direct fund disbursement to hospitals, reducing middlemen
Independent Oversight	Trusts ensure autonomy and prevent political interference in healthcare decisions	Trusts provide operational independence from state bureaucracy, allowing faster decisions
Quality Assurance	Trust enforces quality standards for hospitals and treatment protocols	Trust oversees quality control, ensuring hospitals maintain required standards
Sustainability	Long-term sustainability of the scheme, immune to political changes	Ensures continued benefits, even during political transitions or leadership changes
Service Delivery	Trust manages the coordination between hospitals and insurance providers, improving service delivery	Trust manages the expansion of healthcare providers, improving access and service delivery
Adaptability	Trust model allows rapid adjustments to healthcare needs (e.g., adding new treatments)	Localized adaptations to meet the unique healthcare challenges in Andhra Pradesh
Stakeholder Coordination	Streamlined management of stakeholders (state health agencies, insurance companies, hospitals)	Strong collaboration between the state government, healthcare providers, and insurers

Benefits of the Trust Model in PMJAY and Dr. NTR Vaidya Seva

Transparency and Accountability: The trust model ensures financial resources are used appropriately, preventing fraud and ensuring the funds reach the intended beneficiaries.

Efficient Fund Distribution: Both schemes benefit from better financial management, with funds being allocated more effectively to ensure timely healthcare delivery.

Autonomy and Flexibility: The trust can operate independently, making decisions that are based on healthcare needs rather than political considerations. This allows for quicker response times and better local adaptation of healthcare services.

Quality Control and Monitoring: With a trust model, both schemes can monitor the quality of healthcare services being provided and enforce standards, ensuring that beneficiaries receive appropriate and timely medical care.

Long-Term Sustainability: A trust is often a more stable structure, which ensures the continuity of healthcare services even during periods of political change, thus guaranteeing long-term benefits for the population.

Stakeholder Engagement: The trust model fosters collaboration between various stakeholders—such as hospitals, insurance companies, and government agencies—leading to more effective delivery of services and better outcomes.

Targeted Services for Vulnerable Populations: Both PMJAY and Dr. NTR Vaidya Seva are designed to reach vulnerable groups, and the trust model ensures that resources and services are targeted effectively at those in need.

The **trust model** provides both **PMJAY** and **Dr. NTR Vaidya Seva** with a transparent, efficient, and accountable structure that enhances the delivery of healthcare services. By establishing an independent and dedicated trust, these healthcare schemes can better manage resources, ensure quality control, and reach the most vulnerable populations with the care and support they need. This approach ensures long-term sustainability and creates a healthcare system that is both equitable and effective for the people of India and Andhra Pradesh. Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) is implemented in convergence with State scheme Dr. NTR Vaidya Seva[28] in the State of Andhra Pradesh. As on August.2024, 2433 hospitals including 1027 private hospitals are empanelled in the State. The year wise number of hospitals empanelled since 2018 in Andhra Pradesh is enclosed



Year wise total number of hospitals empanelled in Andhra Pradesh

Financial Year	Total no. of private hospitals empanelled	Total no. of public hospitals empanelled	Total number of hospitals empanelled
Upto2018	389	266	655
2018-19	91	1	92
2019-20	158	452	610
2020-21	52	0	52
2021-22	93	220	313
2022-23	99	414	513
2023-24	53	24	77
2024-25	92	29	121

Source: GOI, (Unstarred Question No. 2046, Lok Sabha)

The empanelment of hospitals under Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and Dr. NTR Vaidya Seva in Andhra Pradesh reveals important patterns. By 2018, 655 hospitals were included, with the largest expansion occurring in 2019-20, when 610 hospitals were added, focusing primarily on public hospitals. Although private hospitals have consistently constituted a significant portion of empanelled facilities, the inclusion of public hospitals has seen notable growth in recent years. However, the pace of annual additions has slowed since 2020-21, with only 77 hospitals added in 2023-24. By June 2024, 2,433 hospitals, including 1,027 private ones, had been empanelled, underscoring the need to address this downward trend.

With the convergence of PM-JAY and Dr. NTR Vaidya Seva in Andhra Pradesh, the beneficiaries include:

- 1. Households under SECC 2011 criteria:** Families eligible for PM-JAY based on socio-economic deprivation for rural areas and occupational categories for urban areas.
- 2. Below Poverty Line (BPL) households:** Families covered under Dr. NTR Vaidya Seva, identified through the White Ration Card database.
- 3. Additional beneficiaries beyond SECC:** Inclusion of families covered under Dr. NTR Vaidya Seva not part of the PM-JAY SECC list, expanding coverage.
- 4. Vulnerable and marginalized groups:** Includes destitute families, manual laborers, tribal groups, and low-income urban workers (e.g., domestic work, construction, transport services).

FINDINGS

- 1. Enhanced Accessibility:** The convergence of PM-JAY and Dr. NTR Vaidya Seva increases healthcare access for economically vulnerable populations, ensuring broader coverage.
- 2. Reduction in Financial Burden:** Both schemes reduce out-of-pocket expenditures, preventing impoverishment due to high healthcare costs.
- 3. Streamlined Administration:** Integration under a trust model improves efficiency, transparency, and fund allocation.
- 4. Improved Healthcare Outcomes:** Coordinated services lead to better health outcomes, covering a range of medical conditions, including secondary and tertiary care.
- 5. Flexibility and Adaptability:** The trust model allows quick adaptations to local healthcare needs and emerging challenges.
- 6. Quality Assurance:** Monitoring, standardized protocols, and oversight improve the quality of care in empanelled hospitals.

- 7. Sustainability and Equity:** The trust model ensures long-term sustainability and equitable access to healthcare services.
- 8. Collaboration among Stakeholders:** Public-private partnerships foster effective service delivery and improved access for marginalized groups.
- 9. Empowerment through Cashless Services:** Cashless and paperless healthcare delivery gives beneficiaries financial protection and dignity.
- 10. Health Awareness and Prevention:** Health camps and awareness campaigns promote early disease detection and preventive care.
- 11. Growth Trends:** The empanelment process showed significant growth in 2019-2020, with 610 hospitals added.
- 12. Public vs Private Hospitals:** The ratio of public hospitals empanelled has grown significantly, particularly in recent years.
- 13. Declining Additions in Recent Years:** The number of hospitals added has decreased since 2020-2021, with only 77 hospitals empanelled in 2023-2024.
- 14. Current Status (June 2024):** 2,433 hospitals are empanelled, including 1,027 private hospitals.
- 15. Growth Trends of Arogya Sree and PM-JAY:** Arogya Sree shows sustained growth, while PM-JAY demonstrates stability with potential for expansion, enhancing healthcare accessibility.

CONCLUSION

Through this integration, the convergence provides comprehensive and seamless healthcare access for these groups, covering a significant portion of the state's economically and socially disadvantaged population. It ensures that both schemes' advantages are utilized to reduce financial barriers and improve healthcare outcomes for millions in Andhra Pradesh.

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UNVEILING THE INVISIBLE WALL: A QUALITATIVE EXPLORATION OF SCHOOL SECURITY GUARDS' EXPERIENCE AT DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY

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ABSTRACT

This qualitative study explores the experiences of school security guards at Don Mariano Marcos Memorial State University (DMMMSU), focusing on their challenges in implementing security measures and identifying areas for improvement in existing security protocols. Through semi-structured interviews with security personnel, the research uncovers key issues including insufficient resources and manpower, inadequate infrastructure, compliance challenges, and communication barriers. Additionally, the study highlights areas for improvement such as the enhanced use of technology, continuous training and development, clearer security policies, and improved interdepartmental collaboration. The findings emphasize the critical role of security guards in maintaining campus safety, their professional dedication, and the need for a comprehensive security plan to strengthen campus security. The research concludes with recommendations for upgrading surveillance systems, improving training programs, and involving security staff in policy formulation to ensure a more secure and efficient campus environment.

KEYWORDS: School security guards, Campus safety, DMMMSU, Security measures, Challenges in security implementation, Security policies

INTRODUCTION

Campus security was perceived as a multifaceted problem that required cooperation from security guards and other structures within the institution. Thus, understanding the nature of the relationship between the security unit and the administration was essential to comprehend how these agents perceived their tasks and the support they experienced on campus. This study was invaluable as crime increased in educational institutions due to expanding enrollment and the growth of branch campuses for security guards. It also revealed areas of breakdown in communication with university administration and shed light on the perceptions of security roles held by the university community. To improve campus security optimally, institutions need to establish conditions under which security personnel can be empowered and encouraged, which can only be attained through better communication and participation of security personnel in formulating policies on security. Consequently, security awareness for safety staff, community activities, and cooperation with police became essential to developing a secure campus environment for students and all employees and strengthening trusting relationships with law enforcement officers.

The safety and security of educational institutions had become paramount in society due to incidents of violence that sought refuge in learning environments, leading to disruptions in studies and posing risks to the lives of students, teaching staff, and non-teaching staff. This implied that security was everyone's business

and concern; thus, government, management, employees, and students were all responsible for ensuring that the institution provided a safe environment for learning. The collective responsibility emphasized the need for collaboration among all stakeholders to address security challenges effectively and create a supportive atmosphere conducive to education.

The Philippine government acknowledged this by providing B. P. 232, which stated that schools had to ensure protection from harm to provide a conducive learning environment. This goal could only be accomplished with the assistance of various academic individuals, as threats could emanate from both inside and outside the institution. The passage of a Campus Security Act, or the "Declaration of Policies on Campus Security in the Philippines," could have served as an impetus to provide more focused solutions to these problems.

At DMMMSU, school security guards played an important part, especially in implementing measures that curtailed student bullying. They were the individuals who stood as guards to ensure that campuses were secure, but their plight was rarely highlighted. This study sought to understand the security guards at DMMMSU to learn more about their perceptions of safety and their experiences as contract workers in the university setting.

The current scenario of DMMMSU suggested that more attention needed to be paid to the problems that security guards encountered at their workplaces. Testimonies of the



commendations given to security personnel for trustworthiness, such as when guards kept a laptop that some individuals left behind, served as evidence of security's positive impact on the university. However, the guards also faced several issues, including communication challenges with management and the perceptions held by people in the institution regarding the guards. Since the study adopted a qualitative research perspective aimed at identifying the real-life experiences of security personnel at the university, its goals were to expose the 'ivory wall of separation' between the security guards and other stakeholders in the university system. Such research was necessary to establish their daily struggles and viewpoints regarding safety and security matters and to tailor policy and practice recommendations to support their increased efficiency and inclusion within the campus setting. As a result of this research, the experiences of security guards will be narrated, which will help create a positive culture within DMMMSU.

LITERATURE REVIEW

The role of security guards in maintaining campus safety has received significant attention in research, particularly in terms of their challenges, the effectiveness of security protocols, and the evolving demands of safety in educational environments. Security personnel play a pivotal role in protecting students, faculty, staff, and property, making their work crucial to the overall safety and security of educational institutions.

Security guards face numerous challenges in their daily tasks, which can be compounded by insufficient resources and inadequate infrastructure. According to studies by Lo and Fielding (2017), the lack of proper equipment, such as surveillance cameras or adequate lighting, often hinders security guards' ability to prevent or respond to incidents efficiently. Similarly, Miller (2016) highlights that security staff, particularly in educational settings, are often overburdened with duties and operate with a limited number of personnel. These resource limitations result in security gaps that can jeopardize the safety of the campus community.

Another significant challenge security personnel face is the compliance of individuals with security protocols. Wilson et al. (2018) emphasize that non-compliance with safety measures, such as the refusal to follow security checks or procedures, is a frequent issue that security guards must manage. This non-compliance not only puts the individual at risk but can also compromise the security of the larger campus community. Security guards often find themselves in situations where they must enforce compliance with limited support or authority, leading to potential conflict and stress.

Communication barriers between security personnel and other departments on campus also create challenges in addressing security issues. Graham and Watts (2019) assert that communication breakdowns often occur between security staff and faculty or administration, especially when it comes to responding to emergencies or implementing safety protocols.

This lack of effective communication can delay responses to security incidents and undermine the overall safety of the campus.

The importance of continually improving security protocols in educational institutions is widely recognized in the literature. The integration of technology is one of the most significant advancements that can enhance security measures on campuses. Jones (2020) argues that the use of surveillance systems, access control technologies, and real-time monitoring software can provide security guards with valuable tools for detecting and preventing security breaches. By incorporating these technologies into daily operations, security personnel are better equipped to address potential threats before they escalate.

Training and development are also critical components in improving the effectiveness of school security guards. Research by Harrison and Lee (2018) emphasizes that regular training in crisis management, conflict resolution, and the use of modern security technologies enhances the preparedness of security staff to handle emergencies. Furthermore, continuous professional development helps security guards stay current with emerging threats and best practices in security management.

Another area for improvement is the establishment of clearer security policies and procedures. Buchanan et al. (2019) suggest that well-defined, easily accessible security policies help security staff effectively navigate complex situations. These policies ensure that security guards understand their roles, responsibilities, and authority, particularly in handling security breaches or emergencies. Additionally, regular updates to security policies are essential to address new risks and threats as they arise.

Improved collaboration across departments on campus is another area identified for enhancement. According to Anderson and Liu (2021), fostering collaboration between security personnel and other campus departments—such as student services, academic departments, and administration—ensures that security concerns are addressed holistically. A unified approach to security not only improves response times but also enhances overall awareness and commitment to campus safety.

Security guards play a crucial role in campus safety beyond just responding to emergencies. Taylor (2017) states that security guards are often the first line of defense in preventing crime and maintaining order on campus. Their visibility and presence act as deterrents to potential offenders. Moreover, their training allows them to de-escalate potentially volatile situations and manage crowds in a way that minimizes risk.

Furthermore, the professional dedication of security guards is vital in ensuring the safety of the campus community. As pointed out by Greenwood and Walker (2020), job satisfaction and organizational pride significantly impact the performance of security personnel. When security guards feel valued and supported by their institution, they are more likely to adhere to



safety protocols, engage in continuous self-improvement, and take proactive measures in safeguarding the campus environment.

The implementation of a comprehensive security plan is crucial for addressing the evolving needs of campus security. Robinson and Williams (2018) propose that universities develop an integrated security framework that combines physical security, technology, and human resources. A comprehensive security plan should include access control systems, surveillance infrastructure, emergency preparedness measures, and effective incident reporting procedures. By integrating these components, educational institutions can create safer environments for students, staff, and visitors.

A review of institutional security measures, as argued by Thompson and Lee (2020), should be conducted periodically to adapt to new threats, changes in campus demographics, or technological advancements. Regular evaluations of security plans ensure that security protocols remain relevant and effective in addressing emerging risks, such as cyber threats or unforeseen campus emergencies.

Theoretical and Conceptual Framework

To fully comprehend the issues surrounding campus security, basic paradigms suggested that it was essential to understand at least the following: the context of concerns from the scholarly viewpoints and priorities of security officials and practitioners, as well as ongoing academic enforcement activities and related issues. Security guards were critical in this ecosystem; however, their end-users or customers rarely sought to understand how they felt or what was going through their minds during their service delivery in enhancing campus security. By employing theories such as Symbolic Interactionism and Constructivist Theory, researchers could better understand how security guards made sense of their roles and the contexts in which they operated. These frameworks facilitated a discussion of security personnel's roles in their encounters with students, faculty, and other administrators, thereby shedding light on the difficulties they faced and their contributions to enhancing safety on campuses.

Symbolic Interactionism is a sociological perspective that focuses on the role of meaning in individuals' social relationships. This theory was appropriate for analyzing the qualitative data collected regarding the lived experiences of school security guards because it explored how these guards made sense of their jobs and the tasks they performed at the university level. Based on this framework, researchers observed the interactions between security guards and other university community members, discovering how social processes affected these individuals. Thus, this framework proved useful in qualitative research to uncover the meanings people assigned to their experiences and social worlds as they lived them (Blumer, 1969; Ballantine & Spade, 2015). Based on constructivist theory, knowledge and understanding are not passively absorbed by the learner but rather constructed through their interaction with their environment (Shannon-Baker, 2023). This theoretical framework emphasized

the participants' viewpoints concerning the world they inhabited. It was thus very applicable in qualitative research on the experiences of the security guards at Don Mariano Marcos Memorial State University (DMMMSU). The choice of constructivism enabled an examination of artifacts like safety, roles, and context created by security guards. It focused on analyzing the construction of the tasks and challenges perceived by the guards, which enhanced the understanding of their perceptions of the security environment at the institutional level.

The use of constructivism as a paradigm served well to identify the qualities of qualitative research from the perspective that knowledge is constructed through experiences, social interactions, and cognitions. This approach considered how security guards made sense of their roles within the university context and social world and how such experiences constituted their identities as security personnel. Consequently, within this constructivist framework, it became possible to provide methodologically sound solutions for navigating the complex context of security guards' workplaces and practical development of security work based on their practices (Bogna, Raineri, & Dell, 2020).

Significance of the Study

This qualitative study was paramount in capturing the experiences and difficulties of the school security guards of DMMMSU. Security guards who were always posted at the vulnerable points of the school ensured that students, faculty, and staff were kept safe. However, their experiences and perspectives were often overlooked or underrepresented in research. The study aimed to provide insights into the experiences of security guards as they operated in the facilities they secured by interviewing the security guards themselves about the walls and barriers they encountered. The results of this study revealed more about the difficulties faced by security guards, including handling violently aggressive students, controlling entrance for visitors, and reacting to emergencies. These findings could be applied to refine training and assistance for security guards to help them better safeguard the campus. Additionally, the study advanced awareness of security guards as stakeholders within the university and built constructive relationships between security personnel, students, and other university stakeholders. The implications of this study were not limited to DMMMSU; it contributed to the overall understanding of security guards in educational institutions.

The results could be used to compare different universities or regions and explore further measures within the security system. By revealing the existence of an invisible wall that hindered security guards from being integral members of the university community, this research encouraged people to provide the appropriate support and recognition that security personnel richly deserved for their excellent work.

Objectives of the Study

This study aimed to assess the implementation of the security measures undertaken by school security guards at Don Mariano



Marcos Memorial State University to provide a comprehensive understanding of their role in maintaining campus safety specifically:

1. To investigate the challenges faced by security guards in implementing security measures at DMMMSU; and
2. To identify areas for improvement in existing security protocols at DMMMSU.

METHODOLOGY

Research Design

A qualitative descriptive design was used. This research design is predisposed to collecting the stories and voices of the participants, which is particularly valuable when analyzing the roles and responsibilities of the security personnel. Conducting interviews and observations, the study obtains descriptive qualitative data, enabling the researchers to understand the real-life interactions between the security guards and students, faculty, and administration. This approach helps one assess how security guards understand their functions and workplace social interactions. However, it traces the necessity of its context involved and flexibility needed in data collection while researching to understand people's experience. In this manner, the researchers can pinpoint the significant themes concerning the communication difficulties, perceptions of authority, and total influence of the security roles on the cultural atmosphere of the university campuses; thus, the guidelines and advisories for policy changes that can contribute to the improvement of the support and recognition of the security personnel within a university community.

Population and Locale of the Study

The population of this study includes all the school security guards at Don Mariano Marcos Memorial State University (DMMMSU) in San Fernando, La Union, at the time of the study. It means that the participants for the research will be selected based on purposive sampling technique to involve only those persons with viable experiences. This case affords the researcher a chance to work with only those respondents who meet certain qualifications, and this is helpful in improving the quality and reliability of the gathered data. The criteria for choosing participants involved in the study are that the participants are currently serving as security guards at the DMMMSU, are employed for less than three years as security guards, are stationed to monitor the entry and exit point of the university, and are willing and willing to be voluntarily interviewed on camera. On the other hand, security guards on leave or not working during the time of the study, those with less than three years of work experience, or not posted at the entry and exit points will be excluded from the study.

Data Gathering Tool

A semi-structured interview schedule was designed for this study as this approach provided a clear framework of questions in which target areas could be presented while at the same time providing a flexible framework that enabled the interviewee to elaborate freely. This approach helped to gather deep

qualitative data and remained flexible enough to capture any new ideas or approaches that group participants might have provided. Informed consent was obtained from the participants and an interview guide, which encompassed the background information, informed consent, and broad questions to be asked in the interviews, was developed.

Data Gathering Procedure

A formal request was written and addressed to the President's Office for permission to interview the selected security guards of the Don Mariano Marcos Memorial State University (DMMMSU) in San Fernando, La Union. After the participant selection process, the selected participants were contacted, and interviews were conducted at the participants' convenient time and place. Informed consent was sought from each participant before conducting an interview with them so that they could understand the purpose of the study as well as their rights in these studies. The interviews were also voice-recorded to ensure the accurate capture of the information that the participants were willing to offer. A note-making system was also used in order to record things that were not said but expressed in other ways by the participants, as well as other observations that might have been beneficial in the process. The interviews were conducted until data saturation was reached, when no new major themes were identified during the interview. This approach ensured that the researcher gathered all the information in his/her possession before drawing a conclusion about the security guards' experience.

Treatment of the Data

This research used thematic analysis to analyze the interview data received from participants in the study. This method entailed purposive coding and interpretation of patterns that emerged within the narrative accounts of the guards. First, each of the recorded interviews was transcribed literally so that the participants' opinions were preserved. The data in the form of transcripts were then read separately and together by the researcher to come up with the initial list of codes that were derived from the data. After that simple coding process, the researcher created a coding scheme to successfully classify the emerging themes. With such a structure, the researcher was able to map the complexity of interactions between and across the themes, which helped in gaining a better understanding of the participants' experiences and views.

Ethical Considerations

This research complied with standard ethical practices in every stage of the research process. All participants were given proper and sufficient information concerning the purpose of the study, the procedure to be followed, and the possible harms and benefits of involvement in the study. It also made the participants aware of the various aspects to engage in the study, hence enabling them to make informed decisions when participating in the study. The participants' identities were concealed by ensuring that all the participant identifiers were removed and kept secure during and after the study, as well as in the final report.



All the individuals in the study agreed to participate in it voluntarily, and the study participants were always told that they had freedoms, including withdrawing from the study at any time without any repercussions. The researcher ensured that all participants were respected and their confidentiality was upheld to help them provide information freely. In instances where the participants had questions or concerns, the researcher responded to these concerns. At the end of the study, the respective security guards and the university administration were informed of the results through published work and offered a copy of the final report to the school. This dissemination enabled the study's findings to be applied to enhancing security measures within Don Mariano Marcos Memorial State University.

RESULTS AND DISCUSSION

Challenges Faced by Security Guards in Implementing Security Measures at DMMMSU

Security guards' experiences of implementing measures at Don Mariano Marcos Memorial State University described the complexity of their responsibilities and the difficulties they meet on campuses to secure them. Consequently, this qualitative study sought to explore the various challenges embarked on in this research to understand various challenges personal security faces: limited training, long working hours, and an essential requirement to handle some awkward characters. Furthermore, it examined how these issues affect efficiency and organizational satisfaction. As the discussion pursued the analysis of these problems, the authors were interested in presenting the case of security guards and how these concerns influence their work and outcomes achievable in campus protection.

Insufficient Resources and Manpower

One of the major concerns that emerged after the COVID-19 virus outbreak was the scarcity of experienced security personnel. This staffing gap broadly impacted campus safety; for example, a survey of 400 security companies found that 34% of all responding organizations reported staffing constraints below pre-pandemic levels. As a result, most security firms had no option but to employ less qualified individuals, leading to poor security standards and heightened safety risks for community members. The lack of security personnel reduced the efficiency of guards in deterring criminal activity, as explained by one key informant (KI1): "This challenge affected the operations and effectiveness of security guards; there was a need to deploy 3-4 security guards to monitor the movement of vehicles within the campus." Another informant (KI3) also mentioned, "We could not perform any task in parallel as the number of guards on duty was outnumbered," indicating that poor staffing restricted operational progress. Designers and architects aimed to create a campus environment that was friendly and accessible by incorporating open courtyards and spaces for individuals with disabilities; however, this design inadvertently increased the likelihood of troubling activities such as drug misuse, unlawful acts, and violence. KI5 stated that with so few guards, it became increasingly difficult to ensure the safety

of many individuals, resulting in inadequate responses to events due to insufficient personnel without adequate training.

The lack of security staff made it difficult to effectively prevent criminal activities on campus premises, as mentioned in the KI report. They stated the need for 3 to 4 guards to manage vehicle movements within the area. In addition, KI3 highlighted the challenge of needing help to multitask due to the limited number of guards on duty. Furthermore, according to KI2, "it was suggested that there should be designated parking areas and separate exit points for students from staff and personnel." Although colleges and universities strived to create spaces that enhanced accessibility, this openness also exposed vulnerabilities to misconduct. An assessment of safety risks related to violent crimes highlighted that students had concerns about dangers linked to academic settings, such as drugs, guns, and excessive drinking. It was crucial to have adequate security staff in place to ensure safety and build trust with students and staff members.

KI5 underscored the critical need for proficient security personnel who were well-equipped to handle potential emergencies with efficiency and skill. It emphasized that inadequate security staffing posed risks for everyone involved, from staff to students. The shortage of security personnel hampered responses to incidents and increased the likelihood of these incidents escalating into perilous situations if not handled promptly and effectively. This highlighted the essential requirement for a sufficient number of well-trained security personnel to ensure the safety and security of the campus community

However, dealing with the lack of staff posed difficulties. Universities faced a challenging financial situation due to high operational expenses, shrinking state support, and the ongoing impact of the COVID-19 crisis. Therefore, there was little room for significant investment in security upgrades. As noted by KI3, "That was why I consistently stressed the need for security staff... It ensured safety." Effectively managing budget limitations was crucial for addressing the security issues that campuses and their neighboring communities encountered.

To address the issue of needing more security staff members in universities, they needed to consider different approaches to improve the situation, such as providing training sessions to enhance the skills of current employees and bringing in additional security staff from external sources if necessary. By establishing schedules for managing staff and investing adequate resources into security improvements, universities could create a safer atmosphere, promoting learning and personal growth.

Inadequate Infrastructure

KI1 highlighted how the security of the MLUC facility was compromised due to the perimeter fences collapsing and lacking security measures such as a top guard or concertina wire. This emphasized the importance of maintaining security protocols and adhering to military standards through regular inspections to prevent external threats or malicious activities. The absence of



protective elements, like a top guard of barbed wire facing outwards to increase the fence's height and defensive strength, reduced the wall's effectiveness and made unauthorized entry possible. This oversight added to the vulnerability of the MLUC structure, underscoring the importance of routine evaluations to pinpoint vulnerabilities before they pose security risks.

KI2 suggested that building fences was a reliable way to keep intruders out and enhance security in places like businesses and government buildings. High-security fences used sturdy materials such as steel and wrought iron to create strong barriers against common methods of trespassing. These fences typically featured components that made climbing difficult, such as tops and small gaps between the vertical posts to prevent individuals from gaining a grip and climbing over easily. Furthermore, tall fences acted as barriers, with their strong appearance communicating to trespassers that the area was secure and dissuading them from attempting unauthorized entry. When combined with surveillance systems and access control methods, high-security fencing established a layered security approach (Kontek Industries, 2024). This approach involved using multiple security measures to protect against potential threats, thereby improving overall safety by enabling quick reactions to breaches. Moreover, the longevity of high-security fences reduced maintenance expenses over time while decreasing the chances of theft or vandalism incidents, making them a prudent choice for safeguarding valuable assets (RKC Contractors, 2023).

At that time, MLUC had a problem: during rush hour, it had only one gate for both entrance and exit. This situation allowed offenders easy access, compromising security standards that should have dictated reducing flammable points in the perimeter fence. According to KI1, military security standards recommended that gates be designed to enable access while denying entry to large metallic vehicles without hindering the movement of large loads (NASA Guidelines, 2020). The use of these gates was instructive; they needed to be positioned correctly and installed with automatic traffic controls to ensure that traffic flow was enhanced while remaining under positive control to avoid intrusions (Wilber, 2021). Furthermore, creating additional physical barriers that could be closed during low-traffic periods would augment security since fewer areas would be open during high-traffic times (NASA Guidelines, 2020). If these traffic management problems were effectively addressed, security at MLUC could be enhanced, provided it maintained high operational traffic levels.

Compliance Issues with Regulations

Conflict management was one of the biggest issues that security officers had to grapple with. Security guards likely faced individuals who refused to cooperate and could be hostile or aggressive, which often led to confrontations. These confrontations required patience, strategy, and a sound mind to navigate effectively.

Adhering to the rules and regulations set by institutions posed difficulties when managing students who displayed stubbornness and a tendency to boast or have a quick temper, as mentioned in KI3's findings. These findings highlighted the challenges security officers faced when dealing with such behaviors, making it more difficult to follow the established guidelines to ensure safety and order within the campus premises. Regulatory compliance entailed an organization's responsibility to follow laws, regulations, and standards that applied to its activities (TechTarget, n.d.).

Security officers needed to stay composed and courteous when dealing with confrontations; however, the job became more demanding due to the extended hours and intense stress involved. To manage this pressure effectively and maintain well-being on the job, security personnel needed access to health resources and support services such as counseling, stress management workshops, and regular health check-ups. This support was a luxury and a necessity for those who ensured safety (Off Duty Officers, 2023).

Security personnel need to be trained to identify signs of physical aggression from individuals or groups. This training was essential for managing instances such as shouting and invading personal space, which could escalate tensions if not handled correctly (XPressGuards 2023). The challenges faced by security guards often involved dealing with students, arrogant staff members, and disrespectful individuals, all of which required a patient, skilled, and composed approach. KI1's observation noted, "Some parents, with an attitude, tended to demean security personnel." To effectively manage these situations, employers should have provided resources such as training programs, reporting systems, and access to psychological support, ensuring the safety and security of everyone involved.

Meeting security regulations was often tough due to the varying ways administrations applied rules. According to KI4, "differences in rule implementation across various administrations" made it hard to keep up with the latest requirements set by the current administration. This lack of consistency confused security staff and made it difficult for them to enforce rules efficiently. Organizations face an environment with laws such as GDPR, HIPAA, and PCI DSS standards. These regulations demanded security practices and consistent evaluations to meet compliance requirements (Hyperproof 2024). Unclear guidelines on compliance could lead to misunderstandings of the rules and result in legal issues and harm to an organization's reputation (Secureframe, 2024).

To tackle these compliance issues effectively and efficiently in organizations, it was important to establish guidelines outlining the regulatory needs while conducting thorough staff training programs. Internal audits should have been conducted to evaluate the efficacy of compliance measures and pinpoint areas that needed enhancement (AuditBoard, 2024). Moreover, organizations had to stay updated with regulation modifications



and adjust their compliance approaches accordingly (Secureframe, 2024). By promoting a sense of responsibility among employees and supporting compliance management, companies could successfully navigate the intricacies of regulatory mandates and bolster their overall security stance. In the long run, ensuring compliance proactively was a way to lessen risks and reinforce the organization's dedication to safeguarding information and upholding trust with those involved.

Communication Barriers

Dealing with communication challenges significantly affected how well security guards performed and how people viewed security in a company or organization. According to KII data, employees pointed out that the "behavior of security guards" was a critical concern that could disrupt smooth interactions and lead to a hostile environment. A significant obstacle was the focus on training security staff in communication skills. They were typically trained in handling altercations and responding to emergencies rather than in customer service or effectively managing conflicts. The lack of communication resulted in confusion and a feeling of impoliteness during interactions between security personnel and staff or the general public (XPressGuards, 2023).

Moreover, how security organizations were structured created obstacles to communication among their members, as highlighted in KI2, which stated, "We communicated in a hierarchical structure... We communicated respectfully and courteously." This hierarchy caused a gap between security staff and those they were tasked to protect, as information often had to pass through multiple levels before reaching the intended recipients. This process resulted in delays or alterations that could lead to employee confusion and dissatisfaction with the perceived lack of attention paid to their concerns (Diamond et al., 2015). In addition, communicating in noisy environments complicated matters for guards, as the loud surroundings hindered their ability to hear or convey messages effectively, resulting in potential misunderstandings (London Security College Report, 2023).

Understanding and respecting cultures was vital for effective communication in diverse settings like security work environments, where guards interacted with people of various backgrounds and communication styles daily (Asset College, 2023). It was essential to be mindful of differences to prevent misunderstandings that could lead to conflicts or feelings of disrespect among individuals from different backgrounds. Training programs that focused on enhancing awareness played a significant role in helping security personnel bridge these gaps and navigate social interactions more smoothly. In addition to that point, when it came to communication, obstacles like stress or annoyance could impede interactions. Security personnel enduring extended shifts in challenging conditions often found it difficult to stay calm and collected in their dealings (Secureframe, 2024).

To overcome these obstacles in communication, the university needed to introduce training initiatives that concentrated on resolving conflicts, engaging in active listening, and enhancing nonverbal communication skills. Additionally, creating feedback channels would have allowed employees to express any issues they encountered during interactions with security staff. By promoting a communication culture and offering the essential tools for skill enhancement, organizations could have boosted the effectiveness of their security personnel and strengthened relationships with the community they served.

Areas for Improvement in Existing Security Protocols at DMMMSU

Within this context, the current security arrangement was assessed and important areas in which improvements were deemed necessary to be highlighted. The findings of this analysis was also informed by literature and best practice that were gleaned from key informants in the existing comparable institutions. In addition to this, the areas that highlighted could help in improving the existing security structure at DMMMSU since it pointed out the areas of the training program, communication strategies, and measures to ensure compliance with the set regulations and standards. Finally, the shift towards a preventative security mindset would benefit the campus population and also strengthen the relationships between all members of a campus community.

Enhanced Use of Technology

The increasing utilization of technology in security operations changed the responsibilities of security personnel by providing them access to tools that enhanced their performance and productivity levels. As mentioned in the KII report, findings suggested that incorporating systems created by the Management Information Systems (MIS) department could save time and costs for security staff. This demonstrated a pattern where technology became more intertwined with security protocols, leading to smoother operations and improved resource allocation management. For example, sophisticated surveillance systems, like modernized CCTV cameras, enabled monitoring and data gathering essential for detecting threats proactively (AGPS Security Report 2024). These advancements improved situational awareness and allowed guards to concentrate on essential duties instead of repetitive monitoring tasks.

The use of CCTV cameras throughout the DMMMSU campus was not just an initiative but a significant step toward managing the occurrence and implementation of activities in real-time to eliminate any destructive and unlawful activities. CCTV systems effectively increased campus security by surveilling areas with high traffic and those needing close monitoring (2krew, 2023). The visibility of these cameras discouraged potential perpetrators of theft, vandalism, and violence and instilled a sense of security in the campus community. Available research evidence pointed to the fact that establishments with strong video surveillance mechanisms recorded low incidences of crime, and people felt safer within such learning institutions (How Video Surveillance



Systems Can Enhance the Campus Security of Educational Institutes, 2023).

Furthermore, implementing surveillance systems, as discussed by KI2, illustrated how technology could enhance conventional security methods. By incorporating features such as facial recognition software and motion detection sensors, security personnel were better equipped to swiftly and accurately detect risks (Officer Reports, 2023). These advancements enabled quicker reaction times and enhanced safety by promptly notifying guards of suspicious behavior. Additionally, security teams could effectively and quickly share information using communication tools like two-way radios and mobile apps, significantly enhancing their capabilities (XPressGuards, 2023).

Despite the noteworthy advantages of incorporating technology into operations and services, it was crucial to acknowledge the accompanying difficulties arising from such integration efforts. Security staff needed training to effectively utilize these sophisticated systems, including interpreting data from surveillance feeds and adequately responding to alerts triggered by automated systems (Asset College, 2023). Ongoing training initiatives were imperative to ensure security personnel could adjust to changing technologies and uphold operational preparedness.

Training and Development for Security Personnel

It was crucial to provide training for security staff at Don Mariano Marcos Memorial State University (DMMMSU) to ensure safety and security on campus effectively. As mentioned in KI3, "It was important to provide training in first aid as well as crowd and crisis control to equip security personnel with the necessary skills for handling different scenarios—from medical emergencies to possible threats." Engaging in training helped improve their workplace skills and gave them a sense of assurance when handling various situations proficiently (Mason & Leachs, 2020).

In addition to being trained in crisis management, as mentioned in Key Insight 4, which stated that "Knowing CCTV operation... would enhance our job performance," it was equally crucial to undergo technical training. Understanding surveillance technologies empowered security officers to oversee situations more efficiently and react swiftly to incidents. Combining hands-on skills like First Aid and crisis handling with technical expertise in equipment such as CCTV systems formed a versatile security team capable of dealing with various challenges (Crisis Prevention Institute, 2024).

Furthermore, continuing education initiatives should have incorporated simulated activities and scenario-driven drills for security staff to enhance their competencies in various environments. This method supported knowledge retention and identified areas needing enhancement (Asset College I, 2023). Conducting training workshops for students and faculty on safety measures and incident reporting empowered the university community to contribute to a more secure campus. A culture of vigilance and collective accountability was nurtured by offering

sessions that educated individuals on threat recognition and appropriate responses (The Personal Safety Group, n.d.).

To ensure that these training programs were as effective as possible at DMMMSU, assessments needed to be carried out on the training methods, and feedback was to be collected from the security personnel and members of the university community involved in them. Continuous evaluation helped maintain the relevance and effectiveness of the training in addressing security challenges that arose. By emphasizing the importance of providing thorough training for security staff and raising awareness among the university community members at DMMMSU, significant improvements could be made to enhance overall security measures and create a safe environment that promotes learning and personal growth.

Clearer Policies and Procedures

To bolster security measures at DMMMSU, it was crucial to enhance the Standard Operating Procedures (SOPs), mainly focusing on the procedures for entering and leaving the premises, as mentioned by KI1: "The SOP on Ingress and Egress needed to be improved and coordinated with the MIS Office." This enhancement involved a key partnership with the Management Information Systems (MIS) department. Their role in ensuring that all security protocols were smoothly integrated and coordinated effectively could not be overstated. A defined SOP helped manage the traffic of individuals entering and leaving the campus and laid a strong groundwork for implementing more sophisticated security measures.

In addition to these enhancements mentioned earlier, the KI2 statement: "For the protection of students and staff, there could be several forms, such as a modernized surveillance system, access control measures, and recurring security drills," focused on updating security measures to keep up with modern standards. Installing a surveillance system and enforcing access control protocols alongside regular security exercises significantly improved the safety of students and staff members. Investing in CCTV technology with high-definition cameras linked to real-time monitoring systems enabled security personnel to respond promptly to potential threats (United Educators, n.d.). Moreover, the access control mechanisms better-managed entry points by restricting access to authorized personnel only in specific areas of the campus.

It was essential to maintain and monitor surveillance systems to ensure they worked effectively as intended by conducting routine checks of camera functionality, performing software updates, and reviewing recorded footage periodically for performance evaluation (University of Calgary, n.d.). Equally important was setting operating protocols that balanced privacy rights with security advantages. Cameras must be strategically positioned in public locations like entrances, hallways, and parking lots while respecting the privacy of restrooms or offices.



By combining standard operating procedures with state-of-the-art surveillance technology and thorough training initiatives, DMMMSU created a safe atmosphere that prioritized the well-being of everyone on campus. This forward-thinking strategy ensured the safety of students and faculty members while cultivating an environment for learning by emphasizing the importance of safety and awareness across the university grounds.

Improved Collaboration Across Departments

Enhancing security operations called for teamwork among departments to benefit security guards' effectiveness firsthand. In agreement with KI3's observation that "Security and other departments collaborated effectively in implementing safety measures," this joint effort promoted a strategy for safety and security across the organization. This cooperative approach improved communication and guaranteed all departments were in sync with their mission to safeguard the community and its resources.

Establishing a culture of teamwork was essential for safeguarding all assets and enhancing security measures, as highlighted in KI5: "Fostering a sense of collaboration to secure all properties and ensure safety." Encouraging collaboration entailed sharing information and resources across departments to bolster overall security readiness. For example, holding meetings between security staff and other teams facilitated knowledge exchange regarding potential risks and ongoing projects. Recent studies emphasized the value of maintaining lines of communication to improve situational awareness (Scout Security, n.d.; Community Security, 2024).

Additionally, incorporating technology into team projects enhanced security measures. Current surveillance systems and access control methods enable monitoring and quick reactions to events (Community Oriented Policing Services Office, 2022). By engaging divisions in choosing and deploying these technologies, companies ensured that the systems met the distinct requirements of all parties involved. Collaborative training drills involving security personnel and other department staff also boosted crisis coordination by allowing them to practice response tactics together (Asset College, 2023).

CONCLUSION

In conclusion, the job of security guards includes many activities, where working flexibility can be a key attribute, and it helps security guards address various emergencies and perform respective tasks during strictly prescribed time frames. How they can manage crowds and incidents that may cause accidents to prove them flexible in safeguarding individuals and properties. However, job satisfaction and organizational pride are major interest areas for security personnel. When guards realize that they are backed by the organization they work for, they are usually more productive in achieving personal responsibilities of maximum security in the community. This sense of pride makes them work harder and adhere to security measures without compromising.

However, the experiences of security guards also encompass hardships that should not be overlooked. It can be frustrating to deal with individuals who do not adhere to safety measures, which can jeopardize overall security. Nevertheless, security personnel demonstrate tenacity and professionalism, focusing on finding the best ways to ensure compliance and minimize risks. Their commitment to providing a safe environment for learners is evident in their operational principles. The positive outcomes of effectively addressing emergencies foster confidence in the necessity of security guards within society, as evidenced by their management of people during calamities, such as facilitating evacuations during disasters. Thus, performing well during high-risk incidents saves lives and underscores the value of security personnel as unique assets to any organization. Implementing a comprehensive institutional security plan at DMMMSU will significantly enhance the safety of the university community. By integrating access control, surveillance, emergency preparedness, training programs, incident reporting, and community engagement, DMMMSU can create a safer learning environment that ultimately improves student performance. This plan should be revised periodically to anticipate new risks and threats while striving to maintain a secure environment across all campuses.

RECOMMENDATION

In light of the findings regarding the roles and characteristics of security personnel at DMMMSU, it is suggested to evaluate the current technology in DMMMSU and determine other components of the security structure where enhanced surveillance systems, access control, and reporting systems can be implemented for boosting up the current security system of the university. This should major in funding high-definition CCTV cameras coupled with real-time monitoring systems and software enabling analytical tools for risk threats. Involving security personnel in the choice and application of these technologies would ensure that the systems fit their active needs and improve the utility of these systems. DMMMSU can use new technology to make physical security at the institution more sensitive to the needs of the community in the institution in question.

Setting up a continuing security personnel training program to introduce new security technologies and leadership skills in handling crises and interpersonal communications is important. Security staff should be able to attend frequent workshops to explain current security threats and procedures. By so doing, they will be able to practice the response strategies being adopted in a special and more contained environment, improving their real-life preparedness. Also, the inclusion of cybersecurity measures in onboarding new employees will enhance the establishment of awareness and responses to threats where needed among all the employees.

Organizations must have easy-to-understand and achievable security policies to help direct the behaviors of any person within the organization. These policies should define how security and compliance issues are to be addressed and how they are to be enforced and ensure that they are to be updated periodically to



coincide with the new emerging threats. If the staff members are involved in formulating policies, the implemented policies will be well understood and, hence, complied with. Moreover, organizing direct contacts in the form of meetings between departments with a major focus on security can also help share information on security between the different departments, leading to better security awareness of the situational environment. The culture formulated for this collaborative approach should incorporate a practical cadet program that enables the security body to run exercise drills with other organizational departments and allows the participants to 'simulate' a drill. Therefore, if DMMMSU follows these recommendations, the university's security situation will improve. The students and the staff will be protected, and all the people on the campus will learn how to engage in security practices actively.

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USE OF WEARABLE TECHNOLOGY FOR MONITORING CHRONIC CONDITIONS IN CHILDREN

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ABSTRACT

Chronic conditions in pediatric populations present significant challenges for families, healthcare providers, and policymakers. The emergence of wearable technology as a tool for continuous monitoring and management of these conditions has revolutionized pediatric healthcare. Wearable devices provide real-time data, facilitate early detection of potential complications, and empower families to engage in proactive disease management. This comprehensive review examines the applications of wearable technology in managing chronic pediatric conditions such as asthma, diabetes, epilepsy, and cardiovascular disorders. It also explores the benefits, challenges, and future potential of wearable devices in pediatric healthcare. The article emphasizes the need for innovations that address challenges in accessibility, usability, and data security to fully integrate wearable technology into pediatric care.

KEYWORDS: Wearable technology, pediatric healthcare, chronic conditions, digital health, remote monitoring, pediatric nursing

INTRODUCTION

Chronic conditions such as asthma, diabetes, epilepsy, and congenital heart diseases affect millions of children worldwide. These conditions often require meticulous, continuous monitoring to prevent complications and ensure optimal health outcomes. Traditional monitoring methods, though effective, can be invasive, resource-intensive, and limited in providing real-time data. Wearable technology addresses these limitations by offering non-invasive, real-time monitoring solutions that empower patients, caregivers, and healthcare providers.

This review explores the transformative potential of wearable technology in pediatric healthcare. It delves into specific applications for managing chronic conditions, examines the benefits and challenges associated with their use, and provides insights into future advancements that could further enhance the integration of wearables into pediatric healthcare systems.

Overview of Wearable Technology

Wearable technology encompasses a wide range of portable devices designed to track and monitor health parameters. These devices collect physiological data, analyze it, and often relay the information to users or healthcare providers via smartphones, tablets, or cloud-based platforms.

Categories of Wearable Devices

- 1. Activity Trackers:** Devices like Fitbit and Garmin monitor physical activity, sleep, and general health metrics.
- 2. Smartwatches:** Advanced smartwatches like Apple Watch and Samsung Galaxy Watch provide ECG readings, oxygen saturation levels, and heart rate variability.
- 3. Condition-Specific Devices:** Examples include continuous glucose monitors (CGMs) for diabetes and seizure detection wearables for epilepsy.

- 4. Medical-Grade Wearables:** These FDA-approved devices are specifically designed for monitoring critical health parameters and integrating with electronic health records (EHRs).

Applications in Pediatric Chronic Conditions

1. Asthma Management

Asthma, one of the most common chronic conditions in children, requires continuous management to prevent exacerbations. Wearable respiratory monitors track parameters such as respiratory rate, lung function, and environmental triggers. Smart inhalers remind patients to use medication, log usage, and analyze patterns to improve adherence.

2. Diabetes Monitoring

Continuous glucose monitors (CGMs) have transformed diabetes management. Devices like Dexcom and FreeStyle Libre provide real-time glucose readings, reducing the need for finger-prick tests. CGMs integrated with insulin pumps create an artificial pancreas system, offering automated insulin delivery based on glucose levels.

3. Epilepsy Monitoring

Wearables designed for epilepsy, such as Embrace by Empatica, detect seizures through physiological signals like heart rate and movement. These devices alert caregivers and provide detailed logs for clinicians, enhancing treatment planning and reducing seizure-related anxiety.

4. Cardiovascular Health

Congenital heart diseases and arrhythmias require continuous monitoring. Devices like smartwatches with ECG capabilities track heart rate and rhythm irregularities. Pediatric-specific wearables are being developed to monitor additional parameters like oxygen saturation and blood pressure.



5. Obesity and Lifestyle Management

Childhood obesity, a growing public health issue, benefits from lifestyle-oriented wearables. Devices that track physical activity, calorie expenditure, and sleep patterns encourage healthy behaviors and provide actionable data for caregivers and healthcare providers.

Benefits of Wearable Technology in Pediatric Healthcare

1. Continuous Monitoring and Early Detection

Wearables provide uninterrupted data on vital signs and health parameters, enabling early identification of complications such as hypoglycemia in diabetes or respiratory distress in asthma.

2. Enhanced Patient Engagement

Interactive features in wearables motivate children to participate in their health management. Gamification elements, such as rewards for completing steps, enhance adherence to healthy behaviors.

3. Personalized Care

Data collected from wearables allows healthcare providers to tailor treatment plans to individual needs, improving clinical outcomes and quality of life.

4. Remote Monitoring and Telehealth Integration

Wearable devices enable remote patient monitoring, reducing the need for frequent hospital visits. They facilitate telehealth consultations by providing clinicians with real-time data.

5. Improved Caregiver Confidence

Wearables empower caregivers by providing actionable insights and alerts, reducing anxiety about managing their child's condition.

Challenges and Limitations

1. Data Accuracy and Reliability

While wearable technology has advanced, variations in data accuracy remain a concern. False positives or negatives can lead to unnecessary interventions or missed complications.

2. Privacy and Data Security

The collection and transmission of sensitive health data pose significant risks. Ensuring compliance with regulations such as HIPAA is crucial for protecting patient privacy.

3. Cost and Accessibility

High costs of advanced wearables may restrict access for low-income families, exacerbating health inequities. Initiatives to subsidize or provide wearables to underserved populations are necessary.

4. Adherence and Usability Issues

Children may find some devices uncomfortable or intrusive, leading to inconsistent use. Devices should be designed with pediatric comfort and usability in mind.

5. Interoperability with Healthcare Systems

Integrating wearable data with existing electronic health records (EHRs) remains a challenge, limiting the seamless use of this information in clinical workflows.

Case Studies: Success Stories of Wearable Technology

Case Study 1: CGMs for Type 1 Diabetes

A longitudinal study of children with type 1 diabetes using CGMs showed improved glycemic control and reduced incidence of severe hypoglycemia. Families reported greater confidence in managing the condition.

Case Study 2: Smart Inhalers for Asthma

A community-based initiative introduced smart inhalers to children with uncontrolled asthma. The program resulted in improved medication adherence, fewer emergency visits, and enhanced quality of life.

Case Study 3: Seizure Detection Devices

An epilepsy monitoring program implemented seizure-detecting wearables in a school setting. The devices enabled timely intervention during seizures, reducing complications and improving caregiver satisfaction.

Future Directions

1. Integration with Artificial Intelligence (AI)

AI-driven analytics can enhance the predictive capabilities of wearable devices, enabling personalized care plans and earlier intervention.

2. Miniaturization and Pediatric-Specific Designs

Developing smaller, lightweight devices tailored for children will improve adherence and comfort. Pediatric-friendly designs with engaging interfaces will encourage consistent use.

3. Affordability and Equitable Access

Public-private partnerships and policy initiatives should aim to make wearable technology affordable for all families. Insurance coverage for essential wearables could further bridge access gaps.

4. Improved Interoperability

Standardized protocols for data sharing and integration with EHRs will ensure that wearable technology becomes an integral part of healthcare systems.

5. Focus on Behavioral and Mental Health

Expanding the applications of wearables to include mental health monitoring, such as detecting stress or early signs of depression, could further enhance pediatric healthcare.

CONCLUSION

Wearable technology has the potential to revolutionize the management of chronic conditions in children by providing real-time monitoring, enhancing patient engagement, and facilitating personalized care. Despite challenges related to data accuracy, privacy, and accessibility, advancements in technology and policy reforms can help address these barriers. By integrating wearable technology into pediatric healthcare systems, stakeholders can significantly improve outcomes for children with chronic conditions, empowering families and reducing the burden on healthcare systems.



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A STUDY ON THE IMPACT OF PARENTING STYLES ON THE DEVELOPMENT OF INDEPENDENCE IN 3-6-YEAR-OLD CHILDREN

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1. INTRODUCTION OF THE RESEARCH PROBLEM

Parenting style refers to clear patterns and behavioral tendencies exhibited by parents in children's daily lives. These habits focus on specific attitudes, emotions, parenting concepts, and parenting behaviors. Based on the directionality and dimensional classification of different family parenting models, they can be categorized into five types: overindulgent, democratic, permissive, authoritarian, and inconsistent (Wang, 2021). Some scholars believe that the family environment plays an indispensable role in young children's growth, with the impact primarily resulting from family parenting patterns. Additionally, some studies indicate that early childhood is a crucial stage in human development. To ensure happiness and satisfaction during early childhood, family education must be emphasized. Only by adopting correct educational methods can children develop healthy social skills.

Children's independence refers to their ability to receive education in all domains without excessive reliance on others' help, make autonomous judgments according to social norms, and act based on their own opinions and thoughts. They can act independently without seeking help from others. We need to have the ability to complete tasks based on our own experience and capabilities (Dong, 2018). Children's independence includes three aspects: self-reliance, self-control, and self-assertion. Domestic and international researchers primarily focus on factors such as parental education affecting children's growth. Family type, early childhood education science, and family income levels collectively form the foundation for independent family development, with family education methods emphasizing strong social skills being particularly crucial. However, current research on the impact of parenting styles on children's independence development remains relatively scarce. In early childhood, parents bear important responsibilities and obligations in family parenting, and their parenting styles have significant implications for children's independence development. With societal progress, more parents tend to adopt democratic parenting methods. However, although some parents have higher economic status,

their educational methods remain unscientific, even showing tendencies toward overindulgence and permissiveness. The choice of family parenting style leads to changes in children's independent behavior, affecting the development of children's independence. Therefore, this study investigated the impact of parenting styles on the independence development of children aged 3 to 6 years (Scott, 2012).

2. RESEARCH METHOD

2.1 Research Subjects

This study selected one public kindergarten in Kashgar, Xinjiang, and conducted questionnaires with parents of children aged 3-6 years. A total of 500 questionnaires were distributed, with 463 returned. After eliminating various invalid questionnaires, 463 valid questionnaires were obtained, including 138 from senior class, 165 from middle class, and 160 from junior class, with an effective recovery rate of 92.9%.

2.2 Survey Questionnaires

This study employed two types of questionnaires: a parenting style questionnaire and a 3-6-year-old children's independence development questionnaire. The questionnaires primarily consisted of closed-ended questions. The parenting style questionnaire comprised 40 items, with parenting types divided into overindulgent (1-7), democratic (8-17), permissive (18-26), authoritarian (27-34), and inconsistent (35-40). The independence scale consisted of 20 items covering self-reliance (1, 2, 3, 4, 7), self-control (6, 8, 9, 16, 18, 19, 20), and self-assertion (10, 11, 3, 14, 15, 17). Questions 7, 8, and 16 were reverse-scored (Zou, 2004; Yang & Yang, 1998). To ensure data reliability, both independent questionnaires' reliability was verified. Results showed that the Alpha coefficient for the 3-6-year-old children's independence development questionnaire was 0.7970, while the parenting questionnaire's Alpha coefficient was 0.770, demonstrating good reliability for both questionnaires. Survey data was processed using SPSS 24.0 multivariate statistical software.



3. RESEARCH RESULTS AND ANALYSIS

3.1 Descriptive Statistics of 3-6-Year-Old Children's Parenting Styles and Independence Development

3.1.1 Descriptive Statistics of 3-6-Year-Old Children's Parenting Styles

Analysis of the descriptive statistics from the questionnaire survey shows that among parents of 3-6-year-olds, democratic

parenting was most commonly chosen, with the highest mean score, indicating that democratic parenting type holds a dominant position in parents' preferences. This was followed by authoritarian parenting style with a mean of 2.453, while permissive parenting style had the lowest mean at 1.984, and overindulgent and inconsistent parenting styles had means of 1.984 and 2.242 respectively.

Table 1: Descriptive Statistics Results of Children's Family Parenting Styles (n=463)

Name	Minimum	Maximum	Mean	Standard Deviation
Overindulgent Parenting Style	1.000	5.000	1.984	0.732
Democratic Parenting Style	1.000	5.000	3.623	0.662
Authoritarian Parenting Style	1.000	5.000	2.453	0.705
Permissive Parenting Style	1.000	5.000	1.908	0.775
Inconsistent Parenting Style	1.000	5.000	2.242	0.843

3.1.2 Descriptive Statistics of 3-6-Year-Old Children's Independence Development

Descriptive statistical analysis results show that children's independence development level is at a moderate state, with

children's self-control having a higher mean value than self-reliance and self-assertion. Self-assertion ranks at the lowest position.

Table 2: Descriptive Statistics Results of Children's Independence (n=463)

Name	Minimum	Maximum	Mean	Standard Deviation
Self-assertion	1.000	4.500	2.718	0.852
Self-reliance	1.167	4.667	2.795	0.681
Self-control	1.429	4.143	3.045	0.440

3.2 Analysis of Differences in 3-6-Year-Old Children's Parenting Styles and Independence Development

3.2.1 Differences in 3-6-Year-Old Children's Parenting Styles

This study conducted in-depth analysis based on five factors: children's age, parents' educational level, parents' personal monthly income, parents' marital status, and parents' occupation. Initially, we surveyed 463 parents of young children, including 233 females and 230 males. Regarding family structure, there

were 349 families of three or four members, 81 three-generation households, 17 divorced or widowed families, and 16 families where parents lived separately.

Survey results indicate varying educational levels among children's parents. The data shows that parents with bachelor's degrees constitute the majority, reflecting that parents generally have received higher education levels.

Table 3: Comparison of Differences in Parenting Styles and Children's Age

	Middle(n=165)	Senior(n=138)	Junior(n=160)	F	P
Overindulgent Parenting Style	1.92±0.67	1.89±0.67	2.13±0.82	5.371	0.005**
Democratic Parenting Style	3.63±0.68	3.54±0.68	3.68±0.62	1.670	0.189
Permissive Parenting Style	1.84±0.73	1.90±0.74	1.99±0.84	1.667	0.190
Authoritarian Parenting Style	2.45±0.70	2.41±0.67	2.49±0.74	0.554	0.575
Inconsistent Parenting Style	2.19±0.87	2.19±0.79	2.34±0.85	1.741	0.177
*p<0.05 **p<0.01					

Children's ages are divided into three stages: 3-4 years for junior class, 4-5 years for middle class, and 5-6 years for senior class. Parents of children at different age stages also show differences in their choice of parenting styles. Through one-way ANOVA examining differences in overindulgent, democratic, permissive, authoritarian, and inconsistent types across children's age

variables, the test found significant differences between overindulgent parenting style and children's age, with parents of junior class children showing a greater tendency to choose overindulgent parenting styles.



Table 4: Comparison of Differences in Parenting Styles and Parents' Educational Level

	A.Master's and above(n=6)	B.Bachelor's(n=245)	C.Associate's(n=148)	D.High School(n=41)	E.Below Middle School(n=23)	F	P
Overindulgent Parenting Style	1.45±0.26	1.90±0.68	2.13±0.77	2.10±0.86	1.88±0.73	3.498	0.008**
Democratic Parenting Style	4.01±0.33	3.67±0.68	3.63±0.66	3.47±0.51	3.20±0.58	3.913	0.004**
Permissive Parenting Style	1.61±0.33	1.82±0.74	2.03±0.86	2.07±0.71	1.88±0.61	2.490	0.043*
Authoritarian Parenting Style	2.33±0.52	2.37±0.71	2.62±0.72	2.43±0.63	2.38±0.59	3.157	0.014*
Inconsistent Parenting Style	1.89±0.53	2.16±0.84	2.40±0.90	2.22±0.73	2.28±0.61	2.227	0.065
*p<0.05 **p<0.01							

Through one-way ANOVA examining differences in overindulgent, democratic, permissive, authoritarian, and inconsistent types across parents' educational level variables, with parents' educational levels divided into five levels: below middle school, high school, associate's degree, bachelor's degree, and

master's degree and above, results show significant differences in parenting styles based on parents' educational levels. Research results indicate that the higher the parents' educational level, the stronger their tendency to support democratic parenting styles.

Table 5: Comparison of Differences in Parenting Styles and Parents' Personal Monthly Income

	A.Below 2000 yuan(n=46)	B.2000-6000 yuan(n=246)	C.Above 6000 yuan(n=171)	F	P
Overindulgent Parenting Style	1.98±0.71	2.05±0.79	1.89±0.65	2.161	0.116
Democratic Parenting Style	3.37±0.63	3.61±0.69	3.71±0.62	5.159	0.006**
Permissive Parenting Style	2.02±0.74	1.95±0.81	1.82±0.72	1.996	0.137
Authoritarian Parenting Style	2.39±0.67	2.49±0.72	2.41±0.70	0.820	0.441
Inconsistent Parenting Style	2.26±0.65	2.32±0.88	2.13±0.83	2.401	0.092
*p<0.05 **p<0.01					

This study categorized parents' personal monthly income into below 2000 yuan, 2000-6000 yuan, and above 6000 yuan. Results show that most parents' personal income is concentrated in the 2000-6000 yuan range. Through one-way ANOVA examining differences in parenting styles across personal monthly income

variables, significant differences were found between parents' personal monthly income and democratic parenting style. This indicates that the higher the parents' personal income, the more they tend to choose democratic parenting styles.

Table 6: Comparison of Differences in Parenting Styles and Parents' Marital Status

	A.Harmonious marital relationship and family(n=432)	B.Disharmonious family with occasional conflicts(n=8)	C.Others(n=23)	F	P
Overindulgent Parenting Style	1.97±0.74	2.20±0.52	2.22±0.68	1.687	0.186
Democratic Parenting Style	3.65±0.66	3.48±0.39	3.22±0.66	4.862	0.008**
Permissive Parenting Style	1.90±0.78	1.97±0.60	2.09±0.76	0.680	0.507
Authoritarian Parenting Style	2.45±0.71	2.34±0.59	2.63±0.71	0.804	0.448
Inconsistent Parenting Style	2.23±0.85	2.65±0.70	2.33±0.71	1.097	0.335
*p<0.05 **p<0.01					

Parents' marital status can be categorized into harmonious marriage, disharmonious family, and other situations. Research

shows that parents' marital status has a significant impact on children's parenting styles. Through one-way ANOVA examining



differences in parenting styles across marital status variables, results show significant differences in democratic parenting style. Specifically, harmonious families tend to adopt democratic

parenting styles, creating a comfortable and harmonious family environment conducive to children's healthy physical and mental development.

Table 7: Comparison of Differences in Parenting Styles and Parents' Occupation

	A.Intellecutuals (including teachers, doctors, technical personnel, etc.)(n=194)	B.Government officials(n=89)	C.Self- employed(n=39)	D.Employed workers(n=50)	E.Others(n=91)	F	P
Overindulgent Parenting Style	1.95±0.72	1.96±0.74	2.04±0.85	2.01±0.72	2.04±0.73	0.333	0.856
Democratic Parenting Style	3.72±0.67	3.66±0.68	3.62±0.50	3.50±0.71	3.45±0.63	3.114	0.015*
Permissive Parenting Style	1.86±0.78	1.93±0.83	1.95±0.86	1.83±0.71	2.02±0.69	0.813	0.518
Authoritarian Parenting Style	2.43±0.73	2.42±0.69	2.66±0.71	2.50±0.67	2.43±0.68	1.032	0.390
Inconsistent Parenting Style	2.22±0.85	2.22±0.88	2.33±0.93	2.23±0.85	2.29±0.76	0.251	0.909
*p<0.05**p<0.01							

This study categorized parents' occupations into 5 types, including intellectuals (teachers, doctors, scientists, technical personnel, etc.), administrators (government officials), self-employed, employees, etc. In terms of parenting style choices, intellectual families tend to choose democratic parenting styles (Xu, 2020). Through one-way ANOVA examining differences in parenting styles across occupational variables, results show significant differences in families adopting democratic parenting styles where parents are intellectuals.

3.2.2 Differences in 3-6-Year-Old Children's Independence Development

Self-reliance refers to children's ability to solve problems using their existing life skills when encountering difficulties, rather than seeking verbal, emotional, or behavioral help from others. Self-control means that children can accept and actively cooperate with adult guidance when facing behavioral rules, while actively avoiding misconduct and effectively adjusting and controlling their own behavior. As for self-assertion, it means that children can independently decide to engage in certain activities and maintain their position during execution without being influenced by external factors (Li, 2018).

Table 8: Comparison of Differences in Children's Independence and Age

	Middle(n=165)	Senior(n=138)	Junior(n=160)	F	P
Self-reliance	2.82±0.65	2.49±0.65	3.04±0.64	26.220	0.000**
Self-control	3.03±0.47	2.98±0.43	3.12±0.41	4.070	0.018*
Self-assertion	2.66±0.84	2.55±0.89	2.93±0.79	8.201	0.000**
*p<0.05**p<0.01					

Children of different ages demonstrate varying levels of independence. Through one-way ANOVA examining differences in self-reliance, self-control, and self-assertion across age variables, Table 8 shows significant differences in all three aspects related to children's age. Specifically, 3-4-year-old junior class children show notably lower abilities in self-reliance,

control, and assertion compared to 4-6-year-old middle and senior class children. Regarding self-control ability, the difference between middle and senior class children is relatively small. The middle class stage is also a critical period for rapid development of children's independence.



3.3 Correlation Analysis of the Impact of Parenting Styles on Children's Independence Development

Table 9: Correlation between Parenting Styles and Children's Independence Development

	Self-reliance	Self-assertion	Self-control
Overindulgent Parenting Style	0.141**	0.275**	0.029
Democratic Parenting Style	-0.024	-0.168**	0.032
Authoritarian Parenting Style	0.152**	0.181**	-0.005
Permissive Parenting Style	0.156**	0.230**	0.057
Inconsistent Parenting Style	0.193**	0.251**	0.052
*p<0.05 **p<0.01			

Family parenting styles are divided into five dimensions: overindulgent, democratic, authoritarian, permissive, and inconsistent. Meanwhile, children's independence can be measured from three dimensions: self-reliance, self-control, and self-assertion. Through correlation analysis testing, significant differences were found between different types of parenting styles and various dimensions of children's independence. Specifically,

overindulgent, authoritarian, permissive, and inconsistent types show significant positive correlations with self-reliance and self-assertion, while democratic type shows a negative correlation with self-assertion. However, regarding self-control, parenting styles show no significant differences.

3.4 Regression Analysis of the Impact of Parenting Styles on Children's Independence Development

Table 10: Regression Analysis of the Impact of Parenting Styles on Children's Independence Development

	B	Standard Error	Beta	t	p
Constant	2.800/2.517	0.232/0.194	--	12.092/12.955	0.000/0.000
Overindulgent Parenting Style	0.249/0.040	0.067/0.056	0.213/0.043	3.735/0.714	0.000**/0.475
Democratic Parenting Style	-0.265/-0.048	0.058/0.049	-0.206/-0.046	-4.545/-0.977	0.000**/0.329
Permissive Parenting Style	0.001/0.020	0.070/0.058	0.001/0.023	0.009/0.345	0.993/0.730
Authoritarian Parenting Style	0.030/0.037	0.076/0.063	0.025/0.038	0.397/0.581	0.692/0.561
Inconsistent Parenting Style	0.138/0.108	0.065/0.055	0.137/0.134	2.111/1.973	0.035/0.049
R ²	0.132/0.043				
Adjusted R ²	0.123/0.032				
F	F(5,457)=13.923,p=0.000/F(5,457)=4.061,p=0.001				
D-W value	2.097/2.100				
Dependent variable: Self-assertion/ Self-reliance					
*p<0.05 **p<0.01					

Family parenting styles can be categorized into overindulgent, democratic, authoritarian, permissive, and inconsistent types as independent variables. Meanwhile, children's independence is measured through three dimensions - self-reliance, self-control, and self-assertion - as dependent variables for regression analysis. Regression analysis test results show that overindulgent type has a significant positive relationship with self-assertion. Inconsistent type has a significant positive influence on self-assertion and self-reliance, while democratic parenting type has a significant negative influence on self-assertion. Overindulgent, democratic, permissive, and authoritarian types do not have an influence on self-reliance. Permissive and authoritarian parenting types do not have an influence on self-assertion. Furthermore, parenting styles show no significant influence on self-control.

4. DISCUSSION

4.1 Discussion on 3-6-Year-Old Children's Parenting Styles

Results indicate significant differences between parenting styles and children's age. These differences may be related to the characteristics of a group of psychologically immature children. Middle and senior class children gradually develop self-awareness and cognitive abilities, judging things according to their preferences. However, due to their young age and underdeveloped mental functions, they are prone to errors in making choices. Therefore, to protect children and promote their healthy development, parents often make choices or restrict certain behaviors on their behalf. In comparison, junior class children are younger with poorer self-care abilities, and parents often feel insecure about letting young children try new things, tending to adopt overindulgent family parenting styles.



According to research findings, parents with higher educational levels tend to adopt democratic parenting types, which aligns with related research results. The differences in parents' educational levels and occupations lead to variations in family parenting model choices. Additionally, among children's parents, many are public servants such as government officials, teachers, doctors, and parents with bachelor's and associate's degrees constitute the majority, possessing relatively high cultural literacy. When raising children, they deeply understand that children's experience, abilities, and knowledge reserves are inferior to adults, so they don't evaluate children's performance by adult standards. Instead, they tend to guide children with positive encouragement, emphasize scientific parenting methods, and communicate with children in a democratic, equal manner.

Parents' personal monthly income and marital status have significant influences on family parenting style choices. This may stem from parents with higher incomes and harmonious families paying more attention to their children while also being more concerned about whether their parenting methods are scientific. A happy family environment is often an important factor in parents' tendency to adopt democratic parenting styles.

Overall, when parents possess scientific worldviews, life philosophies, and values, form healthy personality traits and high cultural and moral standards, and shape an equal, free, and democratic image, it benefits the formation of family atmosphere and scientific democratic parenting models. Such family environments and educational methods play a positive role in children's independence development (Liu, 2019). Therefore, in the process of cultivating children's independence, parents should fully utilize scientific parenting methods and maximize the role of the family environment.

4.2 Discussion on the Impact of 3-6-Year-Old Children's Independence Development

Children's age has a clear influence on their independence development level. According to the results, all three dimensions - self-reliance, self-control, and self-assertion - show obvious differences. Because junior class children's parents tend toward overindulgent parenting styles, their children show relatively lower abilities in all three aspects of independence. Middle class children's performance in self-reliance is lower than senior class, while middle class children's independence develops more rapidly, due to the rapid enhancement of self-awareness at this age stage. Meanwhile, due to the continuous accumulation of life experience and knowledge, as well as significant improvements in thinking and independence, middle class children's independence development is particularly notable. In comparison, senior class children's development in various aspects is more stable.

In summary, 3-6-year-old children's independence development gradually improves with age, manifested in self-reliance, self-control, and self-assertion aspects. Therefore, due to increasing

age, children's independence development shows a clear upward trend.

4.3 Discussion on the Impact of Parenting Styles on Children's Independence Development

Related research indicates that parents' degree of democracy and freedom in child-rearing has a significant positive correlation with children's independence development, while the degree of control shows a significant negative correlation with children's independence development (Li, 2015). Harmonious, equal, and democratic parenting styles can promote children's independence development, and different parenting types have varying impacts on children's independence development. Furthermore, research results show no significant association between self-control and parenting styles. However, self-reliance shows significant positive relationships with overindulgent, authoritarian, permissive, and inconsistent parenting types, indicating these parenting types have positive active connections with self-reliance. Conversely, self-assertion has a negative passive relationship with democratic parenting style, with lower democratic tendencies correlating to lower assertion ability development. Children aged 3-6 are in their early learning period, spending most of their daily activities at home and kindergarten. The development of independence requires not only parents' role but also kindergarten's role. Some parents are uncertain about their parenting style or even unaware of the importance of parenting. At this time, home-kindergarten cooperation and mutual learning are needed to promote children's independence development.

In conclusion, children's independence development has an interactive relationship with parenting types, but it is also related to kindergarten daily life. Choosing good parenting styles must be accompanied by achieving home-kindergarten co-education.

5. EDUCATIONAL SUGGESTIONS

5.1 Master Scientific Parenting Methods and Create a Democratic Family Environment

Research results show that children's independence development is influenced by both parental individual and family factors (Dong, 2012). These factors lead parents to choose different methods when raising children, with some parents not even realizing the role of democratic parenting in children's independence development. Parents should avoid excessive care and love, and should let young children grow independently. They should reduce conflicts between families and provide young children with a relaxed, comfortable, free, and democratic development environment (Li, 2019). Therefore, parents should let their educational methods play a scientific role (McConnell, Breitzkreuz, & Savage, 2012). To achieve this goal, parents should master scientific knowledge and skills related to child-rearing and learn more relevant scientific methods through various means. To cultivate children's independence, parents should strive to become democratic parents, provide more encouragement and praise to children, value the role of family environment, and



create a relaxed, free, democratic, and happy family environment for them. In such an environment, children can grow healthily and develop independence under good family atmosphere and education, ultimately becoming independent individuals in aspects such as life and learning.

5.2 Seize Key Developmental Periods and Cultivate Children's Independence

Research shows that junior class children have relatively weaker independence, while middle class is the critical period for independence development. Therefore, for middle and senior class children, focus should be placed on cultivating their self-assertion and self-control abilities. To seize this critical period, we should actively exercise children's independence and enhance their self-esteem and self-confidence. Through planning creative games, we can deepen children's sense of autonomy. Meanwhile, providing timely and appropriate encouragement helps cultivate their self-esteem and self-confidence. Additionally, young children should be encouraged to make decisions independently, and their thoughts should be patiently listened to when they fail, treating them equally, reasonably, and openly. This educational approach enables children to learn more actively in games, encourages them to work hard and think actively, allowing them to play leading roles in games. Ultimately, this reduces children's dependence on teachers and parents, promoting the development of independence aspects such as self-reliance, self-control, and self-affirmation.

5.3 Start from Daily Routines and Create Home-Kindergarten Cooperation

Kindergarten teachers and parents should grasp daily educational opportunities to enrich and expand children's life experiences. Specifically, especially for junior class children, teachers and parents should cultivate life skills through daily activities such as dressing, tying shoelaces, brushing teeth, and using chopsticks. Parents can share life events like animated characters, and children can freely choose clothes, books, and toys, thereby enhancing their autonomy and life skills. Kindergarten teachers can organize activities like making cakes and molding figurines, first teaching methods, then letting children complete tasks independently. Children trust and admire teachers, closely observing and imitating teachers' behaviors. Therefore, teachers should maintain a good image, regulate their words and actions, not scold children, and complete their tasks independently. Parents who accompany 3-6-year-old children long-term unconsciously influence them through their behavior. Therefore, when children are young, parents should deeply recognize that cultivating children's self-esteem, self-confidence, and self-discipline in the family environment is crucial. They must constantly mind their words and actions, leading by example. Kindergartens can also conduct activities like self-care skill competitions for different classes. Through examples from parents and teachers and independence-related activities organized by kindergartens, home-kindergarten cooperation can be achieved, starting from daily routines, children's independence development will be positively promoted.

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EXPLORING THE POTENTIAL AND OBSTACLES OF WOMEN SELF -HELP GROUPS: A COMPREHENSIVE ANALYSIS

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ABSTRACT

Self-Help Groups play a vital role in empowering women. But sustaining Self-Help Group has become a difficult task today. We can only strengthen and sustain present self-help groups if we understand the underlying reasons of the multiple obstacles that self-help group participants face and make them aware of the countless opportunities. The study is to investigate the many possibilities and challenges that female self-help group participants face. A descriptive research technique was used to perform a case study using secondary materials from numerous journals, articles from the internet, books, and other sources. A thorough ABCD study was performed. Through an in-depth analysis, the research reveals the promises and challenges of self-help group members, which may be utilised by users to better understand the problems and difficulties experienced by these groups. It also provides a roadmap for the long-term viability of self-help groups.

KEYWORDS: Self-help group, empowering women, obstacles ,opportunities, long-term viability.

1.INTRODUCTION

The phrase "Women Empowerment" refers to a variety of socioeconomic initiatives,programme ,tactics and strategies that are intended to enhance economically and socially underprivileged women, fostering their self-esteem, and offering unwavering support for their overall development.When women defy prevailing societal conventions as well as tradition, they are empowering themselves by asserting better control of their personal lives [1].

Self-help groups have developed into successful tools for enabling women in rural and urban regions to launch enterprises and achieve independence via entrepreneurship.Women are now making up more of the workforce thanks to rising female literacy rates,awareness about their rights and various women welfare schemes introduced by the government not only aims for upliftment of the socio-economic status of the women but also to end all forms of discrimination against them.

2. REVIEW OF LITERATURE

2.1 WOMEN SELF HELP GROUPS

Table 1: The numerous works on women self help groups are reviewed in this section .

S. No.	Area	Contribution	Authors
1.	Self-help groups	SHG formation is a social mobilisation method that enables the underprivileged to create their own organisation in which they may engage freely, completely, and directly and make decisions on all matters pertaining to the eradication of poverty, the creation of employment, and the generation of money.	Panwar, M., & Kalan, K. (2015) [2].
2.	Women empowerment	By reducing poverty, fostering female entrepreneurship, and offering financial support, self-help organisations have considerably empowered women as individuals, members of their families, communities, and society as a whole.	Kondal, K. (2014)[3].
3.	Socio-economic status	Through the connection of banks, microfinance, social and economic empowerment, aid in the process of making financial decisions, access to credit, and employment for women, the effect of self-help organisations on socio-economic status of the members was noted.	Sundaram, A. (2012)[4].
4.	Employment opportunities	Creating, enabling, and managing SHG- have an effect on the formal labour market especially in rural areas, with around five people hired per 100 SHGs.	Russell, A., Dixit, V. and Handy, F. (2023)[5].



5.	Rural development	Bottom-up approaches to rural development have given low-income families monetary and societal benefits as a result of participatory decision-making, as opposed to top-down mechanisms for decision-making. In India, self-help organisations are a powerful tool for enhancing the lives of rural impoverished residents	Manjunatha, S. (2013) [6].
6.	Microfinance	With the goal of reducing poverty for impoverished women, microfinance is a broadly supported development project. Utilising multifaceted metrics that may reflect poverty in all of its varied manifestations, microfinance programmes need to assess their incorporation and persistence tactics in support of those with the lowest incomes.	Ahmad, D., Mohanty, I., Irani, L., Mavalankar, D., & Niyonsenga, T. (2020)[7].

3. OBJECTIVES OF THE STUDY

- 1) To have comprehensive understanding of the concept self help group .
- 2) To evaluate the various opportunities for self help groups members.
- 3) To determine the numerous challenges faced by self help groups participants.
- 4) To list the advantages ,benefits,constraints and disadvantages of self help groups.

4. RESEARCH METHODOLOGY

This research utilizes a descriptive approach, aiming to describe the current situation and provide a rationale. Secondary sources, including journals, articles, books, and other relevant materials, are employed to conduct a comprehensive evidence-based assessment of the opportunities and challenges faced by self-help groups.

5. THE CONCEPT OF SELF HELP GROUPS

A self-help group is a cohesive ,self-managed,group of rural uniform communities of economically underprivileged,who voluntarily come together, to save and encourage savings among one another whatever money they could from their earnings,pool the savings for their usage and jointly agree to provide for the needs of the group's members.. When these organisations develop expertise, external resources, such as bank credit, are added to these pooled resources.Sornam, S. A., & Babu, P. B. (2007)[8]

Self-help groups are created by peers who gather together for a specific goal ,such as addressing a shared need ,overcoming an identifiable disability, or resolving a life-altering crisis and bringing about desired social or personal change.The founders think that present societal systems are incapable of meeting their needs.They stress direct social contact and members' consent for individual accountability;they often offer both material and emotional support; they are frequently cause-oriented; and they promote an ideology or values that members can use to gain a stronger sense of personal identity.Katz, A. H., & Bender, E. I. (1976). [9]

6. CHALLENGES OF SELF HELP GROUPS

- 1) Due to their husbands' or in-laws' resistance, the majority of women are apprehensive about joining a self-help group.

- 2) Members of the self-help groups are unaware of the various schemes offered by the government for their assistance.
- 3) Due to a change in domicile and a lack of cohesion among the members, self-help group units have become unstable.
- 4) By taking advantage of the group's illiteracy and ignorance, powerful members attempt to take away largest portion of the revenue
- 5) Inadequate financial management since they spend their earnings for personal expenses rather than investing them further for profitable uses.
- 6) Line officers, banking institutions, and other aid providers don't offer members assistance, collaboration, support, which undermines the schemes' core goals.

7. PROSPECTS OF SELF HELP GROUPS

- 1) Both directly and indirectly, the micro finance programme benefits self-help group members. Directly, by joining the group, members can access credit resources, and by attending training and workshops, awareness is raised. Indirectly by giving women more negotiating leverage against male household members when deciding how to divide up resources within the household.
- 2) Microfinance meets women's practical needs and conventions duties, earning them recognition and leading to increased self-esteem and self-confidence.
- 3) Self-help group empowers women since it boosts their financial strength, self-confidence, bargaining power, and decision-making authority.
- 4) Self-help groups provide a forum for women to express their concerns, solve social and economic issues, and strengthen their inner strength.

8. ABCD LISTING

The ABCD analysis was created to analyse the business framework and measure its success in generating benefit to stakeholders by listing of the firm's advantages, benefits, limits, and downsides . In this study, theABCD model, an analytical technique are employed to create an organised list of the self-help groups advantages,benefits,constraints and drawbacks and the findings are as follows. Riha Parvin, S. M.,& Panakaje,N., (2022)[10]



Advantages

After joining self-help groups, group members' income and saving habits improved. Because of easy access to government initiatives, their potential to develop independent sources of income improved. Women established their own enterprises. Members who were empowered made their own independent decisions and participated in local administration. Their social integrity and capacity for leadership enhanced.

Benefits

Poverty reduced as a result of continual revenue flows generated by income-generating businesses. Members are now less reliant on agriculture for survival. Members of self-help organisations have more stability and unity. Self-help groups serve as a social and cultural interaction platform.

Constraints

Members lack marketing experience and are unaware of cutting-edge technology. Members find it difficult to provide services owing to the high operating costs of institutions. Their commercial activities are not long-term viable. Deposits of members are not secure since they rely on members' trust in one another. Traditional beliefs and societal duties impede members' involvement in many activities.

Disadvantages

There is a lack of skill advancement among the members, in addition to poor financial management by the members. Members need training facilities and financial aid. Members of self-help groups lack stability and cohesiveness..

9. FINDINGS

Finance from the bank is a major motivator for people to join self-help organisations because it reduces the burden of interest rates. Other motivators include saving habits, access to bank credit, and being able to pay unforeseen expenses after receiving a bank loan. One of the primary purpose of money utilisation by self-help groups members is to support income-generating activities, household spending, family health requirements, festival and ceremony celebrations, debt repayment, and children's education. After joining self help groups, members' self-confidence, savings habits, economic independence, social and political awareness, job creation, leadership characteristics, communication skills, and knowledge of government programmes have all improved.

The extension of bank branches, advancements in women's development, and the bank linkage programme all have made a remarkable impact on the women beneficiaries to engage in economic activity. Members of self-help groups confront personal, cognitive, organisational, and infrastructure constraints, as well as marketing limits. Still there are larger segments of the poor population who does not belong to self-help groups.

10. RECOMMENDATIONS

- To strengthen the socioeconomic position of women SHGs, they can be moved to local administration to enable further development.

- Announce national and regional prizes for the most effective SHGs to inspire and motivate them in their work.
- Awareness should be created among self help groups to open saving accounts in post office, in addition to banks, to avail loans
- Large corporations can collaborate with self-help communities to provide training in trade, finance, marketing, risk management, and cooperative management.
- An information centre should be established to deliver valuable information to self-help groups for their productivity, advancement, and technological know-how.
- More programmes that directly help SHGs should be initiated by RBI.

11. CONCLUSIONS

If the difficulties and challenges of self-help groups are correctly addressed and appropriate solutions are provided, these can serve as a road map for the long-term viability of self-help groups. When women confront societal conventions and culture in order to effectively increase their well-being, true women's empowerment occurs.

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RESEARCH ON THE ROLE OF THE PEOPLE'S CONGRESS SYSTEM IN ADVANCING THE MODERNIZATION OF THE NATIONAL GOVERNANCE SYSTEM AND GOVERNANCE CAPACITY

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ABSTRACT

The Third Plenary Session of the 20th Central Committee of the Communist Party of China made comprehensive arrangements for adhering to, improving, and developing the system of socialism with Chinese characteristics, as well as advancing the modernization of the national social governance system and the modernization of national governance capacity. These arrangements are based on the strategic overall and long-term requirements related to the sustained and healthy development of the Party and the country's socialist cause. As the core of the socialist political system, the People's Congress system embodies the unique advantages of achieving the organic unity of Party leadership, the people's democratic rule, and the rule of law. This paper delves into the role of the People's Congress system in the modern national governance system, analyzes how its institutional advantages can be transformed into governance effectiveness, and explores specific pathways for further improving and developing this system.

KEYWORDS: National Governance System, People's Congress, System, Advantages

1. INTRODUCTION

The "Decision" passed at the Third Plenary Session of the 20th Central Committee of the Communist Party of China grasps the opportunities and trends of the information age and proposes many new development ideas and reform measures. It can be said that effectively leveraging the advantages of the People's Congress system is a crucial part and strong support for the modernization of the national governance system and governance capacity, which is fundamental for advancing social modernization. We must treat its development as an important task and ensure it is handled with urgency and attention. We should deeply study and implement the spirit of the Third Plenary Session of the 20th Central Committee, particularly the important speech of General Secretary Xi Jinping, and actively take responsibility and engage in the process of establishing and advancing the modernization of the national governance system, fully utilizing and continuously improving the advantages of the People's Congress system in this process.

2. UTILIZING THE ADVANTAGES OF THE PEOPLE'S CONGRESS SYSTEM IN ITS CONTINUED IMPROVEMENT

The system of the National People's Congress (NPC) was not established overnight, but is an inevitable product of the Chinese people, under the correct leadership of the Communist Party of China, effectively combining the basic principles of Marxism with the specific realities of China. This system not only efficiently guarantees the basic rights of the people, but also

ensures the broad and genuine exercise of these rights, providing fundamental political institutional safeguards for ensuring the people's right to rule. The system of the National People's Congress has a 70-year history since its establishment and has developed and perfected through continuous practice in China, demonstrating its vitality. Contemporary Chinese theory and practice have fully demonstrated that "the system of the People's Congress is a good system that fits China's national conditions and realities, reflects the nature of a socialist state, and ensures that the people are the masters of the country. It is a system that can effectively unite the people and drive Chinese-style modernization, with strong vitality and remarkable superiority" (Xi, 2024). Currently, we are in a new era, the critical period of two centenary goals. The development of the People's Congress system, as the fundamental socialist political system in contemporary China, can only continuously consolidate and exert its fundamental political advantages if the unique political advantages of the People's Congress system are effectively transformed and developed into governance efficacy.

The "Decision" passed at the Third Plenary Session of the 20th Central Committee profoundly answers the major historical-political question of "what to uphold and consolidate, and what to perfect and develop", and once again emphasizes that "we must uphold and improve the system of the people being the masters of the country, and develop socialist democratic politics". This has groundbreaking and milestone significance for consolidating and improving the institutional framework of the People's Congress



system. China remains a socialist country, and all power comes from and belongs to the people. Therefore, it is only right for the people to be the masters of the country, and through elections, to elect their representatives at all levels. The system of People's Congress, with representatives elected by the people at various levels, represents the fundamental way and form through which the people exercise state power and manage state and social affairs. Because of the crucial political position and value of the People's Congress system, it directly determines that in the process of building the governance and modernization system of the socialist state, our country must continue to adhere to and improve the system of socialism with Chinese characteristics. In the construction and modernization of the governance and governance capacity of the socialist state, we must continue to uphold and improve the People's Congress system at all levels, as this is a fundamental political system.

3. FULLY LEVERAGING THE ADVANTAGES OF THE NATIONAL PEOPLE'S CONGRESS ELECTION SYSTEM IN FURTHER UPHOLDING AND STRENGTHENING THE LEADERSHIP OF THE COMMUNIST PARTY

The concept of "upholding and strengthening the Party's overall leadership" is the overarching requirement proposed by the Communist Party of China (CPC) for its Party building in the new historical era. This principle was established based on a profound summary of the long-term historical experience and lessons of the CPC in power. It scientifically reveals the law of governance development of the contemporary CPC and the development path of socialism with Chinese characteristics. It is crucial for ensuring that the CPC continues to lead at the forefront of history and the times, navigating the profound and complex changes in the global situation and overcoming both domestic and international challenges. This principle is key in ensuring the Party's role as a strong political backbone for leading all the people of China through these turbulent historical processes, ultimately contributing to the construction and development of socialism with Chinese characteristics in a steadfast manner.

The Party's leadership system is the "anchor" for overcoming all difficulties and major risks. Only by consistently upholding and strengthening the Party's leadership can we maintain the correct direction for building a socialist modernization and ensure the unity of the socialist state, safeguarding national and ethnic unity. Moreover, it creates a stable socio-economic environment conducive to the development of socialist modernization. It also enables the mobilization of all positive social factors to advance the construction of socialism with Chinese characteristics. General Secretary Xi Jinping has emphasized that strengthening Party leadership at the grassroots level requires unwavering confidence, and we must never retreat or evade from this requirement. The core demand is to adhere to and strengthen Party leadership, which is the highest guiding principle for contemporary socialist China.

The leadership system of the Party is the greatest influence and lifeblood of the Party and the nation. It is directly tied to the fundamental interests and well-being of the Chinese people, and it determines the fate and future of the Chinese nation. It is the essential guarantee for the realization of the great rejuvenation of the Chinese nation and for achieving victory in the new era and the socialist modernization of China.

The strengthening of the Party's leadership system is comprehensive and includes the Party's leadership over the People's Congress system. The "Decision" of the Third Plenary Session of the 20th CPC Central Committee once again emphasized the Party's role in "overall leadership and coordination", which also underscores the role of the Party in formulating national policies and strategic decisions. It highlights the importance of the Party's leadership and aligns with the CPC's support for ensuring that the NPC performs its duties according to law, thereby playing its crucial role as the "highest organ of state power". This further reaffirms that national power, as the most fundamental form of political power, is a crucial political element in the political structure of our country. The system of the National People's Congress itself is a matter of our fundamental socialist political system, which directly determines its vital political role and value in the governance and system of the socialist state.

To uphold and improve the leadership of the Party in the system of socialism with Chinese characteristics and to advance the modernization of state governance, we must prioritize the continuous improvement and strengthening of the Party's leadership over the National People's Congress system. It is essential to ensure that the NPC election system, as the core political system, is effectively leveraged to enhance the governance capacity of our country's socialist system.

The effectiveness of socialist governance and institutional advantages is the fundamental foundation for the transformation of the governance system and its operational efficacy. "In modern states, the mission of the political structure is to create a stable political order from diverse political forces. The mission of the governance system is to integrate multiple governance actors into an effective governance structure" (Lin, 2016). Thus, only by establishing a political system that aligns with the national context, integrating diverse governance actors into the fundamental political system, can a stable political order be formed and effective national governance achieved. Without a sound institutional guarantee, basic political order would be unattainable, and the realization of effective governance would be extremely difficult.

The establishment of the People's Congress system was the result of the hard work of the Chinese people, and it has provided a reliable guarantee for the order of national power and the realization of the people's fundamental rights to be the masters of the country. Over the years, this system has created a remarkable political, economic, and social development model, contributing



to social stability and economic growth since the reform and opening-up period (Yan, 2017). Historical practices demonstrate that under the leadership of the CPC, the establishment of the NPC system integrated diverse governance actors into an effective governance structure, ensuring the operation of the political system and facilitating socio-economic development.

After 75 years of reform and opening-up, with 46 years of deepened reforms and external opening, the election system of the National People's Congress has continuously innovated and developed, providing institutional guarantees for societal transformation. We are now in a critical historical period for advancing comprehensive reforms, and the People's Congress system will continuously evolve to reflect and address the interests and demands of society and the people. In today's rapidly developing market economy, the diversification of social interest groups requires adjustments in the People's Congress system to keep pace with these changes.

4. CHINA'S UTILIZATION OF THE NATIONAL PEOPLE'S CONGRESS SYSTEM'S ADVANTAGES IN ACHIEVING A UNIFIED SYSTEM ADVANTAGE AND GOVERNANCE EFFECTIVENESS

The Fourth Plenary Session of the 18th CPC Central Committee made significant economic and strategic decisions regarding the comprehensive and deepening promotion of the rule of law. It emphasized the foundational concept of "rule of law" as the basic political ideology and governance approach of the Communist Party of China (CPC). Through relevant legislative bodies, numerous laws and regulations were enacted, which not only advanced institutional innovation but also provided new momentum for continuous improvement. As a result, the People's Congress system has evolved under the guidance of these laws and regulations, forming a developmental framework that organically unites "Party leadership", "people's democracy", and "rule of law", demonstrating the system's superiority and achieving a harmonious alignment between institutional advantages and governance effectiveness (Qi, 2018). The Third Plenary Session of the 20th CPC Central Committee proposed further deepening reforms with the overarching goal of "improving and developing the socialist system with Chinese characteristics and advancing the modernization of the national governance system and governance capacity" (Central Committee of the Communist Party of China, 2024). Therefore, while continuing to leverage the advantages of the People's Congress system, greater emphasis must be placed on transforming these advantages into actual governance effectiveness.

The improvement of the People's Congress governance system and the adjustment of its organizational structure provide a solid foundation for enhancing governance effectiveness, while the practical demands for improving governance effectiveness further promote institutional reform. As Professor Wang Puqiu aptly

stated, "Achieving long-term, balanced development in national governance requires establishing and supporting a good structural balance between the political and administrative governance structures and mechanisms, which continuously stimulates national vitality and governance efficiency while advancing institutionalization" (Wang & Tang, 2019). The effectiveness of the People's Congress system aligns with this practical logic—effective governance requires ongoing strengthening of institutional construction, and only through innovation in specific work mechanisms can the vitality of institutional reforms be unleashed, thus enhancing the governance effectiveness of the People's Congress system.

Consequently, the development of the People's Congress system has consistently adhered to the basic goal of realizing the people as masters of the country. Through structural and functional adjustments, the system has responded to the changing economic, social, political, and cultural demands, restoring the People's Congress system to its central democratic position in the national political structure and advancing the modernization of the national governance system and its capacity (Yang, 2015). Since China's reform and opening-up, the People's Congress system has continuously innovated in its operational mechanisms, establishing close ties between the NPC Standing Committee and its members, as well as between NPC representatives and other people's organizations. This has strengthened the representativeness and responsiveness of the People's Congress at all levels. Simultaneously, the legislative, supervisory, decision-making, and appointment powers of the People's Congress have been effectively guaranteed and exercised, clarifying the responsibilities and systems of the People's Congress at all levels.

5. ENHANCING THE SUPERIORITY OF THE PEOPLE'S CONGRESS SYSTEM THROUGH EFFECTIVE IMPLEMENTATION

The transformation of institutional advantages into governance effectiveness largely depends on the ability to execute these institutions. Key factors influencing execution include the degree of recognition and commitment by those who implement the system, particularly their understanding of the system's value. The legislative system of the NPC Standing Committee, at its core, aims to ensure that the people can lawfully and constitutionally exercise their democratic rights in a rule-of-law state. However, research shows that some regional leaders are uncertain about whether China should pursue or is capable of developing democracy, with views such as "democracy cannot be avoided, but its real implementation is problematic" (Xi & Li, 2013). To address these concerns, it is crucial to build their trust in the system, enhance institutional recognition, and fully execute its provisions to optimize its scope.

The transition to a professional system of NPC representatives requires a comprehensive and realistic approach. As Zhou Ping and Wang (2019) suggest, the reform of professionalizing NPC



representatives should be gradual, well-planned, and accompanied by necessary supportive measures and legal frameworks. Given the large number of NPC representatives (over two million), full professionalization presents challenges, but a hybrid model combining full-time and part-time roles could be a more viable solution (Liu, 2020).

Furthermore, the continuous improvement of the NPC's operational mechanisms is essential. This includes reforming the election system to enhance the quality and representativeness of NPC representatives, as well as increasing the influence of elections (Zou & Liu, 2019). Some scholars advocate reducing indirect election layers to improve direct representation, which could optimize the structure of the NPC. Similarly, reforming the meeting system is vital to enhance the quality of decision-making processes. As Professor Cai Dingjian notes, "The effectiveness of the People's Congress is primarily in how it conducts meetings" (Jing, Chen, & Xiao, 2016). This means improving the efficiency of legislative sessions, reducing unnecessary numbers of representatives to encourage meaningful democratic deliberation, and extending meeting durations to ensure thorough consideration of reports and proposals. Training NPC representatives, especially when many serve part-time, can also improve their ability to perform their duties effectively (Xi, 2022).

Lastly, strengthening the link between the Standing Committee and the NPC in the legislative process ensures that the people's concerns are better reflected in national policy. By fostering two-way communication, the system can ensure that legislative decisions align more closely with societal needs and that public opinion is properly integrated into governance. This two-way interaction reinforces the legitimacy and responsiveness of the NPC, making it not only a legislative body but a key component in the broader governance of the state, reflecting the people's will and enhancing governance outcomes.

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REVIEW ON DERMATOLOGICAL DISORDER ACNE AND REPORTED DRUG FOR ITS TREATMENT

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ABSTRACT

- Review focuses on the treatment options for adult female patients with acne.
- Acne in adult female patients may start during adolescence and persist or have an onset in adulthood.
- Acne has various psychosocial effects that impact patients' quality of life.
- Treatment of acne in adult women specifically has its challenges due to the considerations of patient preferences, pregnancy, and lactation.
- Treatments vary widely and treatment should be tailored specifically for each individual woman.
- We review conventional therapies with high levels of evidence, additional treatments with support from cohort studies and case reports, complementary and/or alternative therapies, and new agents under development for the treatment of patients with acne.

1. INTRODUCTION

Acne is a skin disorder that suppresses an individual's self-esteem with regard to physical appearance and has a clinical onset during puberty and adolescence .

A high incidence of acne is found in girls aged 14–17 and in boys aged 16–19.

The pathogenesis of acne is regulated by sebum hypersecretion in deformed follicles, which leads to microcomedones, and the follicular hyperproliferation of microcomedones causes inflammation.

In Both open and closed types (black and white comedones) appearing in papules, pustules, nodules and cysts.

The resulting skin condition with sebum enrichment is prone to the anaerobic growth of *Propionibacterium acnes*, which is the main causative microorganism in acne. In addition, *Staphylococcus epidermidis* and *Pityrosporum ovale* are present in acne lesions.

Proliferation of these microorganisms, mainly *P. acnes*, leads to inflammatory lesions and severe acne.

The primary goal of acne treatment is to effectively manage and address current acne lesions, aim to prevent the formation of permanent scars, shorten the duration of the condition, and minimize the frequency of recurrence.

Traditional treatment methods include topical and systemic use of antibiotics and retinoids, oral anti-androgens, phototherapy, and chemical peeling, depending on the individual's specific case, taking into account factors such as the type and severity of acne lesions, overall health status, and any potential side effects.

Topical drugs are generally recommended as the first-line treatment for mild acne patients, like retinoic acid, benzoyl peroxide, and topical antibiotics.

And for moderate to severe acne, a combination of topical drugs, systemic drugs, and phototherapy is often recommended to achieve better outcomes .

In recent years, there has been significant progress in the development of novel therapies for acne, targeting various pathogenic mechanisms.

These new treatments offer promising results and have generated significant interest.

This article aims to review the recent research progress in acne treatment, highlighting the innovative approaches and potential benefits for patients.

Sign and Symptoms

- Small red, tender bumps (papules).
- Pimples (pustules), which are papules with pus at their tips.
- Large, solid, painful lumps under the skin.



Fig.1



Fig.2

3. LITERATURE REVIEW

- Bedi and Shenefelt et. al., (2002):

In India, records of Ayurvedic medicine date back to about 3000 BC. The system of Ayurvedic medicine combines physiological and holistic principles.

It is based on the concept that the human body consists of five energy elements that also make up the universe: (1) earth, (2) water, (3) fire, (4) air, and (5) space.

The interactions of these five elements give rise to the three doshas (forces), seven dhatus (tissues), and three malas (waste products).

All diseases are attributed to an imbalance among the three doshas.

- Routh and Bhowmik et. al., (1999)

Diagnosis is made by an elaborate system of examining the physical findings, pulse, and urine, as well as by an eightfold detailed examination to evaluate both the physical and mental aspects of the condition. The treatment is then tailored to suit an individual based on the findings.

- Bhate and Williams, 2013

AV is an extremely common condition with a lifetime prevalence of approximately 85% and occurs mostly during adolescence.

- Collier et al., 2008

AV can persist into adulthood, with a 50.9% prevalence rate of acne in women ages 20 to 29 years versus 26.3% in women ages 40 to 49 years.

- Yentzer et al., 2010

Female patients account for two thirds of visits made to dermatologists for acne, and one third of all dermatology office visits for acne are by women who are older than 25 years.

4. AIM : A REVIEW ON DERMATOLOGICAL DISORDER ACNE AND REPORTED DRUG FOR ITS TREATMENT .

❖ OBJECTIVE

- A Salicylic acid: It works by penetrating the hair follicle and oil glands and dissolving the acne causing blockages of dead skin cells oil and other debris.

- Alpha hydroxy acid: It works by drying up white heads, black heads, and pimples and causing the top layer of your skin to peel.
- Benzoyl peroxide: It has been an important component of topical therapy for acne vulgaris for more than five decades due to its ability to markedly reduce *Propionibacterium acnes* and inflammatory acne lesions and its ability to moderately reduce non-inflammatory acne lesions.
- Aloe-vera: It has been antibacterial properties that can help to control and reduce acne causing bacteria. Two other ingredients that have been studied and found to have this same effect are cinnamon and honey. By combining all three for an at home spa treatment, you'll be upping your chances at smooth skin that's acne free.

5. PATHOGENESIS OF ACNE

- Williams et al., 2012, Zaenglein et al., 2016

Four key pathogenic processes lead to the formation of acne lesions: alteration of follicular keratinization that leads to comedones;

increased and altered sebum production under androgen control;

Follicular Colonization by *Propionibacterium acnes*;

and complex inflammatory mechanisms that involve both innate and acquired immunity.

Genetics (twin studies Bataille et al., 2002, family history of severe acne Wei et al., 2010),

Diet (Glycemic index Ismail et al., 2012, Kwon et al., 2012, Smith et al., 2007a, Smith et al., 2007b, Smith et al., 2008).

including chocolate (Grant and Anderson, 1965, Magin et al., 2005) and dairy consumption.

(Adebamowo et al., 2006, Adebamowo et al., 2008, Di Landro et al., 2012);

and environmental factors.

(smoking Klaz et al., 2006, Schafer et al., 2001, occlusive cosmetics Plewig et al., 1970, occupational exposures Tucker, 1983) also contribute to the pathogenesis of acne.

Harper, 2008, Lucky et al., 1994, Lucky et al., 1997

The pathogenesis of acne in adult women is particularly complex. Androgens play a major role (Harper, 2008, Lucky et al., 1994, Lucky et al., 1997).



As Evidenced by the response of acne in adult women to hormonal treatments, especially in the context of hyperandrogenism disorders such as polycystic ovary syndrome (PCOS) and the use of hormone-based therapies such as oral contraceptive and anti-androgen medications in women with normal androgen levels (Lolis et al., 2009).

In addition, the lack of acne in androgen-insensitive women (Imperato-McGinley et al., 1993, Thiboutot, 2004).

and rising levels of dehydroepiandrosterone sulfate in association with the onset of acne in premenarchal girls and a subset of patients with PCOS also play a major role (Lucky et al., 1994, Chen et al., 2011).

Androgens stimulate sebum production via androgen receptors on the sebaceous glands.

6. CUSES

Doctors and researchers believe that one or more of the following can lead to the development of acne:

- Excess or high production of oil in the pore.
- Buildup of dead skin cells in the pore.
- Growth of bacteria in the pore.

The following factors may increase your risk for developing acne

- **Hormones**

An increase in androgens, which are male sex hormones, may lead to acne. These increase in both boys and girls normally during puberty and cause the sebaceous glands to enlarge and make more sebum. Hormonal changes related to pregnancy can also cause acne.

- **Family History**

Researchers believe that you may be more likely to get acne if your parents had acne.

- **Medications**

Certain medications, such as medications that contain hormones, corticosteroids, and lithium, can cause acne.

- **Age**

People of all ages can get acne, but it is more common in teens

7. PLANTS AND THEIR INGREDIENTS WITH ANTI ACNE PROPERTIES

- **Neem**

◆ Neem (azadirachta indica) is another popular Ayurvedic herb. According to a 2010 study, neem oil contains compounds that are:

- Antibacterial
- antifungal
- antiseptic
- antioxidant
- anti-inflammatory

- **Aloe Vera**

A soothing hydrator with anti-inflammatory and antibacterial properties.

- **Lavender**

An antiseptic and anti-inflammatory herb that can help heal acne.

- **Tea tree**

An antiseptic that can help with acne.

- **Rose**

A popular botanical skin care ingredient that can be used to moisturize dry skin.

- **Cinnamon and Honey**

- Contain antioxidants and have antibacterial and anti-inflammatory properties.
- You can mix two tablespoons of honey and one teaspoon of cinnamon to create a face mask.

8. CHALLENGES IN ACNE TREATMENT

- The management of acne is a long-standing process which must be customized to each patient.
- After the diagnosis of the disease, a suitable therapeutic strategy is the root of its treatment.
- Based on the type and severity of acne, the selection of proper medication depending on its mechanism of action relating its ability to address one or more of the pathogenic factors is the major challenge allied with its treatment selection.
- In this context, treatment of acne renders several challenges inspite of numerous therapeutic agents available.

- **Antibiotic Resistance**

- The persistent relevance of antibiotics in acne treatment is coupled with the risk of emerging resistant bacteria.
- The increase in antibiotic resistance is multifactorial, involving the specific nature of the relationship of bacteria to antibiotics. Consequently, there are adequate motives to search for alternative remedies to solve this problem.
- To overcome antibiotic resistance as well as the high treatment cost, medicinal plants have been studied as alternative treatments for acne.

- **To Surmount the Glitches Allied with Conventional Formulations of Antiacne Drugs**

- The followup phase of management requires a framework for approaching treatment modification that may include concepts such as nonexistence of effectual system for delivery of antiacne drugs.
- Antiacne drugs incorporated in conventional system either cannot reach the pilosebaceous unit at defined concentration or may not release the active moiety leading to their subtherapeutic levels
- . The problem can be resolved by employing futuristic approaches that is targeting the active molecule directly to the pilosebaceous unit or sebaceous gland which can



eradicate the underlying microbial flora of *P. acnes* and inflammatory mediators responsible for acne vulgaris.

- Novel drug delivery system (NDDS) may be a preference to minimize the glitches related to conventional formulations like variation in drug efficacy and absorption, physicochemical characteristics of the active molecules and carriers or their improper incorporation in the conventional vehicles.

- **Other potential treatments include**

- Topical anti-androgens
- Melanocortin receptor antagonists
- IGF-1 inhibitors
- PPAR modulators
- Acetylcholine inhibitors
- Topical retinoic and metabolism-blocking agents

9. FEATURE TREATMENTS

- **Reducing Inflammation**

- By targeting cytokine pathways and using energy-based devices to target the sebaceous glands.

- **Preventing Scarring**

- By using immunity induction and wound healing therapies.

- **Regulating Sebocyte Differentiation**

- A novel therapeutic procedure based on acne pathogenesis.

- **Considering Diet**

- A Western diet may promote acne, while a paleolithic diet may help.

- Acne is a chronic inflammatory skin disease with many causes.
- Treatment varies by age, type, and severity of acne.
- A healthcare provider may recommend topical or oral medications, or medicated therapies.

- **Some self-care tips for managing acne include**

- Using gentle, alcohol-free skin care products
- Avoiding products that irritate your skin
- Sticking to your treatment
- Keeping your hands off
- Staying out of the sun and tanning beds

PLAN OF WORK

Literature search: PubMed, Scopus, Web of Science (2010-2022).



Inclusion criteria: Randomized controlled trials (RCTs), observational studies, and reviews.



Exclusion criteria: Non-English articles, case reports, and studies on non-acne vulgaris.

10. SUMMARY / CONCLUSION

Many herbal therapies have been used for centuries, which show good anecdotal results. A few randomized, controlled trials have also demonstrated significant results in the use of herbal therapies for the treatment of dermatologic disorders.

Some countries, such as Germany, now require standardization of herbal preparations and specific recommendations as to the use and efficacy of herbs in the treatment of disease.

It is important to know what common herbal alternatives exist and which potential adverse effects or interactions can occur to permit more effective counseling of patients.

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A STUDY ON IMPACT ON ECONOMIC GROWTH IN INDIA BY GREEN FINANCE

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ABSTRACT

The purpose of this research paper is to determine how green money affects India's economic expansion. The influence of green finance, including debt financing, green bonds, and green loans, is examined in this study. The Indian government relies heavily on green finance to improve and oversee the nation's financial system. In order to evaluate the variable's hypothesis, the current study used both dependent and independent variables, as well as research tools including arithmetic average, Variance, correlation and T-test. We can draw the conclusion that India's has a favorable effect on the country's economic expansion by use of green finance.

KEY WORDS: Green Bonds, Green Loans, Debt Financing & Economic Growth

INTRODUCTION

The term "green finance" describes investments and loans used to finance ecologically beneficial undertakings, such building green infrastructure or buying eco-friendly products and services. Green financing is becoming more and more popular as a result of consumers' increased awareness of the possible risks associated with environmentally hazardous goods and services.

Green finance is advantageous to all parties involved, both environmentally and economically. By giving more individuals and businesses access to environmentally friendly goods and services, it balances out the transition to a low-carbon society and promotes growth that is socially inclusive. This produces a "great green multiplier" effect that benefits all stakeholders by having a favorable impact on the economy and environment.

Various forms of Green Finance

Green Credit

Homebuyers may receive better terms from green loan lenders if they want to invest in enhancing the property's environmental performance or if the property has a high environmental sustainability rating.

Green Loan

Energy-efficient projects, electric vehicles, residential solar energy systems, and other environmental projects are the targets of these loans.

Bonds with Green Features

For environmental initiatives, green bonds supply the majority of the funding. Included in these are bond investments, the proceeds from which are used to fund a range of environmentally friendly projects, including conservation, clean transportation, and renewable energy.

Benefits of Green Finance

- Enhances Business Value,
- Creates a Comparative Advantage,
- Encourages the Development of Environmentally Friendly Infrastructure, and
- Promotes the Spread of Technologies

LITERATURE REVIEW

Green finance facilitates sustainable economic development through financial markets. A range of techniques are employed by green finance to bolster the expansion of the green economy. He et al. (2019) recognizes the significance of green credit as a threshold variable and develop threshold effects models to explore the impact of renewable energy investment on China's green economy.

According to Cigu (2020), using public policies, green finance could help strike a balance between environmental conservation and economic growth.

Lee (2020) looks into how green money is boosting China's sustainable economy.

Mei and Zhang (2022) create System Data Mining models and panel in their study look at industrial pollution and green funding levels in 30 Chinese provinces. The findings demonstrate that green funding has a direct detrimental impact on industrial emissions as well as a restraint effect.

Zhang et al. (2022) Analyze the connection between green money, digital finance, and environmental preservation in G-20 economies using a panel quantile model. The findings indicate that one way to reduce emissions is through green finance.

A large sample panel model with 44 countries is also examined by Alharbi et al. (2023). They emphasize how green bonds, a symbol of green financing, assist the growth of renewable energy.



The findings show that green finance has a major and advantageous long-term influence on the growth of renewable energy sources.

Employing green policies helps to promote the expansion of the green economy. The impact of policy execution on the green economy has been studied from both a theoretical and empirical perspective.

According to **Campiglio (2016)**, monetary policies have a good impact on low-carbon businesses. By creating credit, these industries may receive additional financial backing, and this strategy would work particularly effectively in developing nations.

Monetary policies and sustainable energy output may be related, based on empirical data collected from Iran between 1984 and 2016, **Razmi and Wang et al. (2021)** assert that industrial structure optimization, technical innovation, and green financing reform policies boost the regional level of green growth.

Muganyi et al. (2021) develop a semi-parametric Difference-in-Differences (SDID) model using panel data from 290 cities and text analysis. The need of green funding solutions for lowering industry emissions is emphasized in the paper.

Li et al. (2022) claim that environmental taxes and other green policies, such as green finance, also greatly boost investment in renewable energy. Moreover, the relationship between investments in renewable energy and green financing is moderated by the extent of green legislation. Ecological financing is critical to economies' decarbonization, as are green financial policies such as carbon taxes, green subsidies, and environmental regulations (**Lee et al., 2023**)

RESEARCH METHODOLOGY ANALYSIS AND INTERPRETATIONS OF DATA Green Bonds Growth rate

Table 1

Year	Green Bonds	Growth rate (%)
2017-18	169.1	6.62
2018-19	269.1	59.13
2019-20	303	12.60
2020-21	582.4	92.21
2021-22	487.1	(16.36)

Published by Statistics Research Department

Interpretations: Public and corporate entities can issue green bonds as a means of self-financing. Table No. 1 above shows the annual increase in green bonds, excluding 2022. As of 2020 and 2022, the growth rate has also decreased significantly.

Research Design: This study used in descriptive research approach.

Sample Size: Five years of data (1-4-2017-31-3-2022) make up the sample size.

Data Collection: Data are based on secondary data which is collected from internet (Published by Statistics Research Department).

Hypotheses testing tools: Karl Pearson coefficient Correlation & T-test

Objectives of the study

- To study about green finance effects on Economic growth in India.
- To know about the factors of green Finance of India (Like green Bonds, Loans, Debt Financing & GDP Growth rate etc.).

Hypothesis of the Study

H01: The usage of Green Finance (Green Bonds) has no positive impact on economic growth (GDP) of India.

H11: The usage of Green Finance (Green Bonds) has positive impact on economic growth (GDP) of India.

H02: The usage of Green Finance (Green Loans) has no positive impact on economic growth (GDP) of India.

H12: The usage of Green Finance (Green Loans) has positive impact on economic growth (GDP) of India.

H03: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

H13: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

Limitation of the study

- Time and money are limited.
- Data spanning only five years is examined
- This analysis only considers green financial factors

Hypothesis Testing

First Hypothesis

H01: The usage of Green Finance (Green Bonds) has no positive impact on economic growth (GDP) of India.

H11: The usage of Green Finance (Green Bonds) has positive impact on economic growth (GDP) of India.



Year	Green Bonds Growth rate	Economic Growth Rate	Correlation Results	t-test results	Hypothesis Results
2017-18	6.62	3.87	-0.3199	P Value: 0.5701 & t-test results: 0.5848	H01 Accepted & H11 Failed to accept
2018-19	59.13	-5.83			
2019-20	12.60	9.05			
2020-21	92.21	7			
2021-22	(16.36)	7.85			

According to the above analysis, there is a low degree negative correlation (-0.3199) between the growth rates of green bonds and the economy, and the results of the hypothesis test show that the calculated t-test value (0.5848) is less than the table value (3.24).

As a result, the alternate hypothesis (H11) is rejected and the null hypothesis (H01) is accepted, leading us to the conclusion that green bonds have no beneficial effect on India's economic growth.

Green Loans Growth rate

Table 2

Year	Green Loans	Growth rate (%)
2017-18	1597.58	13.42
2018-19	1811.17	13.36
2019-20	2107.78	16.38
2020-21	2365.22	12.21
2021-22	2642.89	11.74

Published by Statistics Research Department

Interpretations: Green loans, like green bonds, raise capital for eligible green projects. Conversely, a green loan is based on a smaller loan than a bond that is typically produced in a private operation. Every year, green loans are increasing over Table No. 2. The amount of green loans has increased annually, although during these study periods, the growth rate has slightly changed.

Hypothesis Testing

Second Hypothesis

H02: The usage of Green Finance (Green Loans) has no positive impact on economic growth (GDP) of India.

H12: The usage of Green Finance (Green Loans) has positive impact on economic growth (GDP) of India.

Year	Green Loans Growth rate	Economic Growth Rate	Correlation Results	t-test results	Hypothesis Results
2017-18	13.42	3.87	0.1249	P value: 0.8414 T -test results: 0.2180	H02 Accepted & H12 Failed to accept
2018-19	13.36	-5.83			
2019-20	16.38	9.05			
2020-21	12.21	7			
2021-22	11.74	7.85			

According to the above analysis, there is a very weak positive correlation (0.1249) between the growth rate of green loans and the growth rate of the economy. The results of the hypothesis test show that the calculated t-test value (0.2180) is less than the table

Green Finance (Debt Financing) Growth rate

Table 3

Year	Green Finance (Debt Financing)	Growth rate(%)
2017-18	217	2.57
2018-19	229	5.53
2019-20	258	12.66
2020-21	248	(3.88)
2021-22	238	(4.03)

Published by Statistics Research Department

Interpretations: The proceeds of a green debt financing instrument are allocated to assets or projects that can be

value (3.24), which means that the alternate hypothesis (H12) is rejected and the null hypothesis (H02) is accepted. As a result, we can conclude that there is no positive impact of green loans on the economic growth of India.

demonstrated to have a positive, quantifiable impact on the environment, just like any other credit instrument of a similar kind. Table No. 3 above shows an annual increase in green debt



financing, with the exception of 2021 and 2022. Along with the decline in 2021 and 2022, the growth rate has also accelerated.

Hypothesis Testing

Year	Green Finance (Debt Financing) Growth rate	Economic Growth Rate	Correlation Results	t-test results	Hypothesis Results
2017-18	2.57	3.87	0.5768	P value: 0.3087	H03 Accepted & H13 Failed to accept
2018-19	5.53	-5.83		T -test results: 1.22	
2019-20	12.66	9.05			
2020-21	(3.88)	7			
2021-22	(4.03)	7.85			

The above analysis the relationship between green finance (Debt Financing) growth rate and economic growth rate are moderate degree of positive correlation (0.5748) and the hypothesis testing result are the calculated value of t-test (1.22) are less than the table value (3.24) so Null hypothesis (H03) is accepted and alternate Hypothesis (H13) are failed to accept so we concluded that the green finance (Debt Financing) has no positive impact on economic growth of India.

FINDINGS, CONCLUSION & SUGGESTIONS

Findings

- Green bonds rise annually in table no. 1 above, with the exception of 2022. with the exception of 2020 & 2022, the growth rate has also sharply increased.
- Green loans are rising annually in above table no. 2, green loans amount is increase in every year but growth rate slightly change during these study periods.
- Green debt financing rise annually in table no. 3 above, with the exception of 2021 & 2022. with the exception of 2021 & 2022, the growth rate has also sharply increased.

Conclusions

Green growth relies on green finance as its foundation. Green debt financing, green bonds, and green loans collectively form the ensemble that is green growth. Together, the components should sound harmonious, not discordant. Given that India may currently build its economy in a way that lessens the effects of environmental degradation, the country's finance sector has a lot of potential. Financial institutions ought to engage in sustainable development not just directly but also indirectly, by using their influence over investment and management decisions to encourage the company to set and achieve more ambitious social and environmental goals. According to the results of the current study, green finance components including green bonds, green loans, and green debt financing have no beneficial impact on the economic growth of the country.

Suggestions

- Firstly, government departments should keep pushing hard in the upcoming years to enhance the green financial market system, encourage businesses to actively research

Third Hypothesis

H03: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

H13: The usage of Green Finance (Debt Financing) has positive impact on economic growth (GDP) in India.

cutting-edge green technologies, and encourage the green economy's transformation and industrial structure optimization. Moreover, the establishment of information-sharing protocols, harmonized regulatory frameworks, coordinated risk management plans, and cooperation between the financial sector and the carbon market will all contribute to the stability of the market during the green transition.

- By passing green development legislation, the government can also impose restrictions on the number of resources used and pollutants released by companies during the production process. In order to increase the overall efficiency of the green economy, these policies may enhance scientific and technological innovation by fostering the development of green technologies, including those for pollutant treatment, carbon capture and storage, and the production, transmission, and storage of renewable energy.

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LIVED EXPERIENCES OF PHYSICAL EDUCATION TEACHERS IN HAVING MULTIPLE DESIGNATION IN SCHOOL

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ABSTRACT

This phenomenological study aims to investigate the experiences of Physical Education teachers having Multiple Designation in School in public secondary schools, Davao de Oro Division. Furthermore, this research also aimed to explore and completely comprehend the various encounters faced by the participants as well as the perspectives on managing multiple roles within their educational contexts. Fourteen (14) teachers who took part in the study, there were 7 (seven) participants for the in-depth interviews (IDI) and another 7 (seven) participants who participated through focus group discussion (FGD). Moreover, purposive sampling was used to choose the participants, and data was collected via in-depth interviews and focus group discussions. The findings identified five (5) major themes from the participants' experiences: difficulties in time management; acquisition of new learning; development of positive attitude towards tasks; pressure and stress in multiple designation; and failure to attend the class. Additionally, there were five (5) major themes developed relative to the participants' strategies and coping mechanisms such as: employing proper time management; establishing collaboration among colleagues; disseminating responsibilities properly; organizing tasks by priority; and developing optimism on workloads. Finally, the participants expressed their insights that revealed the four (4) major themes: propagate designations among PE teachers; embracing the challenge while enjoying multiple designation; personal and professional development through multiple designation; and escalating time management skills. Regardless of the difficulties experienced by the teachers having multiple designation, the PE teachers collaborated on overcoming obstacles and discover alternative methods by meeting the demand for acceptance and reinforcing social cohesion and creation of safe and friendly environment for PE teachers in having multiple designations in school.

KEYWORDS: *Physical Education, Lived Experiences, Multiple Designation, Division of Davao de Oro*

INTRODUCTION

In today's school context, being a physical education teacher sometimes felt like the most rewarding yet challenging role, which required a significant amount of effort and work. Multiple designations could also refer to the multiple roles of a PE teacher in school. Work-related stresses encountered by PE teachers have been reported to alter their motivation and behavior, hence, PE teachers' perceived demands at work may affect not only their own mental health, but also the atmosphere they create (Franco et. al, 2023).

Further, a study conducted by N. Cabugatan & S. Belleza (2024) asserts that there was a very high degree of role expectation conflict in stressors related to the workplace of PE teachers. It suggests that role expectation conflict and other work-related pressures are constantly present that physical education teachers might not prioritize assignments or make judgments, which would reduce their efficacy and productivity.

Additionally, adversities in the workload have a negative effect on teachers' ability to teach in terms of the courses they are assigned and the activities they are responsible for at school and

has a negative effect on teachers' ability to teach and wellbeing (Banal CL & Ortega-Dela Cruz RA, 2022).

In Indonesia, the effectiveness of physical education teachers is significantly impacted by additional responsibilities such as bookkeeping or serving as treasurer, among others. As a result, the added task is quite difficult for a teacher. (Kurniawan, et. al., 2021). In Slovakia, according to physical education teachers, the quantity of superfluous paperwork and administrative tasks that teachers must complete during breaks is what irritates them the most. (Balga & Antala, 2022).

Furthermore, in Pakistan, Physical Education teachers carry out a variety of administrative tasks. They were employed as Chief Proctors, in control of various committees, and charged with stockkeeping. Physical education teachers continue to have a larger workload than other staff members, which impacts how well they execute their jobs, but they can do this because of their positive professional attitudes. (Muhammad & Khan, 2020).

In the Philippines, particularly in Samar, Tilan (2022) found out that the four institutions in Samar Island have basic physical



education instructors who are qualified both personally and professionally to teach at their various universities.

This suggests that they possessed the confidence and bravery necessary to carry out their duties within the framework of higher morale and improved teaching performance. As a result, it surely helped students do better on academic tests as well as in PE classes.

An investigation conducted in the city of San Fernando, Pampanga revealed that workloads may increase a person's propensity for suicidal thoughts due to stress and depression as a result of being unable to cope with a number of issues. PE teachers have different stressors at work, which were frequently connected to the mountains of different unreasonable workloads, unhealthy work environments, and uncaring superiors, as well as being unaccustomed with public school demands, experiencing cultural shock, and having an uneven schedule that exceeds their physical and financial capacity (Dominado, 2021).

Also, based on my firsthand experience as a physical Education teacher in the Division of Davao de Oro, some of the PE teachers experienced handling multiple designation in school such as: Class adviser, coach, and handling coordinatorship from the different level of expertise in which they found it quite exhausting and frustrating to juggle in just one seating.

During my literature review, I found that there were similar studies that dealt with the lived experiences of PE teachers having multiple designation in school. Recent studies include, "Work-related Stressors and Efficacy as Predictors of Work Performance among Physical Education (PE) Teachers in Davao De Oro" (Normalia S. Cabugatan and Saramie S. Belleza, 2024) and "Burnout Among Physical Education Teachers" (Kaur, 2023). Based on these studies, the researcher has not yet identified studies that highlight the experiences of Physical Education teachers with multiple designations in school in the local setting.

This study bears great significance, especially for PE teachers in the local region, as it would give additional insight into problems relating to multiple designation teachers and might help improve the quality of their teaching performance. This research would also benefit the educational organizations, mentors, and PE teachers to overcome the challenges and find strategies to connect teachers' interactions and served as a basis for the improvement of PE teachers in school. To distribute the findings of the study, I would send a copy to the Office of Davao de Oro Division. Additionally, I aim to present my research findings at national and international conferences to reach a broader audience.

Purpose of the Study

This phenomenological study aimed to explore and completely comprehend the various encounters faced by PE teachers in having multiple designation in public secondary schools,

Division of Davao de Oro. At this point in the study, having multiple designation was commonly defined as PE teachers having multiple roles, tasks, and obligations such as being a classroom teacher, subject coordinator, teacher – specialist, coaching and other designations in school in which they felt were unnecessary to carry out.

Research Questions

1. What are the experiences of Physical Education teachers in having multiple designations in school?
2. How do Physical Education teachers cope with the challenges relative to having multiple designations in school?
3. What insights can the participants draw from their experiences of having multiple designations in school?

REVIEW OF RELATED LITERATURE

Multiple Designation of Teachers

Some people feel that the role of a teacher is to instruct and inform students on a given subject. Teachers, on the other hand, play a varied function in the classroom and across the school (OWIS, 2021). Ensuring that all children of school age have access to education is one of the most important duties of education policy. A balance number between the teachers needed and the number of students both in elementary and secondary schools must be struck. In both public and scientific debate, an inequality between supply and demand—specifically, a lacking number of teachers—creates mayhem (Blanco et.al., 2023).

Nowadays, teachers are expected to take a more active role in accomplishing learning objectives. These tasks include providing instructional materials and exercises, creating project-based learning environment and activities, and encouraging critical and creative thinking. Teachers are so overwhelmed by their tasks and responsibilities that they regularly become perplexed in defining their positions (Siddiqui, 2020).

Experiences of PE teachers with Multiple Designation

Physical education teachers, who serve in a variety of diverse and specialized positions as teachers, authorities, organizers, and administrators, are prone to job stress (Yadav, 2019). Additionally, Adawiah & Romadona (2021) stated the lack of teacher self-efficacy manifests in several characteristics: a lack of confidence in their ability to handle tasks of varying difficulty levels, uncertainty in performing duties across different activities, and diminished belief in their own capabilities. When implemented effectively, it can enhance comprehension, improve retention of knowledge, and facilitate deeper exploration of subjects. Furthermore, it allows individuals to include valuable activities outside of work, such as leisure, social relationships, and personal improvement. (K. Majini Jes Bella, 2023).



Coping Mechanism of PE teachers with Multiple Designation

A study conducted by Toñacao & Olivia (2023) stated that despite the challenges and stress, the participants manage to endure by utilizing different coping strategies. They focus on the positive side of their experiences, learning to accept, enjoy, and find fulfillment in their current situation.

Montañez (2024) highlighted that teachers with multiple responsibilities face significant challenges, including difficulties with time management, health risks, and impacts on their personal lives. Nevertheless, they utilize effective coping strategies, such as managing their time efficiently, tackling academic challenges, and multitasking.

Pagulong et al., (2022) stated that the impact of stress on physical and mental health requires a clear understanding of the coping mechanisms used by physical education (PE) teachers.

Insights from PE teachers with Multiple Designation

A study revealed by Montañez (2024) that the insights gained by PE teachers with multiple roles drawn from their expertise, contributed to their personal and professional development, provide valuable support, and enhance their overall productivity.

High intrinsic motivation and low burnout levels can positively impact teachers' job satisfaction. Factors like social support, rewards, and a sense of accomplishment at work can enhance job satisfaction by boosting motivation and reducing burnout. Additionally, an unmanageable workload, role conflict, and inadequate organizational support can contribute to stress and reduce job satisfaction. In contrast, improved job performance and robust organizational support can boost job satisfaction (Gazali et al., 2024).

As stated in the research conducted by Opstoel et al., (2025) pointed out that acquiring personal and social skills is an important educational goal and part of citizenship education. In physical education (PE), transferring and sharing responsibility for managing activities is a method to achieve this goal.

Similarly, in their study of Ferry M. et al., (2023) stated that participants such as Eva, who shared similar experiences, had built different networks to address their professional isolation.

METHODS

Research Design

This study employed a qualitative phenomenological approach in exploring the lived experiences PE teachers in having multiple designation in school. Tomaszewski et.al., (2020) pointed out that qualitative research design is described as a people's real lived experiences over the opinions of researchers and participants, and susceptible to subjectivity and prejudice of the latter.

PRESEARCH PARTICIPANTS

In this study, 14 multi-designated physical education teachers from public secondary schools in Davao de Oro had participated, including seven (7) physical education teachers for an IDI and another seven (7) participants for FGD.

David Renwick (2019) states that there is a strong case for focusing on a select group of participants. In interview-based research that is authored by Mira Crouch & Heather McKenzie (2006) points out that 20 participants or less produces better data for a qualitative study. small group allowed the researcher to develop trusting relationships with the participants, resulting in more honest conversations and better data.

RESULTS

Table 1

Major Themes and Core Ideas on the Lived Experiences Physical Education Teachers in Having Multiple Designation in school

Major Themes	Core Ideas
Difficulties in Time Management	• difficulty in allocating time for various activities and class advisory • having trouble in working on various tasks which led to stressful encounter • encountered challenges in maintaining time management due to work prioritizations, which slowed down the completion of the various tasks • finding it challenging due to the difficulty in maintaining focus on the various tasks at hand
Acquisition of New Learning	• earning a positive mindset in overcoming challenges • attaining self – confidence in handling various roles • had no knowledge in a certain designation but eventually learned from it • gaining new skills from the people who brought the same experienced in having multiple designation
Development of Positive Attitude towards Tasks	• cultivating a mindset that offers growth opportunities with optimism and confidence to succeed • striving to learn new things in order to achieve significantly better results • developing patience and perseverance through managing multiple roles



	possessing a positive attitude towards multiple tasks helps develop emotional resilience and strengthens both mental and physical well-being
Pressure and Stress in Multiple designation	- facing difficulty in completing various tasks due to their overlapping nature - experienced challenges working late due to numerous tasks - feeling discouraged due to an overwhelming number of tasks - encountered working on unrelated tasks, which led to increased pressure and exhaustion
Failure to Attend the Class	- had difficulty in attending class because of the tasks that were being prioritized in their assigned designation - conflicting schedules due to urgency of the tasks that needed to be done - had encountered some students who were happy that their teachers were not around - feeling unproductive in attending class due to the pressure of meeting deadlines for additional tasks

Difficulties in Time Management

This was narrated by FGD-05, who said:

“Walay problema it’s just that kanang magdungan dungan ang mga tasks nga kanang ma test ang time management, ang pag platar sa activities, ug ang pinaka maigo jud is ang imong advisory.”

(I do not have any problem of having multiple designations [at school]. However, it is challenging to manage the time especially if multiple tasks are given along with facilitating various activities. Most of the time, time allocated for class advisory is compromised.)

Acquisition of New Learning

IDI – 04 shared that:

“Maka learn kog mga bag-o kay sauna naa man tay dili mahibal-an nga mga trabahoon pero as time goes by nga gihatag ni sa imoha nga designation murag nahimo napud isyang way nga para ma expose ka sa uban nga mga trabahoon. Then maka learn ka, and learning is fun kay bisan kapoy siya worth it man pud kay naa kay natun-an.”

(I learn new things by accepting designations since there are tasks that are new to you. Accepting designations is also a way to be acquainted with new tasks where you learn new things albeit feeling tired thereafter.)

Development of Positive Attitude towards Tasks

As FGD-06 stated that:

“Dawatong lang jud ang mga challenge sa atong workplace, kay aside makatabang na sa atoa to grow, makatabang pud na sa tanang aspect sa atong kinabuhi. Ug ma explore pud nato

unsa kadako ang scope of being a teacher. And at the end of the day if ma accomplish nimo ang task, maka ingon ka, kaya raman diay nako.

(By accepting the challenges, it could help us grow and led us to self – satisfaction in every aspect of our lives. Made us also realized that we could do it.)

Pressure and Stress in Multiple Designation

This was supported by the statement of FGD – 06, who said.:

“Ang akong experience ani nga designation kay perting lisoda labi nag magdungan dungan ang mga report nga gipangayo gikan sa district paingon sa division, ma stress jud ko kay maglibog ko asay unahon nga designation. Mao nga ma stress jud ko.”

(I experienced much difficulty from this designation especially when reports are needed to be submitted simultaneously to the district level up to the division level. It causes me so much stress on choosing what to prioritize first among these stacks of designations.

Failure to Attend the Class

This was supported by the statement of FGD – 01, who said:

“Oo dako kaayo siya ug epekto kay sa kadaghan ba naman nako ug designations naa jud mga time nga mabiyaan nako ang klase kay naay mga kailangan I comply nga mga reports ug kailangan isubmit sa division or district.”

(Having multiple designations has greatly affected my teaching job. At times, you have to leave the class because a report must be submitted immediately to the division or district office.)



Table 2

Major Themes and Core Ideas on the Coping Strategies of Physical Education Teachers in having Multiple Designation in School

Major Themes	Core Ideas
Employing Time Management Techniques	• creating a to-do list and scheduling tasks to ensure timely completion of multiple designations according to their expected deadline • organizing the desired schedule for a particular day to avoid intersecting multiple designations through systematizing according to its urgency • using efficient time management techniques through categorizing designations to provide a satisfying and fruitful result • had experienced sacrificing family time due to a lack of time management techniques • organizing tasks based on their urgency to submit by constructing a to – do list • planning ahead of time helps minimize the overlapping tasks
Apportioning Tasks and Responsibilities to Colleagues	• allocating designations to ensure that tasks are equally distributed and that no one member of the team becomes overtaxed • assigning tasks to teachers to lighten the load of designations and ensure everyone has something to accomplish • seeking assistance from others is essential for collaboration among PE teachers • designating tasks, as some teachers are waiting for you to reach out to them
Developing Optimism on Workloads	• having a positive mindset to keep going despite having various tasks • putting God at the core of everything we do • feeling the courage of embracing the difficulty on various tasks

Employing Time Management Techniques

The IDI 07 shared that:

“One of my strategies is to list all my tasks to do. Then, pagmahuman next task napud. Tapos dili jud maghulat nga magtapun-og ang mga trabaho para maka move on na sa sunod nga task.”

(One of the strategies that I employ is to list down all the tasks that I needed to do. After accomplishing one, I engage into doing the next tasks which keeps me from having stacks of overwhelming tasks.)

Apportioning Tasks and Responsibilities to Colleagues

This was supported by the statement of IDI – 05:

“Dili maulaw mo reach out sa mga kaubanan nga mangayo ug tabang. Kay usahay man gud naay mga task ikaw mahan-ukan kay labi na PE ka, ikaw ang madali dali ug tawag.”

(You should never hesitate to tap the assistance of your colleagues. There are really times that tasks are daunting, and these are assigned to you right away because they believe you can do it since you are a PE Teacher.)

Developing Optimism on Workload

This was supported by the statement of FGD-04, who said:

“Actually, gina enjoy lang jud nako. Actually, malingaw raman pud ko bisan unsaon nako. Tinood trabahoso jud siya pero wala jud nako na feel nga daghan kog designations kay tungod gina enjoy raman gud nako. Siguro makita sa uban nga gikapoy nako, pero gina enjoy lang jud nako.”

(I get to enjoy my designations. Despite the daunting tasks, I still find joy in accomplishing each assigned task. Others may see me tired at times, but still I am enjoying my designation.)



Table 3

Major Themes and Core Ideas of the Insights Drawn from the lived experiences Physical Education Teachers in having Multiple Designation in school

Major Themes	Core Ideas
Appropriating Designation Properly	- designating task to newly hired teachers to be trained - dividing properly the tasks to the teachers - acknowledging the norms of being an educator on handling various tasks - Exploring the benefits of handling designations effectively as a continuous learning process
Embracing a Positive Disposition	- accepting the various tasks to grow holistically - assuming multiple designation for personal and professional growth - being flexible to do the tasks to achieve desired output - promoting self – discipline and positive mindset to achieve - exploring other designations for personal growth and benefit
Valuing Professional Growth	- taking the challenge to grow - discovering the ability to push beyond limits - building strong relationships through exciting opportunities - recognizing the importance of perseverance to keep moving forward

Appropriating Designation Properly

FGD - 01 shared that:

“Thatag jud sa katong pwede matagaan kay para ma train pud sila especially the newly hired teacher’s para mag grow pud sila.”

(Designate some tasks to those who can do it because it is in a way training them for the future. Give some of those tasks to the newly hired teachers as this will help their professional growth.)

Embracing a Positive Disposition

FGD – 06 stated that:

Dawat lang mo para daghan ta. Dawatong lang jud ang mga challenge sa atong workplace, kay aside makatabang na sa atoa to grow, makatabang pud na sa tanang aspect sa atong kinabuhi. Ug ma explore pud nato unsa kadako ang scope of being a teacher. And at the end of the day if ma accomplish nimo ang task, maka ingon ka, kaya raman diay nako.

(Acceptance is crucial for our growth. Embrace the challenges in our workplace, for they not only help us to grow but also contribute to every aspect of our lives. This will also allow us to explore the full scope of being a teacher. At the end of the day, upon accomplishing a task, you can confidently say, 'I am indeed capable of achieving this.)

Valuing Personal Growth

This was stated by FGD – 03 which said that:

“It’s a great challenge to grab this kind of opportunity. It makes you grow personally and of course sa atong pagpanerbisyo as teacher. Obey lang jud sa atong Makaya and God will do the rest.”

(Seizing this type of opportunity presents a significant challenge. It facilitates personal growth and, of course, enhances our service as teachers. Do your utmost, and God will handle the rest.)

IMPLICATIONS FOR TEACHING PRACTICE

This implies that teachers indeed play various roles in the educational institution and must be fully aware of their several

responsibilities as teachers handling multiple designation in school. Thus, PE teachers should be constantly monitored by their respective heads for them to know the aspects they possibly need to work on more, especially with the demands of various tasks they faced in .Also, multi – designated teachers should always be willingly embrace challenges positively and be more open to the trends, and in general be more humane to overcome any possible, unexpected, and drastic changes that may occur in the future.

RECOMMENDATIONS FOR FURTHER RESEARCH

Based on the findings presented in the study regarding the experiences of PE teachers in handling multiple designation in school. Several recommendations for further research can be proposed to deepen our understanding and improve pedagogical practices in this innovative educational setting. To achieve more robust results, it is recommended that additional research involve a larger sample size and encompass more prominent educational settings. Expanding the scope of research in this manner could yield more comprehensive insights into the challenges and strategies related to handling multiple designations in educational environments.

CONCLUDING REMARKS

This study underscores the significance of exploring the experiences of physical education teachers in handling multiple designations. By delving into the experiences and perceptions of PE teachers, teachers can gain valuable insights into practical pedagogical approaches that enhance their time management techniques and foster positive disposition on various tasks.

In conclusion, simply hiring administrative officers at the school is insufficient, despite the existence of a memorandum supporting this initiative. It doesn’t significantly assist PE teachers, as having multiple designations within the school becomes a challenge.



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EXPLORING THE SOCIAL AND ACADEMIC SKILLS OF STUDENTS: THE CASE OF COLLEGE OF CRIMINAL JUSTICE EDUCATION OF CICOSAT COLLEGES

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ABSTRACT

This study aimed to determine the impact of the social skills and academic skills of the students of the college of criminal justice education in cicosat colleges, lingsat, city of san fernando, la union. This study made used of mixed method using convergent parallel design. Convergent parallel design is use for the collection and analysis of quantitative data and qualitative data at the same time, then analyze them separately. Weighted mean was used to determine level of the student's social skills, academic skill and the impact of in the college of criminal justice education in cicosat colleges, lingsat, city of san fernando, la union. While thematic analysis was used to identify, analyze and reporting patterns within data of the impact do social and academic skills have on students' academic performance within the college of criminal justice education at cicosat colleges. Based on the findings of the study, the students at the college of criminal justice education at cicosat colleges possess strong social skills, with notable strengths in communication, active listening, and empathy. However, areas such as conflict resolution and the integration of student feedback into teaching practices present opportunities for further development. These insights can guide targeted interventions and programs to enhance students' social skills, ultimately contributing to their personal growth and professional readiness. The students at the college of criminal justice education at cicosat colleges demonstrate strong academic skills, particularly in communication, critical thinking, and research. These skills are essential for success in their field, enabling them to apply theoretical knowledge to practical situations, engage in ethical considerations, and prepare for professional roles in criminal justice. However, areas such as presenting personal interpretations under communication, troubleshooting computer issues under computer literacy, and using diverse research tools present opportunities for further development. These insights can guide targeted interventions to enhance students' academic skills, contributing to their personal and professional growth.

KEYWORDS: social skill, academic skill, criminology

INTRODUCTION

Rationale

In the ever-evolving field of education, the integration of social skills with academic instruction is paramount to equipping students with the tools they need to navigate the complexities of the modern world. As Burke (2018) emphasizes, combining social and academic skills fosters adaptability and resilience, empowering students to address challenges effectively. This intersection is particularly critical because social and academic skills are not isolated competencies but interdependent abilities that contribute to holistic development.

Social skills, encompassing communication, empathy, and emotional regulation, are essential for fostering positive interactions in diverse social settings (Walker, 2023). These skills extend beyond mere behavior to include the nuanced competencies that enable individuals to understand, connect, and thrive in various environments, including classrooms. Research by McClelland et al. (2000) and Yen et al. (2004) underscores that these learning-related social behaviors significantly predict

academic performance, highlighting their integral role in school success.

Conversely, academic skills—such as critical thinking, time management, and research proficiency—form the foundation for scholastic achievement and are transferable to broader life contexts (Skillyouneed, 2023). These skills enable students to engage with content, collaborate effectively, and excel in intellectual pursuits. Importantly, the development of academic skills is enhanced through active classroom discourse and interactions, which are deeply rooted in social competencies (Sung, 2009).

In the Philippine context, where higher education is regarded as a pathway to secure a better future, fostering both social and academic skills is imperative. Studies conducted in local institutions, such as La Salle University and the University of Bohol, highlight the importance of social competencies like cooperation in enhancing academic engagement and performance (Cadosales, 2013; Paroginog, 2018). These findings are



consistent with research emphasizing the interplay between social skills, academic engagement, and overall achievement.

Furthermore, the role of educators in cultivating these skills is pivotal. Through deliberate pedagogical strategies, such as leveraging narratives to explore emotions and fostering inclusive classroom environments, educators can promote both academic success and emotional growth (Burke, 2018; Govindaraju, 2022). Recognizing this synergy, institutions like CICOSAT Colleges are poised to implement targeted programs that nurture both skill sets, preparing students for professional success in fields like criminology (Abbott, 2022).

This study is motivated by the growing recognition of the interplay between social and academic skills in shaping students' educational experiences and outcomes. By examining the impact of these skills on academic performance, the research aims to provide actionable insights that will inform the development of student programs to enhance their holistic growth and success.

Research Objectives/Questions

The study aimed to assess the influence of students' Social and Academic Skills on their academic performance.

Specifically, it sought to answer the following questions:

1. What is the level of the student's social skills in the College of Criminal Justice Education of CICOSAT Colleges?
2. What is the level of the student's academic skills in the College of Criminal Justice Education of CICOSAT Colleges?
3. The impact does social and academic skills have on students' academic performance within the College of Criminal Justice Education at CICOSAT Colleges?
4. What are the different measures to enhance the social skill and academic skill of the College of Criminal Justice Education student?

Theoretical Background

This study draws upon Behaviorism Theory (Skinner, 1974), Self-Determination Theory (SDT) (Deci & Ryan, 1985), and Ecological Systems Theory (Bronfenbrenner, 1979):

- Behaviorism Theory posits that learning occurs through conditioning and reinforcement, where behaviors are shaped by repeated associations between stimuli and responses.
- Self-Determination Theory (SDT) emphasizes the fulfillment of three psychological needs—competence, autonomy, and relatedness—as critical to motivation and well-being.
- Ecological Systems Theory suggest a comprehensive perspective on how multiple environmental systems influence individual development.

LITERATURE REVIEW

The integration of social and academic skills is crucial for students to navigate the complexities of the modern world.

Combining these skills helps students develop the adaptability needed to address challenges (Burke, 2018). Social skills, including communication and emotional regulation, facilitate effective interaction, while academic skills like critical thinking and time management form the foundation for success (Skillyouneed, 2023). The classroom serves as a key environment for developing and applying these skills, with positive social interactions enhancing academic performance (Levin et al., 2008). Underdeveloped social skills can hinder academic engagement, leading to frustration and negative behavior (Calvin, 2009).

Research indicates that social competencies significantly impact academic performance, with studies showing that these skills predict success in both early and higher education (McClelland et al., 2000; Yen et al., 2004). Studies in the Philippines, such as those by Cadosales (2013) and the University of Bohol, reveal that students possess moderate social skills, particularly in cooperation, but require targeted programs to enhance other skills (Paroginog, 2018). Institutions like Northwestern University and CICOSAT Colleges recognize the importance of fostering both skill sets, as this contributes to academic success and career readiness (Abbott, 2022).

METHODOLOGY

This study employed a mixed-method approach with a convergent parallel design:

1. Quantitative Phase: Surveys assessed social skills and academic skills.
2. Qualitative Phase: Semi-structured interviews explored the impact of these skills on students and faculty members.

Research Locale

This study was conducted at CICOSAT Colleges, located in Lingsat, City of San Fernando, La Union. The location was chosen because the researcher, a faculty member at the institution, was motivated to contribute to the improvement of criminology students' academic performance.

Data Measure/ Instruments

1. Survey Questionnaire:
 - Likert-scale items captured data on social skill and academic skills.
2. Interview Guide:
 - Validated by experts to explore the effects of social and academic skills on both students and faculty members.

Data Gathering Procedures (with Ethical Guidelines)

- Participants were informed of the purpose, procedures, and potential benefits of the study before participating. Written consent was obtained from each respondent.
- Surveys were distributed to 294 students and 32 faculty members.
- Interviews were conducted with a subset of participants to collect qualitative data.



- Participants' identities and responses were kept confidential, with personal information being excluded from the report to protect their privacy.
- Participation in the study was voluntary, and participants were free to withdraw at any point without any negative consequences.
- The researcher ensured that the data collected was accurately recorded and analyzed, and findings were reported honestly and without manipulation.

Data Analysis

- Quantitative Data: Weighted Mean was used to analyze the survey responses, categorizing results into descriptive equivalents.
- Qualitative Data: Thematic analysis identified recurring themes, including gaps in resources, needs for training, and connectivity problems.

RESULTS AND ANALYSIS

Presentation/Report on the Results or Findings

Table 1: Level of Social Skills

Dimension	Weighted Mean	Descriptive Equivalent	Key Observations
Communication	3.20	Very Good	Students excel in verbal and written communication, enabling clear expression of ideas and active listening in discussions.
Active Listening	3.33	Excellent	Students work well in teams, respecting diverse perspectives and contributing positively to group efforts.
Interpersonal Relationship	3.16	Very Good	Students value diversity, fostering a respectful and inclusive environment by appreciating different cultures and viewpoints.
Conflict Resolution	3.10	Very Good	Students are skilled in conflict resolution, managing disagreements constructively and seeking peaceful solutions.
Empathy	3.17	Very Good	Students adapt to changing situations, perform well under pressure, and embrace new challenges.
Feedback	3.26	Very Good	Teachers' feedback plays a crucial role in students' academic growth, offering constructive criticism and guidance for improvement.

Table 2: Level of Academic Skills

Dimension	Weighted Mean	Descriptive Equivalent	Key Observations
1. Communication	3.21	Very Good	Students who present ideas confidently and respond constructively to feedback demonstrate a high level of professionalism, using appropriate language and adapting their style to suit academic and professional contexts
2. Computer Literacy	3.04	Very Good	Students' adeptness in presentation software allows them to effectively communicate ideas in both academic and professional settings.
3. Critical Thinking	3.21	Very Good	Students can approach complex problems systematically, consider multiple perspectives, and generate innovative solutions.
4. Research	3.20	Very Good	Students develop the skills necessary for conducting independent research, contributing to scholarly discussions, and producing original work that contributes to their personal and professional growth.



Table 3: Impact Of Social and Academic Skills on Students' Academic Performance Students Perspective

Challenges	Frequency (Students)	Key Observations
Role of Social Skills in Interactions within the Criminology Program	13 %	Students recognize the importance of strong social skills but struggle to apply them in diverse group settings.
Conflict Resolution and Interpersonal Communication Skills	20 %	A significant number of students face difficulties in resolving conflicts and managing interpersonal dynamics in group work.
Academic Efficiency	17 %	Some students report challenges with maintaining focus, meeting deadlines, and managing academic workload efficiently.
Academic Engagement and Personal Development	23 %	Many students express a need for more motivation and engagement in their academic pursuits, especially in theory-heavy subjects.
Building a Supportive Social Network	27 %	The majority of students highlight challenges in forming strong peer relationships and building a supportive network, which is crucial for academic success.

Table 4: Impact Of Social and Academic Skills on Students' Academic Performance Faculty Perspective

Challenges	Frequency (Faculty)	Key Observations
The Importance of Social Skills in Collaborative Academic Settings	27 %	Strong social skills are essential for collaboration in academic settings, enhancing teamwork and academic performance.
The Importance of Communication and Interpersonal Skills	23 %	Effective communication and interpersonal skills were noted as key factors in student success, both in academic and professional environments.
The Impact of Social and Academic Skills on Career Success in Criminology.	20 %	Faculty observed that students' social and academic skills significantly influence their career preparedness and ability to succeed in criminology.
Personal and Professional Development for a Career in Criminology.	17 %	Faculty emphasized the need for students to focus on both personal and professional development to thrive in the criminology field.
Self-improvement and Academic Growth in Criminology	13 %	Faculty discussed the importance of continuous self-improvement and academic growth in preparing students for future criminology careers.

ANALYSIS OF THE RESULTS/FINDINGS

The study found that students at the College of Criminal Justice Education at CICOSAT Colleges exhibit strong proficiency in both social and academic skills, essential for their academic success and future careers in criminal justice. In terms of social skills, students excel in communication, collaboration, respect for diversity, conflict resolution, and adaptability. These skills enable them to express ideas clearly, work effectively in teams, respect diverse perspectives, manage conflicts constructively, and adapt to changing situations, all of which are crucial for success in the criminal justice field. Regarding academic skills, students demonstrate solid capabilities in critical thinking, research, and writing, which are key for analyzing complex issues in criminal justice. They are also proficient in applying theoretical knowledge to practical situations, integrating insights from various

disciplines, and preparing for professional roles across criminal justice sectors. With that the students are well-equipped with the necessary skills for both academic achievement and professional excellence in criminology.

DISCUSSION

The study highlights the importance of developing a well-rounded skill set that includes strong communication, interpersonal abilities, time management, and research proficiency. Such skills not only contribute to academic success but also prepare criminology students for professional excellence in the criminal justice field. Therefore, continuous improvement in these areas is essential for the students' future career growth and their ability to contribute meaningfully to the field of criminology.



Recommendations

Table 5: Recommendation for the Improvement of the Students Social and Academic Skills

Conflict Resolution Training Workshops			
Challenge	Objectives	Proposed Solution	Responsible Parties
Limited resources for organizing workshops and engaging qualified experts. Some students may be reluctant to participate or may find the exercises difficult to relate to their field.	To improve students' ability to resolve conflicts effectively, a vital skill in criminal justice.	Conduct conflict resolution workshops led by experts, using interactive methods such as role-playing and group discussions to help students practice real-world scenarios.	The College of Criminal Justice Education's faculty, in collaboration with external experts in conflict resolution, should coordinate and facilitate the workshops.
Establishing a Structured Feedback Integration Program			
Challenge	Objectives	Proposed Solution	Responsible Parties
Ensuring consistent student participation and honest feedback, as well as ensuring faculty members are willing to adapt based on the feedback received.	To enhance teaching effectiveness and foster student engagement by ensuring feedback is properly integrated into the learning process.	Create a formal system for collecting student feedback regularly and ensure that feedback is used to adjust teaching methods and communicated back to students, explaining the changes made based on their input.	The Dean and Program Head of the College of Criminal Justice Education, in collaboration with faculty members, should oversee the implementation and management of this program.
Implementing Targeted Workshops on Public Speaking, IT Troubleshooting, Research Methodology, and Time Management			
Challenge	Objectives	Proposed Solution	Responsible Parties
Securing qualified instructors for diverse workshops, scheduling these sessions without disrupting regular academic commitments, and ensuring sufficient student participation.	To enhance criminology students' academic performance and career readiness by addressing gaps in key skills.	Organize workshops focusing on public speaking, IT troubleshooting, research methodology, and time management to provide students with practical skills that directly support their academic and professional success.	The College of Criminal Justice Education, along with the campus IT department and external experts in research methodology and public speaking, should be responsible for organizing and facilitating these workshops.

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UNLOCKING THE FACTORS THAT CAUSE EARLY CATARACT

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ABSTRACT

Cataract is one of the reversible blindness in this world. Cataracts, a leading cause of blindness, result from various factors beyond aging. While senile cataracts are common in the elderly, their diverse forms suggest multiple causes. Childhood cataracts are a leading cause of blindness in underdeveloped nations, particularly India, where they account for 7.4-15.3% of all blindness cases. Risk factors include smoking, UV-B radiation, diabetes, steroid use, heavy alcohol consumption, electric shock, and genetic conditions like Down syndrome and hereditary cataracts. Metabolic disorders such as galactosemia, infections like TORCH, and chronic diseases including chronic kidney disease, atopic dermatitis, hepatitis C, Wilson's disease, celiac disease, systemic lupus erythematosus, Fabry disease, and Marfan syndrome also contribute. Myopia, hypertension, and trauma, particularly in children, increase risk. Notably, high-dose vitamin C supplements may elevate cataract risk, unlike lower doses in multivitamins. Understanding these factors emphasizes the need for targeted prevention and early intervention to manage cataract risk and reduce vision impairment globally. In this review article we mainly find different types of factors that cause cataract.

INTRODUCTION

There are two types of blindness, Irreversible blindness and reversible blindness; the main aim is to avoid reversible blindness, to control the warden of blindness. Cataract is one of the reversible blindness in this world. According to the previous study there are 70 million facing childhood blindness and childhood cataracts accounting for approximately 10 million, which is almost 14% of the total [1]. A timely diagnosis and surgical intervention are critical for recovering vision and improving the overall health of affected youngsters.

Cataracts are classified into different categories according to their location and cause. There are several forms of cataracts: congenital cataract, nuclear sclerotic, subcapsular cataract, cortical cataract, Christmas tree cataract.

- **Congenital cataract:** - Congenital cataract is a lens opacity that appears at birth or develops shortly after in the postnatal era. It may be unilateral (affecting only one eye) or bilateral (affecting both eyes). Congenital cataract, which arises during critical phases of visual development, can cause considerable vision loss and, more significantly, severe amblyopia (lazy eye). Long-term follow-up and therapy are critical for affected individuals, as the underlying cause of congenital cataracts, cannot be determined in a large majority of instances. This emphasizes the significance of initiatives such as Vision 2020: Right to Sight, a global campaign aimed at eliminating preventable blindness globally. One of the

primary goals of this project is to address the causes of childhood blindness, such as congenital cataract [2].

- **Nuclear sclerotic cataract-** is primarily an age-related disease produced by changes that occur with age. It is frequently associated with myopia, which causes a secondary increase in the refractive index, allowing some older individuals to read without glasses, a phenomenon known as "second sight." In some situations, a hypermetropic shift can occur. Nuclear sclerosis is distinguished by a yellowish tint caused by the deposition of urochrome pigment, which is most apparent under oblique slit lamp light. While retro illumination reveals a strong red reflex, a thorough examination is required to distinguish between the nucleus and cortex. In severe situations, the nucleus may appear brown or even black [3].
- **Subcapsular cataracts-** come in two types:
 - (1) **Anterior subcapsular cataract-** This type of cataract develops behind the anterior lens capsule and is linked to fibrous metaplasia of the lens epithelium.
 - (2) **posterior subcapsular cataract-** It is in front of the posterior capsule and appears granular or plaque-like on an oblique slit lamp examination. Retro illumination gives these cataracts a black and vacuolated appearance due to enlarged migrating



epithelial cells. Because they are placed at the eye's nodal point, posterior subcapsular cataracts have a considerable impact on vision, resulting in symptoms like glare, halos, and photophobia [4].

- **Cortical cataracts-** may damage the anterior, posterior, or equatorial cortex of the lens. They appear as clefts and vacuoles between lenticular fibers, resulting in cortical hydration. This produces distinctive wedge-shaped (cuneiform) or radial spoke-like opacities, which are frequently first seen in the inferonasal quadrant. Glare and photophobia are two common symptoms related to cortical cataracts [5].
- **Christmas tree cataract-** is a rare kind of cataract distinguished by its unique look. Polychromatic, needle-like opacities are typical of the lens' deeper cortex and nucleus. The name comes from its distinctive colors and structure, which resembles a Christmas tree. This type of cataract may not have a substantial impact on vision in the early stages, but it can cause visual impairment as it progresses. Because of its rarity, further research is required to completely understand its causes and the best treatment choices [6].

Previous research has indicated that delayed presentation for therapy among children with childhood cataract is a common problem in low-income nations. These delays have been connected to a variety of causes, including socio-demographic and cultural concerns, as well as health-care system issues. It is critical to examine the precise causes of such delays in our environment to develop effective interventions and increase access to timely care [7].

India faces a tremendous difficulty with roughly 280,000 to 320,000 visually handicapped children, resulting in an estimated \$3.5 billion in economic losses. Improving community awareness, assuring early detection by healthcare practitioners, and permitting timely intervention by ophthalmologists are all critical steps toward addressing this issue. With these initiatives, we may aspire to eliminate preventable childhood blindness by 2020 [8]. Childhood cataract-induced blindness is a huge challenge, resulting in substantial economic loss, societal burden, and morbidity. Cataracts blind an estimated 200,000 children worldwide, with 20,000 to 40,000 children born with congenital cataracts each year. However, the prevalence of this illness varies around the globe [9].

Congenital cataracts involve a wide range of causes, and the exact cause in many children is unknown. But some of known reasons are genetic predispositions, metabolic abnormalities, and environmental influences, which can result in severe vision impairment and have a significant impact on a child's development, learning, and quality of life. It is the most widespread visual loss in children. However, autosomal dominant inheritance is frequently found in these circumstances, which means that a parent with a gene mutation has a 50% probability of passing it on to their child. Various genes have been

related to this illness, which can arise as solitary cases or as part of larger syndromes. Understanding these genetic variables is critical for diagnostics and genetic counseling [10].

Untreated cataracts in children lead to tremendous social, economic, and emotional burden to the child, family, and society. Blindness related to pediatric cataract can be treated with early identification and appropriate management. Most cases are diagnosed with routine screening whereas some may be diagnosed after the parents have noticed leukocoria or strabismus [11]. Early diagnosis and treatment are crucial for visual prognosis. It can be associated with various ocular and systemic abnormalities. Many genes have been identified in the molecular etiology of congenital cataract. Most mutations have been reported in the crystalline genes [12]. To estimate the occurrence of early cataract among patients with Down's syndrome and to evaluate the clinical characteristics of the cases [13]. To reduce the impact of childhood cataracts on blindness, we must increase access to eye care, enhance public awareness of the need for early identification, and engage in research to better understand the problem and develop viable therapies [14].

Prevalence

Childhood cataracts are the leading cause of blindness in underdeveloped nations such as India, accounting for 7.4-15.3% of all cases. This disorder not only impairs vision but also shortens children's quality-adjusted life expectancy. Higher prevalence is associated with lower living standards, with incidence rates stable across genders and education levels. According to studies, 67% of mothers with afflicted children experienced health concerns throughout their pregnancy, with 22% needing medication. Furthermore, 22% of congenital cataracts relate to systemic illnesses, whereas 27% include ocular impairment, which is frequently detected accidentally during routine eye exams [15,16].

Childhood blindness is responsible for around 70 million blind-person-years, with childhood cataracts accounting for approximately 10 million (14%) of them. This demonstrates the huge influence of childhood cataracts on worldwide blindness and emphasizes the importance of effective prevention and treatment efforts to address the problem [17]. Pediatric cataracts are a curable illness that is the major cause of childhood blindness, accounting for 7.4% to 15.3% of cases. Pediatric cataracts have a considerable impact, accounting for many avertable disability-adjusted life years (DALY). This stresses the need of early detection and intervention in pediatric cataract management in order to avoid long-term vision impairment and improve the quality of life for affected children [18,19].

The annual incidence of pediatric cataract ranges from 1.8 to 3.6 occurrences per 10,000 children, whereas the median frequency is at 1.03 cases per 10,000 children, with a range of 0.32 to 22.9 cases per 10,000. Notably, the prevalence of juvenile cataract is higher in low-income economies, with rates ranging from 0.63 to 13.6 cases per 10,000 children, as opposed to high-income



economies, where rates range from 0.42 to 2.05 cases per 10,000 children. Furthermore, research shows that there is no substantial difference in prevalence based on gender or laterality of the illness. This report emphasizes the global burden of pediatric cataract and the inequalities in prevalence across economic situations [20].

It was discovered that during pregnancy, 67% of women claimed a history of illness, with 22% reporting that they had used drugs during this time. These data indicate a high prevalence of mother health concerns and drug use during pregnancy, which may have consequences for the child's health. Understanding the maternal health background is critical for evaluating the risks associated with childhood diseases, such as pediatric cataracts [21,22]. Congenital cataract is associated with ocular abnormalities in 27% of cases and systemic abnormalities in 22%. Diagnosis is frequently accidental, with 41% of cases discovered during routine examinations, whereas leukocoria and strabismus account for 24% and 19% respectively [23].

The timing of the insult during development is essential since it affects which area of the lens is impacted. Congenital cataract has a genetic component in 8.3% to 25% of cases, with roughly 75% demonstrating an autosomal dominant inheritance pattern. This emphasizes the importance of genetic variables in the etiology of congenital cataracts, underlining the need for a family history examination in affected individuals [24]. India bears a major burden of around 280,000 to 320,000 visually handicapped children, resulting in an estimated economic loss of \$3,500 million. This emphasizes the critical need for effective interventions and resources to address childhood blindness and visual impairment in the country, which can have far-reaching social and economic consequences for affected individuals and families [25,26].

Childhood cataracts provide enormous obstacles, resulting in large economic losses, social hardships, and health concerns.

Currently, cataracts cause blindness in an estimated 200,000 children worldwide, with 20,000 to 40,000 infants born with congenital cataracts every year [27,28]. Childhood cataracts occur at varying rates around the world. For example, a study of blind students in West African schools discovered that lens-related anomalies caused 15.5% of blindness. In contrast, the percentages are significantly higher in Southern Africa, where 35% of blindness is caused by these conditions in Malawi, and Eastern Africa, where 33% of blindness is reported in Ethiopia. Meanwhile, in South America, Chile has a lesser prevalence of 9.2%, while South India in Asia has a 7.4% rate [29,30,31].

Types of Cataracts

- **Senile cataract-** Cataracts have long been connected with aging, hence the name "senile cataract." However, the variety of morphological forms and their unique positions inside the lens, as well as the fact that cataracts can occur at any age, indicate that aging is not the only reason. This complexity calls into question the idea that senile cataracts are solely the result of aging [32].
- **Cortical cataract-** Cortical cataracts may be caused by recurrent internal deformations in the lens during accommodation, as well as alterations in lens proteins (figure 1). Wilhelm Schoen initially introduced the hypothesis that accommodation pressures could contribute to cortical cataract formation in a speech at Leipzig University in 1896 [33,34]. This theory has been revisited by researchers such as Fisher and Pau. Angra et al. observed that shear pressures in the lens cortex may disturb the physiological milieu, making it vulnerable to variables such as UV radiation and oxidative stress, which decrease transparency. Recent research suggests that emmetropes and hyperopes, who accommodate more than myopes, have a higher incidence of cortical cataracts than myopes [35,36,37].

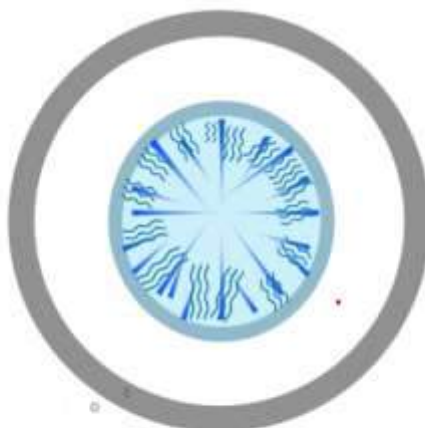


Fig 1 :- Cortical Cataract

Fig 1 Cortical Cataract

- **Nuclear sclerosis cataract**-As humans age, the nucleus of the crystalline lens becomes opaque and hard, resulting in nuclear sclerotic cataract (figure 2). These

cataracts are the most common cause of cataract surgery in Western nations. Cataract surgery is the most common surgical treatment in the United States, costing more than \$3 billion per year [38].



Fig. - Nuclear Cataract

Fig 2 Nuclear Cataract

Factors that cause cataract

- ❖ **Age:** - The combined impacts of aging and population increase are increasing the burden of blindness worldwide. A major cause of blindness, cataracts are mostly age-related, and the risk rises with increasing life expectancy. Cataracts and associated vision impairments are predicted to become more common as the population's share of elderly people rises. This emphasizes how important it is to make eye care and cataract treatment more accessible, particularly in aging cultures [39].
- ❖ **Smoking:** - West and Valmadrid examined many research on smoking as a risk factor for nuclear cataractsⁱ [40]. In eight of the ten trials examined, the researchers discovered a consistent link between smoking and nuclear cataract. Key findings include the strength of the link, a lesser cataractogenic effect in former smokers compared to current smokers, indicating some reversibility, and a clear dose-response relationship [41,42]. Smoking was found to be responsible for up to 17% of nuclear cataracts in the population [43]. These findings reinforced the message of "Stop Smoking" ads, emphasizing not only the risk of lung cancer, heart disease, and chronic obstructive pulmonary disease, but also the additional risk of vision impairment caused by cataracts.
- ❖ **UV-B radiation:** - McCarty and Taylor's evaluation of 22 research discovered a direct correlation between lifetime UV exposure and increased cortical cataract

prevalence. The most compelling data came from studies that measured individual UV-B exposure and dose response. Individual actions in places with equal sunlight can result in a UV-B exposure differential of up to 18 times. UV radiation is responsible for around 10% of the population's risk of cortical cataract, with the WHO estimating that it causes 20% of all cataract-related blindness worldwide [44].

- ❖ **Diabetic:** -The link between "sugar cataracts" and metabolic illnesses like diabetes mellitus and galactosemia has been known for centuries, with early case reports indicating the relationship long before medical therapies were created. This association was eventually validated through biochemical and experimental study, which helped us to understand the underlying mechanisms. Clinical studies have also demonstrated that people with diabetes had a higher prevalence and faster development of some cataract forms, including cortical cataracts and posterior subcapsular opacities. These data imply that elevated blood sugar has a major influence on the eye lens, leading to cataract development at a younger age than the general population [45,46]. According to research, diabetes accounts for approximately 4% of all cataract cases, emphasizing its function as [47].
- ❖ **Uses of steroids:** - Reviews by Hodge et al. and West and Valmadrid have found a strong link between steroid use and the development of posterior subcapsular cataracts, which is backed by biological plausibility and



consistent findings across studies. Systemic and topical steroids have been found to be important risk factors for cataract formation, and inhaled steroids have also been linked to an increased risk [48]. However, Hodge et al. determined that the population-attributable risk of cataracts from steroid usage is rather modest, as most people do not use steroids on a regular basis.

- ❖ **Uses of alcohol:** - Several studies have suggested that alcohol is a risk factor for cataracts, namely posterior subcapsular opacities, although these findings should be regarded with caution due to inherent biases [49]. Many studies did not report on alcohol intake, despite the fact that it was frequently gathered, which could indicate that there is no substantial link. Furthermore, participants may have underreported their alcohol consumption out of embarrassment, or health-conscious persons may be less inclined to indulge in heavy drinking. Drinking habits vary by culture, which may alter the outcomes. The Beaver Dam Eye Study discovered a complex pattern, with severe drinking associated with injury and moderate alcohol consumption appearing to have a protective effect [50].
- ❖ **Electric shock:** - A careful analysis of the existing literature clearly supports the idea that electric cataracts can form as a result of an electric current coming into contact with a specific place on the skull or close to the eye. This syndrome has been well recognized as a possible side effect of electrical injury. However, based on our data, we infer that electric cataracts do not usually manifest as a delayed-onset impact after an electrical damage. In fact, our findings indicate that the development of electric cataracts is neither common nor expected in the aftermath of electrical damage. As a result, we do not find evidence to support the need for routine cataract screening for all patients who experience electrical harm, as the risk of acquiring electric cataracts appears [51].
- ❖ **Down syndrome:** - According to research, the frequency of cataracts, a common visual ailment in children with Down syndrome, can vary greatly, from 6% to as high as 50%. These cataracts, which may be inherited or develop over time, can have a major impact on vision. Children with Down syndrome frequently have various eye-related conditions in addition to cataracts. People with hyperopia, or farsightedness, frequently struggle to focus on close things. Involuntary, rhythmic eye movements, or nystagmus, can also happen. Another common disorder that can result in misalignment or crossed eyes is strabismus, which is characterized by improper eye alignment. Additionally, children with Down syndrome are more likely to have entropion, a condition in which the eyelids turn inward, irritating the eye [52].
- ❖ **Hypertension:** - Identifying risk factors for cataract is critical, as multiple studies have shown that hypertension contributes significantly to its development. Elevated blood pressure has been associated to increased C-reactive protein (CRP), a sign of systemic inflammation. Because cataracts are associated with severe inflammation, hypertension may aid in their development via inflammatory pathways. The link between hypertension and cataract pathogenesis emphasizes the need of controlling blood pressure to potentially lower cataract risk. Inflammation-driven pathways are thus critical to the evolution of cataracts in hypertensive people [53,54].
- ❖ **Norrie disease:** - Dense congenital cataracts, retinal folds, retinal detachment, vitreous hemorrhage, and bilateral retrolental masses made of hemorrhagic vascular and glial tissues are the hallmarks of Norrie disease, an X-linked recessive condition. It is caused by mutations in the X chromosomes NDP gene. Developmental delays and sensorineural hearing loss are also linked to this issue. Although the severity of these symptoms might vary, controlling the disorder's effects on development, hearing, and vision requires early identification and care [55].
- ❖ **Nance-horan syndrome:** - Males are the main victims of Norrie syndrome (NHS), an X-linked recessive condition that manifests as cataract-oto-dental syndrome, which includes bilateral dense stellate or nuclear cataracts, microcornea, anteverted and simplex pinnae, and dental abnormalities. Female carriers usually have milder symptoms, such as presenile cataracts, a small corneal diameter, and punctate opacities along the posterior Y-suture of the lens. The degree of these systemic and ocular symptoms, which are typical of NHS, can differ from person to person, with men typically exhibiting more severe symptoms [56].
- ❖ **Hereditary:** - In 8.3% to 25% of instances, congenital cataracts are inherited, with 75% of cases having an autosomal-dominant pattern [57]. These cataracts, which include crystalline aculeiform, Coppock-like, Volkmann-type, zonular with sutural, posterior polar, anterior polar, cerulean, zonular pulverulent, and myotonic dystrophy 1-like cataracts, have varying penetrance.
- ❖ **Galactosemia:** - Mutations in GALK1, galactose-1-phosphate uridylyltransferase, or UDP-galactose-4-epimerase cause galactosemia, which is characterized by elevated serum galactose levels. Osmotic damage and "oil droplet cataracts," which usually manifest as nuclear cataracts but may also manifest as anterior or posterior subcapsular cataracts, are the results of galactitol



buildup. A diet devoid of galactose can reverse these cataracts. In addition to lesser cataracts, galactokinase deficiency is associated with jaundice, vomiting, failure to thrive, and intellectual impairment [58].

- ❖ **Torch infection:** - Congenital cataracts are often connected with congenital infections, specifically TORCH infections (Toxoplasma, Rubella, Cytomegalovirus, Herpes, and Syphilis), of which rubella is the most common. Other eye conditions such as pigmentary retinopathy, microphthalmos, glaucoma, iris dystrophy, and chorioretinitis can also be symptoms of these infections. The type of infection and the time of exposure during pregnancy affect the severity and variety of eye symptoms. Babies with rubella, in particular, are known to experience serious eye problems [59]. In the Indian subcontinent, TORCH infections are common; up to 20% of patients are seropositive [60].
- ❖ **Myopia:** - Three prospective and eight cross-sectional studies were conducted to investigate the link between myopia and cataracts (both incident and prevalent). These researches sought to establish whether myopia is a risk factor for the development or occurrence of cataracts in various groups. The findings help to comprehend the potential link between myopia and cataract production [61]. Nine of eleven studies indicated a significant link between myopia and posterior subcapsular cataract (PSC). This shows that myopia could considerably raise the likelihood of acquiring PSC [62].
- ❖ **POAG:** - Our findings indicate that genetic variables linked to primary open-angle glaucoma (POAG) and myopia may be causal risk factors for age-related cataract [63].
- ❖ **HBMI:** - This study identified new genetic loci associated with cataracts, however more research is needed to investigate the causal pathways of cataract formation. Previous research has identified clinical and behavioral risk factors for cataracts, including type 2 diabetes, high blood pressure, and a high body mass index (HBMI) [64].
- ❖ **Renal disease (CKD):** - Recent research has looked into the relationship between chronic kidney disease (CKD) and ocular disorders such as retinopathy and cataracts. CKD patients may be at a higher risk of cataracts due to variables such as hypocalcemia, oxidative stress, and higher amounts of circulating urea. These factors can cause water collection in the lens, which contributes to cataract formation. Understanding these pathways can aid in managing cataract risk in CKD patients [65].
- ❖ **Atopic dermatitis (eczema):** - Atopic dermatitis is associated with a variety of ocular problems, including conjunctivitis, keratoconus, iritis, cataracts, and retinal detachment. Cataracts affect around 10% of those who have atopic dermatitis. This link emphasizes the importance of vigilant eye monitoring in individuals with atopic dermatitis in order to recognize and manage any ocular disorders. Early intervention can help avoid or treat issues like cataract development [66].
- ❖ **Hepatitis C virus (HCV):** - When compared to the age-matched general population, patients with age-related cataracts had noticeably higher hepatitis C virus (HCV) seropositivity. This implies that HCV infection could play a role in the onset or advancement of cataracts. The results show that HCV may be a risk factor for cataract development [67].
- ❖ **Wilson's disease:** - Cataracts arise in Wilson's disease as a result of copper deposits behind the lens capsule, giving the condition its distinctive sunflower appearance. Unlike traditional cataracts, these deposits do not severely reduce visual acuity. The cataract comprises a central disc with spreading petal-like fronds that may be seen with the naked eye. Sunflower cataracts are prevalent in 2% to 20% of people with Wilson's disease and are a prominent ocular symptom of the ailment [68].
- ❖ **Celiac disease:** - Mollazadegan and colleagues carried out population-based cohort research to determine the risk of cataracts in people with biopsy-proven celiac disease (CD). Their findings revealed that people with CD are more likely to develop cataracts. This lends support to the theory that CD may lead to cataract formation, emphasizing the importance of monitoring eye health in these patients [69].
- ❖ **Traumatic:** - Children's traumatic cataracts in India have different causes than in Western countries. Bow and arrow occurrences are the primary cause of open-globe injuries, which happen three times more frequently than closed-globe injuries [70].
- ❖ **Systemic lupus erythematosus:** - One known consequence of systemic lupus erythematosus (SLE) is cataract development. In this population, the prevalence of cataracts ranges greatly, from 5% to 32%. The length of illness, the usage of corticosteroids, and the existence of additional underlying medical disorders are some of the variables that affect this difference. Long-term steroid medication can raise the risk of lens opacification, which is frequently linked to cataracts caused by SLE [71].
- ❖ **Fabry disease:** - Fabry cataract like cataracts caused by head trauma or cortisone, Fabry's cataract is



characterized by subcapsular opacities along the posterior lens suture lines. Soon after it develops, this kind of cataract usually results in severe vision abnormalities. Patients frequently noticeably lose their visual acuity and become more sensitive to light [72]. To control symptoms and stop more vision damage, early intervention is crucial.

- ❖ **Mafran syndrome:** - Although the overall prevalence of cataracts in Marfan syndrome is not higher than in the general population, they usually appear earlier in life. Early-onset lens opacities, which can seriously impair vision, are the condition's defining feature. Localized globular lens opacities and posterior subcapsular cataracts are the two most prevalent types of cataracts observed in people with Marfan syndrome [73].
- ❖ **Vitamin c:** - A recent prospective research of women discovered that high-dose vitamin C supplements, but not multivitamins containing lower doses of vitamin C, were associated with a higher incidence of age-related cataract extraction. This shows that excessive vitamin C intake may be linked to cataract formation. In contrast, lesser levels found in multivitamins did not produce the same impact. These findings emphasize the possible hazards of taking large doses of vitamin C for eye health [74].

CONCLUSION

Cataracts are caused by a complex interplay of factors that result in the clouding of the eye's natural lens, which has a significant impact on vision and life quality. This review emphasises the multifaceted nature of cataract genesis, highlighting the importance of age, genetic predispositions, and environmental factors such as UV exposure. Lifestyle factors such as smoking, alcohol consumption, and nutrition, as well as systemic conditions like diabetes mellitus, all increase the risk of cataract development. Medications, particularly corticosteroids, are significant contributors. The underlying mechanisms of oxidative stress and inflammation provide important insights into potential intervention targets. A thorough understanding of these factors is essential for developing effective prevention and treatment plans. Public health initiatives focused on education, lifestyle changes, and regular eye screenings, combined with advances in medical research, hold promise for reducing the prevalence and impact of cataracts worldwide.

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EFFECT OF ENTREPRENEURIAL BARRIERS ON ORGANIZATIONAL FAILURE: SPECIAL REFERENCE TO SMALL AND MEDIUM ENTREPRENEURS IN BATTICALOA DISTRICT

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ABSTRACT

Purpose: Sri Lanka is rich in resources but vulnerable to economic stability. As believed, entrepreneurial development is one of the mechanisms for economic recovery, the study aims to determine the factors that act as an entrepreneurial barrier and their impact on the failure of small and medium enterprises in Batticaloa District.

Design/Methodology/Approach: A quantitative approach is used. A structured questionnaire was administered to collect the data from 200 entrepreneurs of SMEs. Non-probabilistic convenience sampling was used, and SPSS was used to analyze the data. Descriptive Analysis, regression, and correlation analysis were performed.

Findings: The findings of this study show that financial barriers, economic barriers, knowledge barriers, cultural barriers, and infrastructure barriers are significantly and positively associated with organizational failure.

Originality/Value: The study intends to identify the barriers faced by entrepreneurs that affect the growth and survival of SMEs. The author recommends how the entrepreneurial barriers can be minimalized through better policy decisions.

KEY WORDS: Entrepreneurship, Barriers, Organizational Failure, Growth

01. INTRODUCTION

The Sri Lankan economy is currently recovering from the unparalleled macroeconomic crisis. The country experienced internal policy-driven challenges such as fiscal deficit and sweeping tax cuts in 2019. On top of that, the COVID-19 global pandemic and the conflict between Ukraine and Russia exacerbated the economic vulnerabilities of Sri Lanka in terms of tourism and remittances. On the verge of bankruptcy of the nation, now the economists and policymakers recommend all the possible ways and means to recover the country from tragedy. One of the mechanisms to strengthen the economy is the growth and survival of entrepreneurship.

The output of entrepreneurship is significant to the economy of the country. Other than creating a new business and improving the standard of living of the entrepreneur, it does create many other advantages for the nation. It is the source of new employment opportunities, inventions, and innovations (Iskandarini, 2014). Since the failure rate of entrepreneurship is higher in developing countries than in developed countries (Arinaitwe, 2006), it is essential to address the barriers faced by entrepreneurs of SMEs in developing countries such as Sri Lanka.

Considering the feasibility of collecting data, the study is focused on the Batticaloa district as it is feasible and convenient for the researcher. Batticaloa district is rich in resources but vulnerable in the economy, especially entrepreneurial intention. It takes greater courage and effort to carry out an

entrepreneurial activity in Batticaloa and sustain it for a longer period. Though many have started their own business or have potential interest to do so in the future, they feel clueless when facing challenges. Many entrepreneurs give up even before the business has started to function when they face challenges at any stage of the entrepreneurship process. Hence, it is vital to conduct this research to identify the factors that act as setbacks to the growth of the small and medium enterprises in Batticaloa District. Through that, promising career opportunities for an individual can be achieved, and it empowers the community as well.

This study categorizes entrepreneurial barriers into five types: financial barriers, economic barriers, knowledge barriers, cultural barriers, and infrastructure barriers. This study tries to explore the crucial topic of the significance of the entrepreneurial development and survival of SMEs in developing countries such as Sri Lanka and especially a region like Batticaloa with rich natural and physical resources. Many scholars have considered the matter of identifying the impact of entrepreneurial barriers on organizational failure as their area of interest, and multiple studies have taken place over time with different dimensions.

02. LITERATURE REVIEW

2.1 Entrepreneurship

An entrepreneur is a person who is willing to take risks to convert the idea of producing goods or services into reality. The contribution of entrepreneurs to the economy is immense.



However, there are plenty of challenges they have to face to make an impact on the economy. Entrepreneurial orientation plays a significant influence on the performance of the business.

In addition, there are many other setbacks an entrepreneur has to go through in the dynamic business environment (Delima, 2017). Entrepreneurship is involved with creating a new organization or creating a new revenue center for an existing organization. With the introduction of new technology and globalization, individuals are more willing to have small startups on their own, and it has become a new trend as well (Oliveira & Rua, 2018).

2.2 The Role of Small and Medium Enterprises (SME's)

The contributions made by entrepreneurs of small and medium-sized enterprises are well noted around the world. Many studies have explored that SMEs play a pivotal role in economic development. Further, they contribute to GDP growth, employment, and new inventions (Khan, 2022). According to a survey conducted by International Financial Cooperation, SMEs contribute to 70% of employment in Sri Lanka (Wijeratnam & Perera, 2013).

2.3 The impact of entrepreneurship in developing countries

According to the World Bank, a developing nation is referred to as an under-developed or less-developed nation who are in the process of developing its economy and standard of living. Developing nations are always characterized by higher levels of unemployment, poor industrial base, low standard of living, and poor human development index. Though foreign direct investments try to rescue the economy, the contribution given by the SMEs is also immense (Karadag, 2016).

By adding more to GDP, decreasing the level of unemployment, and lowering poverty, SMEs play a key role in the economy of the developing country. Many researchers have found that the failure rate of small and medium enterprises in developing countries is higher than that of SMEs in developed countries. Despite facing multiple barriers in developing economies, SMEs greatly contribute to the transformation process and labour development of transition economies (Khan, 2022). Entrepreneurs face multiple challenges in a transitional economy, namely a poor legal system, administrative pressure, tax burden, corruption, government rules and regulations, and poor property rights (Krasniqi & Krasniqi, 2013).

2.4 Entrepreneurial Barriers

Starting an independent business is essential for the betterment of the economy. However, the process is easier said than done. From the moment, the idea arose in the mind, establishing the business and carrying it forward for the near future is a great challenge. It requires self-confidence and sheer determination. Many studies have been conducted on identifying the factors that motivate the entrepreneurial intention of individuals. However, there were fewer empirical in entrepreneurial barriers and how to face them effectively (Iskandarini, 2014). Entrepreneurs consider more about the challenges embedded with the external environment than the internal indicators such

as employee poor performance and inadequate management skills (Krasniqi & Krasniqi, 2013).

2.4.1 Financial Barriers

The performance of small and medium enterprises mainly depends on financial resources as it enables the organization to expand the business. Lack of finance and capital resources is a major obstacle to the growth of entrepreneurial SMEs. Higher transaction costs on loans, unavailability of information on collateral requirements, and lack of financial literacy are some reasons why entrepreneurs are unable to get finances from external resources (Beck & Demirguc-Kunt, 2006). Firms need money to invest, and SMEs are riskier than larger firms. In developing countries, small and medium companies operate using internal financing as the financial systems are little developed in such countries. Many scholars have found that there is a positive relationship between the success of the organization and start-up capital (Khan, 2022). Development of the startups depends on start-up capital or seed capital, and they need medium- or long-term financing in the long term as well. Due to funding issues, they use their savings or assets or get money from friends and families (Oliveira & Rua, 2018).

2.4.2 Economic Barriers

An unstable economy, excessive tax burdens, higher exchange rates, poor purchasing capability of customers, and higher inflation rates are negatively impacting the development of entrepreneurship in developing countries. It increases the economic uncertainty and affects the performance of the firms. When the country faces an economic crisis, consumers purchase less or avoid purchasing goods and services (Khan, 2022). In the economy, there are many policies imposed by the government that are complex and hard to understand by entrepreneurs (Oliveira & Rua, 2018). The increase in population is higher than the level of creation of jobs, which increases the unemployment rate much higher, and countries try to outweigh that issue by developing entrepreneurship (Polasi et al., 2015).

2.4.3 Knowledge Barriers

Lack of education is also one of the major reasons for the high rate of SMEs failure and low level of entrepreneurial activities. Education is fundamental for the establishment of entrepreneurial ventures (Chimucheka, 2013). From initiating the business to the survival of the business, managerial skills are vital. When the management faces financial issues and personal issues, they should know how to tackle them using their managerial skills and knowledge. Improper leadership and lack of technical knowledge and experience are some of the barriers to the success of the business. It is commonly known that entrepreneurs lack basic knowledge and skills when it comes to the management of the business. If they fail to manage their resources and business effectively, there is a greater risk that it will lead to the failure of the business (Khan, 2022).

2.4.4 Cultural Barriers

Cultural barriers include attitude towards risk, support from family and society, availability of intermediaries, and ability to get inputs and raw materials for the business (Jafarnejad et al., 2013).



In Sri Lanka, the culture towards starting something new on our own is not preferable. The majority of the citizens in the country are not willing to take risks or be entrepreneurs. They prefer to have government jobs that give monthly revenue rather than uncertain future gains. One of the major reasons for that behaviour is several barriers that exist in the country and the failure rate of startups.

2.4.5 Infrastructure Barriers

Infrastructure is one of the main determinants of the growth and performance of the organization. Lack of resources hinders the expansion and growth of the business (Stam, 2015). For the development and growth of the SME, infrastructure such as telecommunication, transport systems, energy, electricity, roads and bridges, and other facilities are essential (Spigel, 2017). When there is no proper transport system, it is difficult to exchange raw materials, and finished goods will be a hassle. When poor infrastructure conditions exist, it will increase the cost of the shipping of goods. In developing countries, when

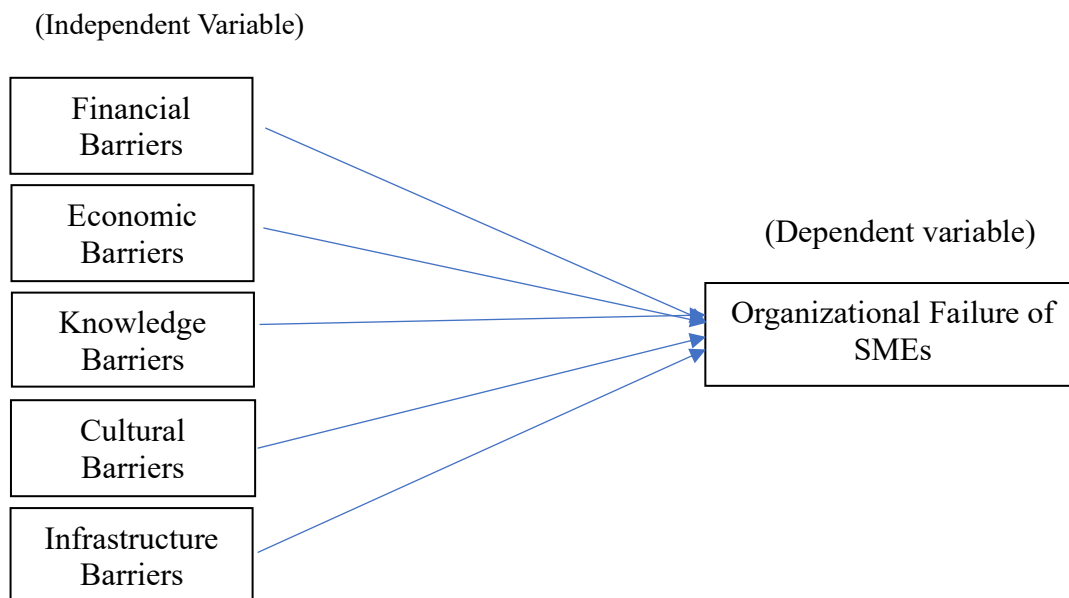
infrastructure is not up to the standard, SMEs need to face higher transaction costs in conducting business (Khan, 2022).

03. RESEARCH METHODOLOGY

A questionnaire-based survey was conducted to identify the various barriers that affect the organizational growth of SMEs. Convenient sampling was used to collect the data from respondents who are owners and managers of SMEs located in the Batticaloa District.

The sample size was 200 and data was collected using a 5-point Likert scale (1- Strongly disagree, 5- Strongly Agree). Part- A of the questionnaire addressed the demographic characteristics of the owners/managers of SMEs while part B addressed the multiple barriers faced by the SMEs in Batticaloa District. Descriptive statistics, correlation, and multiple regression analysis were performed by the SPSS statistical software.

3.1 Conceptual Framework



3.2 The Model

$$OF = \beta_0 + \beta_1FB + \beta_2EB + \beta_3KB + \beta_4CB + \beta_5IB + e$$

Where OF is the Organizational Failure, β_0 is the intercept, the coefficient of the respective variable is β_i ($i= 1,2,3,4,5$), FB is the financial barriers, EB is the economic barriers, KB is the knowledge barriers, CB is the cultural barriers, IB is the infrastructure barriers, and e is the error term. This approach is in line with the methods used by other scholars.

3.3 Hypothesis

The following hypotheses are tested and relationships will be established after analyzing the data collected.

H1- Financial Barriers have a significant impact on the organizational failure of SMEs

H2- Economic Barriers have a significant impact on the organizational failure of SMEs

H3- Educational Barriers have a significant impact on the organizational failure of SMEs

H4- Cultural Barriers have a significant impact on the organizational failure of SMEs

H5- Infrastructure Barriers have a significant impact on the organizational failure of SMEs

4. ANALYSIS AND DISCUSSION

Demographic statistics of the study indicate that the majority of the SMEs are run by married individuals, and only 48 of the 200 respondents were single. The number of individuals who



are above 45 years old is 116 and the individuals who have completed advanced level or above is 124 which shows that old people are involved in SME business while completed 16 years

of schooling. The majority of the SMEs were old and established the business for more than five years.

Table 01: Demographic Statistics

Variable	Category	Frequency
Gender	Male	116
	Female	84
Age	18-30	24
	31-45	60
	above 45	116
Marital Status	Single	48
	Married	152
Firm Age	Less than 1 year	12
	1-4 years	68
	5-10 years	56
	More than 10 years	64
Education	Below GCE O/L	76
	GCE O/L	40
	GCE A/L	56
	Diploma/Higher National Diploma	20
	Bachelor's Degree	8

(Source: Survey Data:2024)

Descriptive statistics were performed for the research variables for 200 observations. The mean value for financial barriers is 3.51 with a standard deviation of 0.794, for economic barriers, the mean value is 3.30 with a standard deviation of 0.675, for

knowledge barriers, the mean value is 2.85 with a standard deviation of 0.774, for cultural barriers, the mean value is 2.53 with a standard deviation of 0.971, and for cultural barriers, the mean value is 2.62 with a standard deviation of 1.

Table 02: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	SD
FB	200	1.00	4.67	3.5067	.794
EB	200	1.00	4.67	3.3000	.675
KB	200	1.00	4.33	2.8467	.774
CB	200	1.00	4.33	2.5267	.971
IB	200	1.00	4.50	2.6200	1.000
OF	200	2.50	4.20	3.2220	.424

Note: FB= Financial Barriers, EB= Economic Barriers, KB= Knowledge Barriers, CB= Cultural Barriers, IB= Infrastructure Barriers, OF= Organizational Failure

(Source: Survey Data:2024)

Table 03: Decision Criteria

Criteria	Decision Attribute
$1 \leq \bar{X} \leq 2.5$	Low level
$2.5 < \bar{X} \leq 3.5$	Moderate level
$3.5 < \bar{X} \leq 5$	High level

The above table indicates the decision criteria of the study when considering financial barriers, the means show it has a high impact on SME failure while other barriers such as economic barriers, Knowledge barriers, cultural barriers, and infrastructure barriers indicate a moderate level of impact.

Linear regression was performed to determine the impact of various entrepreneurial barriers on the organizational failure of SMEs. The ANOVA shows a p-value of less than 0.001 <0.005, which concludes the model is significant. The R square value of the model is 0.659, while the adjusted R square value is 0.65. It indicates that 65% of SME failures are affected by financial, economic, knowledge, cultural, and infrastructure barriers.



Table 04: Regression Results

Unstandardized coefficients				
Model	B	Standard Error	t-value	Significant Value
Constant	.767	.147	5.213	<.001
FB	.139	.024	5.744	<.001
EB	.192	.031	6.106	<.001
KB	.178	.027	6.703	<.001
CB	.157	.021	7.499	<.001
IB	.164	.020	8.050	<.001

(Source: Survey Data:2024)

As per the results, the regression model can be explained as follows,

$$OF = 0.767 + 0.139FB + 0.192EB + 0.178KB + 0.157CB + 0.164IB$$

The correlation results between dependent and independent show that all the barriers have a positive association with the organizational failure of SMEs. There is a strong significant association between the organizational failure of SMEs and knowledge barriers ($r = 0.689$, $**P < 0.01$), and a significant moderate association between the organizational failure of SMEs and infrastructure barriers ($r = 0.466$, $**P < 0.01$) There

is a significant weak association between the organizational failure of SMEs and financial barriers ($r = 0.386$, $**P < 0.01$), economic barriers ($r = 0.266$, $**P < 0.01$), cultural barriers ($r = 0.337$, $**P < 0.01$). The findings of this study are similar to the studies of Khan (2022), Alnassai (2023), and Iskandarini (2014).

Table 05: Correlation Results

	OF
FB	.386**
EB	.266**
KB	.689**
CB	.337**
IB	.466**

Note: **. Correlation is significant at the 0.01 level (2-tailed).
(Source: Survey Data:2024)

5. CONCLUSIONS AND RECOMMENDATIONS

Entrepreneurs are often cited as one of the major engines for the economic growth of the nation. The recent economic crisis and financial distress have created a significant impact on the economy. Though the ultimate motive of the businesses is profit -maximization, the development of entrepreneurship comes along with societal well-being and bottom-line improvement. When entrepreneurship is developed, it provides innovative and practical solutions to social issues as well.

Many scholars have analyzed and found the relationship between new ventures and the economic growth of the country. It is proven that is favourable to the country, region, and individuals as a whole. In the contemporary situation, Sri Lanka deals with the transition of a market economy, decentralizing the power and restructuring the economy. Hence, the development and survival of entrepreneurship will create an unwavering impact on the economy.

Though Sri Lankan citizens have immense capability, the support they have been given to start-ups is very minimal. The support from family, government, financial institutions, and society is not adequate to elevate their business to the next level. The multiple internal and external barriers and unsophisticated system of the country discourage individuals from taking entrepreneurs as their career goal. As we are at the edge of the clip in terms of the economy, we depend on the growth and survival of entrepreneurship.

This study reveals that financial, economic, knowledge, cultural, and infrastructure barriers have a significant impact on SMEs' poor performance which leads to organizational failure. High rates of interest and lack of collateral for bank loans are the main financial barriers. The price volatility incurred due to the economic crisis followed by the COVID-19 pandemic has caused entrepreneurs to keep small profit margins. With the mathematic fundamentals learned in schools, calculate the profit from day-to-day business operations. Married individuals run their businesses with the moral and physical support provided by their spouses and other family members. The entrepreneurs who located businesses alongside their homes are equipped with all the infrastructure facilities while the other shops face difficulties in terms of infrastructure.

It is recommended that the government should take corrective measures to reduce the financial burden of entrepreneurs in starting or expanding their businesses. A policy decision should be made to reduce the high volatility of prices. The majority of this business is run by owners with little knowledge of record-keeping, and inventory management. Lack of proper business knowledge will lead them to failure in the long term, hence it is recommended to conduct awareness programs and workshops. Since the municipal council maintains contacts with entrepreneurs for trade tax collection, annual discussions can be held with entrepreneurs to understand the obstacles faced by entrepreneurs.



However, the study has its limitations. The collected data was limited to 200 observations, which might not fully represent the entire population. More diversified and inclusive samples can be used in future research. The explanatory power of this model can be further improved by adding more entrepreneurial barriers, such as corruption barriers, management barriers, and personality traits. By taking into consideration of these limitations, more sophisticated insights can be generated to understand the impact on entrepreneurial barriers and organizational failure of SMEs.

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JUVENILE DELINQUENCY PROGRAMS IN REGIONAL REHABILITATION CENTER FOR YOUTH REGION 1

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ABSTRACT

Juvenile delinquency programs encompass center-based rehabilitation initiatives designed to prevent youth from engaging in criminal or antisocial activities. Effective and preventive rehabilitation programs play a crucial role in mitigating the involvement of children in conflict with the law, which threatens both their personal morality and societal values. This is especially vital amid the increasing social challenges affecting the youth in these trying times. This study assessed the effectiveness of the Juvenile Delinquency Program implemented at the Regional Rehabilitation Centre for Youth in Region 1. Specifically, it evaluated the program's level of implementation, its effectiveness, and the severity of the problems encountered during its execution. Employing a descriptive survey research design, the study utilized a quantitative approach, with data analysed using weighted mean to measure the program's success and identify key issues. Major findings revealed that while the program is generally well-implemented and effective in addressing the needs of the youth, challenges such as resource limitations, staff capacity, and community reintegration efforts hinder its full potential. These issues underline the need for targeted interventions to enhance program sustainability and outcomes. The study concludes that the Juvenile Delinquency Program is a valuable tool in rehabilitating youth and preventing recidivism, but it requires continuous improvement to address identified challenges effectively.

KEYWORDS: Juvenile Delinquency, Rehabilitation Program, CICL.

INTRODUCTION

Crime is a universal phenomenon that spares no demographic, affecting individuals across socioeconomic statuses and age groups, including youth and juveniles. The rising number of young individuals involved in criminal activities has become a significant concern, posing a moral and social challenge for modern societies (Lipsey et al., 2010).

Juvenile Rehabilitation Centers are established to provide a structured environment for the rehabilitation of children in conflict with the law (CICL), typically ranging from 15 to 21 years old. These centers serve various purposes, from ensuring community safety during court proceedings to providing treatment programs aimed at addressing the underlying causes of youth delinquency (Puzzanchera et al., 2018).

The Regional Rehabilitation Center for Youth (RRCY) exemplifies these efforts, offering a residential facility that delivers comprehensive rehabilitation services for male CICLs with suspended sentences. RRCY's holistic approach combines intensive psychological, emotional, and psychosocial interventions within a structured, therapeutic, and home-like environment. Its ultimate goal is to reintegrate rehabilitated individuals into their families and communities, thereby fostering improved social functioning. (Puzzanchera, 2018).

In line with these efforts, educational programs within rehabilitation facilities have also gained prominence. These programs underline the critical role of education in rehabilitation and reintegration, equipping CICLs with the skills and knowledge necessary for societal reintegration. (Sabalza, 2020).

The Department of Social Welfare and Development (DSWD) Field Office 1 further emphasizes RRCY's pivotal role in delivering 24-hour care, treatment, and rehabilitation services under the guidance of trained professionals. Through a well-balanced and structured program of therapeutic and non-formal activities, RRCY nurtures the development of its residents, ultimately aiming for their reintegration into society as responsible and productive individuals. Given the increasing societal importance of juvenile rehabilitation, this study aims to assess the effectiveness of the Juvenile Delinquency Program implemented at RRCY in Region 1. By evaluating its level of implementation, effectiveness, and challenges, this research contributes to the discourse on enhancing juvenile rehabilitation programs and promoting sustainable solutions for addressing juvenile delinquency (Center-based Programs, DSWD FO1).

Juvenile delinquency remains a global challenge, necessitating the development and implementation of effective prevention



programs (Radic, 2016). Center-based prevention initiatives primarily target males aged 14–17, focusing on curbing alcohol and drug abuse as well as school-related violence. These programs adopt a holistic approach by engaging not only juveniles but also their parents, alongside other stakeholders such as police officers, social workers, educators, and judicial representatives (Radic, 2016, p. 125).

These programs offer full-time supervision, counseling, recreational activities, and community support services. Youth participants attend local schools, engage in family visits, and reside in monitored foster homes or private residences. The programs aim to equip juveniles with life skills and foster positive behavioral changes, facilitating a smoother reintegration into society.

Life skills programs are integral to various youth confinement settings, including juvenile detention centers, correctional facilities, and adult institutions. Facilities prioritizing successful community re-entry often emphasize comprehensive preparation, addressing the behavioural and developmental needs of Child in Conflict with the Law in Regional Rehabilitation Center for Youth Region 1 to reduce recidivism and support long-term progress. (Casey, 2014).

This study assess the effectiveness of Juvenile delinquency programs in the Regional Rehabilitation Center for Youth in Region 1. Specifically it sought to answer the following questions:

1. What is the level of implementation of juvenile delinquency programs in the Regional Rehabilitation Center for Youth in Region 1?
2. What is the level of effectiveness of the juvenile delinquency programs in the Regional Rehabilitation Center for Youth in Region 1 along the following services;
 - 2.a. Social Services
 - 2.b. Home life Services
 - 2.c. Educational Services
 - 2.d. Psychological Services
 - 2.e Health Services
 - 2.f. Livelihood services
 - 2.g. Recreational Programs
 - 2.h. Spiritual Enhancement Program
3. What is the degree of seriousness of the problems encountered in the implementation of juvenile delinquency programs in the Regional Rehabilitation Center for Youth in Region 1?

THEORETICAL BACKGROUND

Juvenile Delinquency Programs are grounded in Deterrence theory (Pratt et al., 2006; Paternoster, 2010), and Preventive theory (Path Legal, 2017), and Juvenile Justice and Welfare Act (Sec.44, RA 9344). Juvenile Delinquency programs leverage this principle by providing realistic depictions of incarceration to dissuade at-risk youth from engaging in criminal behaviour

- Deterrence theory posits that the certainty and severity of punishment deter individuals from committing offenses by instilling fear of consequences (Pratt et al., 2006; Paternoster, 2010).
- Preventive theory, this theory highlights prompt and humane interventions, with imprisonment serving as a preventive measure to disable offenders from reoffending (Path Legal, 2017).
- In the Philippine context, Republic Act No. 9344, the “Juvenile Justice and Welfare Act,” aligns with these theories by establishing a child-appropriate system that includes prevention, rehabilitation, and reintegration programs. Section 44 emphasizes the goal of enhancing the social functioning of children in conflict with the law to facilitate their reintegration into families and communities as productive members.

METHODOLOGY

This study utilized a quantitative research using the descriptive survey method in the sense that it determines a certain condition about the implementation, effectiveness and degree of seriousness of the problems encountered in juvenile delinquency programs in the Regional Rehabilitation Center for Youth Region 1.

Research Locale

The research was conducted at the DSWD Regional Rehabilitation Center for Youth in Region 1. The study involved 22 Children in Conflict with the Law (CICL) boys aged 18–21, who were court-mandated to undergo rehabilitation at the facility. Additionally, 22 DSWD administrators and staff members, responsible for implementing and managing the rehabilitation programs, participated in the study. This locale was chosen to provide a comprehensive understanding of the facility’s center-based rehabilitation programs from both the beneficiaries’ and implementers’ perspectives.

Data Measure/ Instruments

The researchers utilized a survey questionnaire as the primary data-gathering tool. Developed with guidance from the RRCY manual and the researcher adviser, the questionnaire was designed to address the study variables and consisted of three parts:

- Level of Implementation – Assessed how the Juvenile Delinquency Programs are implemented at the Regional Rehabilitation Center for Youth in Region 1.
- Level of Effectiveness – Measured the programs’ impact and success in achieving their objectives.
- Degree of Seriousness – Evaluated the challenges and problems involved in program implementation and its effectiveness.
- The guide questionnaire was validated by a group of experts as to its clarity, objectivity, and usability.



Data Gathering Procedures (with Ethical Guidelines)

- Participants were informed of the purpose, procedures, and potential benefits of the study before participating. Written consent and waiver was obtained from each respondent.
- A formal request letter was sent to the Department of Social Welfare and Development (DSWD) Regional Office in San Fernando City, La Union.
- The request sought access to data, information, and compliance records in accordance with Memorandum Circular No. 10, Series of 2019.
- The total population of the target respondents, including CICL boys and DSWD staff, was obtained with the assistance of the DSWD regional office and the RRCY administration.
- The researchers ensured the anonymity and confidentiality of the participants throughout the data gathering process.

Data Analysis

- Quantitative Data: Weighted Mean was used to analyze the survey responses, categorizing results into descriptive equivalents.

RESULTS AND DISCUSSION

The juvenile delinquency programs at the Regional Rehabilitation Center for Youth in Region 1 are effectively implemented and strictly adhered to by both the clients and staff. These programs, which include a variety of center-based interventions and services, have proven to be beneficial in assisting youth offenders with their rehabilitation and preparation for reintegration into society. The structured and disciplined environment within the center ensures that the objectives of the program are consistently

met, fostering personal growth and skill development among the youth. Despite some challenges faced during the program's implementation, these issues are promptly addressed, and immediate solutions are applied, ensuring minimal disruption to the rehabilitation process. Overall, the programs are highly effective in achieving their goals of rehabilitation and reintegration, contributing to the long-term success of the youth and benefiting the wider community.

The study on Juvenile Delinquency Programs at the Regional Rehabilitation Center for Youth in Region 1 highlights the program's strong adherence to established protocols. Both clients (youth offenders) and staff consistently follow the program's guidelines, ensuring a disciplined and structured environment that supports rehabilitation. The center-based delinquency rehabilitation programs, including various interventions and services, have proven to be highly effective in assisting youth in their development and preparing them for reintegration into society.

Despite encountering some challenges during the program's implementation, the center has shown resilience by promptly addressing and resolving issues as they arise, preventing any major disruptions to the rehabilitation process. This adaptability, combined with the well-structured nature of the programs, ensures that the goals of rehabilitation and reintegration are consistently met. Overall, the juvenile delinquency programs in Region 1 are successfully achieving their objectives, significantly contributing to the personal growth of youth offenders and their reintegration into society.

RECOMMENDATION

Proposed Measures to Improve Juvenile Delinquency Programs in Regional Rehabilitation Center for Youth Region I.

Challenge	OBJECTIVES	Proposed solution	Responsible Parties
Limited consistency in daily routines	To address the concerned with the client's development process, knowledge and skills, talent, and consistently guiding and encouraging them in learning from their practices)	Sustain the performance of the clients performance, especially in supervising the clients' activities needs to improve in concerned with the client's development process.	DSWD Administration and Clients
Incomplete coordination of team efforts	To promote social awareness to enhance meaningful behavioral change, increased growth, and satisfaction	Maintain social awareness, significant behavioral change, enhanced growth, and satisfaction, establish clear and consistent house rules, administer sanctions, and discourage wrongdoing, among other things.	DSWD Administration Clients Parents
Limited availability of healthcare professionals	To support Basic needs such as food clothing, shelter and development of values and appropriate social and life skills	Sustain the raise funds, propose budget proposals and solicit donations so that these help raise finances to purchase important resources to support livelihood services	DSWD Administration Clients Parents Government agencies



Limited resources for learning environment	To address their personal, social, and psychological concerns (individual counseling, group workshops, assessment and consultation).	DSWD administration maintain sponsorship, health agencies, or submit a budget to higher level agencies to meet, fill and provide adequate needs. Clients in their need for psychological and other counseling programs of concern.	DSWD CLIENTS Government agencies Health Professionals Parents
Limited resources for livelihood support	To provide formal and non-formal and special education in preparation for independent living after the youth offender will be discharged from the center.	DSWD administration shall maintain budget proposals and solicit donation so that it will help the financial resources to purchase important resources to support educational program	DSWD Admin Clients Government agencies

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ASSESSING UNIVERSAL HUMAN VALUES IN ANCIENT SCRIPTURES

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ABSTRACT

Every stage of our lives relates to human values, promoting a smoother and better life. It makes a good citizen and aids in expressing a person's personality and character. Valued citizens create a tranquil society. However, the question of how values evolve and in what way the understanding of the significance of texts for the formation of human values is the aim of the article. Scripture has been said by several academics to boost people's positivity. The ancient texts, such as the Upanishad, the Bhagavad Gita, and the Patanjali Yoga Sutra correctly point out how values should be instilled. The wisdom found in the scriptures awakens humanity, teaches them the proper way to live, makes them honest, diligent, and brave, and eradicates religious intolerance, violence, and conflict from society. Ancient Scriptures have been the mainstream foundation of human values which procure better society and nation.

KEY WORDS: Value, Character, Scripture, Society

INTRODUCTION

In today's world, value education is crucial for the generation since it teaches them the correct way to go. Human value education encourages us to think critically and independently as well as to act with conviction, bravery, and responsibility ^[1]. In ancient India, human values were regarded as essential. This richly cultural nation, which is thought to have been created by God, is full of virtues and values. Value was even the basis for the battles in India. One of the battles fought at Dharmakshetram was the Kurukshetra War. Human society in antiquity lived by a set of fundamental principles. Our Rishis through their writings and sermons, the ancients—from Viswamitra to Swami Vivekananda and Sankaracharya to Sivananda—taught their followers human values and morals. Morals and human values can be found in the Ramayana, Mahabharata, Sukaraneeti, and Arthashastra of Chanakya. We observe that values are gradually vanishing from society. The ethical dilemma has been neglected in the current pervasive system and it has grown more competitive. Our current objective is to succeed in whatever way, regardless of whether doing so will hurt other people.

Our ancient texts can be helpful in this respect since a good education will clear their clouded thinking. It is rather pleasant to hear the topic of the scriptures with its lovely illustrations. The texts' meanings cannot be broken ^[2]. The primary goal of India's previous educational system was to instill moral values in children through the study of scripture; however, this system no longer exists. Therefore, it is essential to preserve the appearance of the ancient educational culture in the current educational system. Knowledge of several ancient texts, like the Bhagavad Gita, Upanishad, and Yoga Darshana, heightens our consciousness and teaches us what to do and what not to do as well as how to manage our superfluous thoughts. Engaging with the teachings of the scriptures, accompanied by their beautiful

examples, is truly enjoyable. The interpretations of the scriptures are unwavering. In ancient India's educational framework, the primary objective was to enhance children's moral character through scripture, a focus that has unfortunately diminished in contemporary times. Therefore, it is essential to incorporate elements of ancient educational values into today's educational system. Familiarity with various ancient texts, such as the Bhagavad Gita, Upanishads, and Yoga Darshana, fosters our awareness and instructs us on what actions to take, which to avoid, and how to manage our unnecessary thought patterns.

Importance of Human Values in Upanishad

The Upanishad is an ancient scripture from India that originates from the Vedas. It is often referred to as Vedanta since it represents the concluding portion of the Vedas. The term Upanishad signifies sitting with a guru in reverence to gain insight into Atmavidya or Brahavidya. It is also known as Gupta or Rahasya vidya. Although there are numerous Upanishads, only ten are considered the major ones: Isha, Kena, Katha, Prashna, Mundaka, Mandukya, Tattiriya, Aitareya, Chandogya, and Brihadaranyaka. The Upanishads guide us in choosing the correct path. We can comprehend the connection between the Upanishad and Values through the various slokas (aphorisms). The introductory prayer of the Katha Upanishad is:

**Omsahanaavavatu, sahanaubhunaktu,
sahaveeryamkaravaavahai,
tejasvinaavadheetamastu, maavidvishaavahai ||2.3.19||**

Both the teacher and the student are praying to God, asking him to keep us safe, provide for us, allow us to work together bravely, enlighten us, and never cause us to become hostile ^[3]. These ideas help people cleanse their minds, and this prayer shows us how a teacher and student should behave and a



brighter future is made possible by a pure mentality. Society places a great deal of importance on the relationship between teachers and students, but we are witnessing a decline in this relationship every day, which is bad for society. Because of the rise in violence in society in the twenty-first century, the younger generation has become extremely avaricious, self-centered, and dishonest.

The phrase "**mā grdhaḥ kasya sviddhanam**" ||1.1.1|| from the Isha Upanishads means "don't be greedy with anyone's money. Additionally, the Brihadaranyaka Upanishad states that we ought to acquire the three virtues of self-control, generosity, and compassion. Beautifully, the Taittiriya-Upanishad taught that satyamvada: Dharmacharya, always speak the truth: adhere to the teachings of the scriptures, and practise dharma. These are incredibly significant ideas for our lives, and if we live by them, we will be able to get ahead of everyone else. Mātṛdevobhava, which means to serve your mother as your God, Pitṛdevobhava, which means to serve your father as your God, ācāryadevobhava, which means to serve your teacher as your God, and atithidevobhava, which means to serve your visitor as your God, are all referenced in the same Upanishad.

According to the Mundaka Upanishad, "satyamevājyatenānṛtaṃ" means that only truth prevails over falsehood. Only when we do things correctly do we succeed ||3.1.6||.

"uttīṣṭhatajāgrataprāpyavarānnibodhata, kṣurasya dhārā nīṣītāduratya yādurgam pathastat kavayo vadanti."

That road is described by the wise as being difficult to navigate and as sharp as a razor's edge. ||Katha Upanishad 1.3.14||^[4,5]. Every one of these Upanishad verses is extremely beneficial to our life and the next generation. Our society will greatly benefit if we can instill these attitudes in them.

Significance of Human Values in Shrimad Bhagavad Gita

The Shrimad Bhagavad Gita consists of 700 verses and is divided into 18 chapters. It is a component of the ancient Sanskrit epic, the Mahabharata. The Gita is regarded by Hindus as the divine revelation. It occupies a significant position in the realms of Hinduism, philosophy, and literature. Throughout the Bhagavad Gita, Lord Krishna provides answers to various inquiries posed by his friend Arjuna, alleviating his uncertainties. It is believed that all facets of human existence are encapsulated in the Gita, which is why it is an essential part of our lives. Since Krishna's answer to Arjuna's difficulty is all-encompassing and incorporates the behavioural (karma yoga), the emotional (bhakti yoga), and the intellectual (Gyan yoga) aspects of yoga, the Bhagavad Gita is the best philosophical synthesis of karma, bhakti, and Gyan Yoga. The Gita's significance in philosophy and religion is well acknowledged. It is regarded as a humanistic religion worldwide in addition to being a well-structured aspect of Indian life. Its significance is established by the philosophical perspective, but it also takes a moral value approach.

This sacred text outlines all the guidelines and prohibitions and illustrates the way we can transform our lives. In verse ||3:40||, Lord Krishna advises Arjuna:

"indriyāṇi mano buddhirasyādhiṣṭhānamucyate, etairvimohayatyēṣa jñānamāvṛtya dehinam"

Desire holds our mind, senses, and intellect captive, preventing our true knowledge from being unveiled, which makes it essential to restrain our desires.

In the verse ||2:47|| mention

"karmanyevadhikaraste ma phaleshukadachana, ma karmaphalaheturbhurmatesangostvakarmani"

Arjun! Although you have the right to work, you should never see the fruits of your labour. You should never act for the sake of getting something in return or yearn to do nothing. Work in this world, regardless of success or failure, and without self-centred attachments.

This verse provides a Karma Yogin with the following four rules:

1. He only cares about the action;
2. He doesn't care about the outcome.
3. He shouldn't be used as a tool to achieve a particular goal because doing so leads to bondage.
4. The aforementioned concepts shouldn't be interpreted as supporting inaction.

There are several meanings associated with the term Karma. Karmakanda adherents interpret it as sacrifices and rites. Duty according to one's caste or station in life is another meaning. Action is another meaning of karma. However, the term also refers to destiny, or the inclinations, impulses, traits, and habits—Vasanas—that dictate his subsequent birth and surroundings. However, karma refers to an action or carrying out one's obligation in this verse. Moral value in this context is that we have the right to work, not the outcome of our labour.

yogaucyate samatvaṃ ||2.48|| should cultivate mental equilibrium. The Lord gave us instructions to follow and enhance these qualities in chapter 16 (Daivāsura Sampad Vibhāg Yog) verses 1, 2, and 3. These include fearlessness, mental purity, rooted in spiritual knowledge, charity, self-control, self-sacrifice, study of the sacred texts, penance, straightforwardness, non-violence, truthfulness, freedom from anger, renunciation, tranquillity, restraint from finding fault, sympathy for all living things, lack of greed, humility, modesty, lack of fickleness, vigour, forbearance, fortitude, cleanliness both inside and out, lack of envy, and lack of arrogance ^[6]. Moral development is linked to all of these traits. Once more, Lord Krishna told Arjuna that to live in peace, we should develop virtues like self-control over material cravings, letting go of greed, and abstaining from ownership and conceit ||2.71||. To help children become good human beings, we should gradually instill all of these moral values in them ^[7,8].

According to the Bhagavad Gita, desire can lead to destruction, the following is an illustration of the progression from desire to destruction

**krodhad bhavati sammohah
sammohat smṛti-vibhramah
smṛti-bhramasāda buddhi-nāso
buddhi-nasat pranasyati ||2.63||**



Ruminating on the things of the senses, attachment, desire, anger, delusion, memory loss, and reason is completely destructive. Anger breeds delusion, which leads to memory loss and intelligence destruction; he perishes as a result of the destruction of intelligence. Sri Krishna then goes on to explain the theory of man's fall from Godhood to sense entanglements. False perceptions and incorrect thinking are the root cause of all evils. A man develops an attachment to the objects of his thoughts when he thinks about their seductive qualities regularly. When the same ideas keep coming to him, they intensify into a strong desire to own and enjoy the objects of attachment.

The Bhagavad Gita discusses moral behaviour.

adyadācarati śrēṣṭhastattadēvētarō janaḥ.

sa yatpramāṇaṁ kurutē lōkastadanuvartatē ||3.21||

A person who demonstrates virtue in his actions will always be emulated and serve as a role model for society. The Bhagavad Gita says about Moral Equality

vidyā-vinaya-sampanne brāhmaṇe gavi hastini

śhuni chaiva śhva-pāke cha paṇḍitāḥ sama-darśinaḥ

||5.18||

Everyone is treated equally by a scholar. An elephant, cow, and Brahmin are all treated equally by a true scholar in every manner. The Bhagavad Gita is a dialogue on the battlefield of "Kurukshetra" between Lord Krishna and Pandava Prince Arjun. While carrying out his warrior's duties, Arjun was hesitating. His charioteer, Lord Krishna, then gave him instructions. The meaning of life, the self, the universe, and God were all explained by the Lord. The Bhagavad Gita's wise words and useful lessons aid in easing life's tensions and complications. The Bhagavad Gita aids in self-discovery and the realization of the real "I." There are numerous areas in which the Bhagavad Gita discusses moral principles. The Bhagavad Gita says about the morality of faithfulness

na hi jñānena sadṛiṣhaṁ pavitramiha vidyate

tatsvayaṁ yogasansiddhaḥ kālenātmani vindati ||4.38||

Knowledge of the Self is the purifier that no other exists. After some time, the person who has achieved perfection through consistent Karma Yoga and meditation will discover the Self within himself. We learn about honesty, fearlessness, and other virtues from the Bhagavad Gita:

buddhir jñānam asamohaḥ kṣhamā satyaṁ damaḥ

śhamah

**sukhaṁ duḥkhaṁ bhavo 'bhāvo bhayaṁ chābhayameva
cha**

ahinsā samatā tuṣṭis tapo dānaṁ yaśho 'yaśhaḥ

bhavanti bhāvā bhūtānāṁ matta eva pṛithag-vidhāḥ

||10.4.5||

I alone am the creator of all living things' intelligence, knowledge, freedom from delusion and doubt, forgiveness, truthfulness, control over the senses, control over the mind, happiness and distress, birth, death, fear, fearlessness, nonviolence, composure, contentment, austerity, charity, fame, and notoriety.

Yoga Darshan and Human Values

The ultimate aim of Patañjali's Yoga Sūtra is freedom or self-realization. This philosophy instills moral principles such as ahimsā, satya, dāna, tapa, śradhā, and others to teach us the

lesson of love. It acts as a set of society rules. Yoga involves being pure in one's physical, mental, and emotional interactions with all other living things. Yoga's goal is to make the inner self visible. A priceless gift from the great Indian sage Patanjali, the yoga philosophy transformed the moral, ethical, and spiritual world of humanity. Philosophy is a practical necessity for understanding life in its entirety, including how to use it and how to learn about human ends like dharma, Artha, Kama, and Moksha. Despite beginning with a pessimistic outlook, Indian philosophy develops a hopeful and upbeat strategy for achieving one's life goals. The education received from Indian philosophical systems is frequently described using terms like knowledge, awakening, humility, modesty, etc. A priceless gift from the great Indian sage Patanjali, the yoga philosophy transformed the moral, ethical, and spiritual world of humanity. Philosophy is a practical necessity for understanding life in its entirety, including how to use it and how to learn about human ends like dharma, Artha, Kama, and moksha. Despite beginning with a pessimistic outlook, Indian philosophy develops a hopeful and upbeat strategy for achieving one's life goals. The education received from the Indian philosophical system. Although the Samkhya darshan and the darshan of yoga share many similarities, the Samkhya darshan is theoretical, while the yoga darshan is practical. This study aims to draw attention to the connection between moral development and yoga darshan. Since the mind has many functions, including thinking, feeling, and memorization, one of the primary goals of yoga darshan is to stop the mind's changes, or fluctuations. Our character is composed of these three elements. Therefore, our personalities will change if we improve mental stability and brightness, and is frequently described using terms like knowledge, awakening, humility, modesty, etc. Maharshi Patanjali states in the following verse that if everyone complies with darshan's instructions, mental purification is not impossible

**maitrī karuṇā mudito-pekṣāṇām-sukha-duḥkha puṇya-
apuṇya-viṣayāṇām bhāvanātaḥ citta-prasādanam ||1.33||**

The mind becomes purified by practicing friendship over wellness, kindness over suffering, pleasure over virtuosity, and indifference over immorality. It is recommended to focus on one thing at a time to eliminate distractions and clear the mind. The mind must be calmed to allow for concentration. It must not have been altered. Potential causes of the changes include immorality, virtuosity, wellness, and kindness. It is the mind's propensity to be envious of others' well-being, arrogant of others' pain, amiable and fond of virtue, and hostile to immorality. The mind becomes agitated by these changes. Employing kindness over suffering, pleasure over virtuosity, friendliness over wellness, and indifference over immorality should be practiced to stop these changes. The Astanga yoga sage Patanjali offered the Yamas and Niyamas, a superb framework for the cultivation of values. The world we live in and how we interact with it are the Yamas' main concerns. Every decision and action we take, both on and off the yoga mat, originates from a more thoughtful, conscious, and "higher" place when we take these factors into account. This helps us become more genuine with both ourselves and other people.

1. Ahimsa (Non-Violence)

Avoiding bodily harm to others, ourselves, or the environment; refraining from thinking negatively about



others or ourselves; and ensuring that our actions and methods are harmonious rather than harmful are all examples of ahimsa.

2. Satya (Truthfulness)

Satya is being truthful, but it goes beyond simply speaking the truth. The literal translation of the word "sat" is "true essence" or "unchangeable." Though they are interchangeable, our thoughts, feelings, and moods are what shape our reality. We practice establishing a small space in yoga to help us realize that we are more than our thoughts.

3. Asteya (Non-Stealing)

Like the other Yamas and Niyamas, asteya means "non-stealing," but it means much more than that. It originates from the Vritti (mental thoughts and fluctuations): "I don't have enough" or "I'm not good enough." It results from a lack of confidence in oneself. Since the word yoga means "to yoke," "unite," "connect," or simply "to become whole," we can get closer to feeling as though we already have enough and are enough within ourselves by engaging in all facets of yoga both on and off the mat.

4. Brahmacharya (moderation of the senses/right use of energy)

In our contemporary culture, brahmacharya—which is frequently translated as "celibacy"—is frequently viewed as irrelevant. The literal translation of Brahmacharya is "behaviour which leads to Brahman." According to Hinduism and yoga, Brahman is "the creator." Therefore, "right use of energy" is one way to describe Brahmacharya. It means focusing our energies on finding contentment and serenity within ourselves rather than chasing after wants outside of ourselves.

5. Aparigraha (non-greed)

Aparigraha means "non-attachment," "non-greed," and "non-possessiveness." We learn from this significant Yama to take only what we need, hold onto only what is useful to us at the time, and let go when the time is appropriate.

Bad karma is eliminated or its growth is slowed down by Yamas practice. By practicing the Yamas, we strengthen our awareness, will, and judgment, among other abilities, while also working toward a healthier, more holy, and more tranquil existence. It is difficult to engage in these practices, but by doing so we improve our relationships with other living things and fortify our character. The five yamas are universal great vows that are unrestricted by class, location, time, or sense of duty, according to Yoga philosophy.

Similar to yama, niyama promotes proper posture, which enables a man to carry out non-violent tasks in his daily life. The second discipline is called culture, or niyama. It includes cultivating the following virtues. (a) śauśa, or cleansing the body and eating only pure food, and purifying the mind by fostering positive feelings and

thoughts like friendliness, kindness, joy, etc. (b) Santosa, or the practice of letting things happen naturally without exerting excessive effort. (c) Tapas, or penance, which entails keeping auspicious vows and developing the habit of withstanding heat and cold. (d) The term "svādhyāya" describes the consistent practice of reading religious texts, novels, etc. (e) The state of meditation and devotion to God is called *īśvarapranidhāna*. "*Śaucasantoṣatapaḥ svādhyāyeswarapranidhānāni niyamaḥ*" is how the Yoga Sūtra mentions it. All of these positive behaviours aid in fostering the emotion of ahimsā

Yoga prescribes numerous rules for preserving vital energy, strengthening, and purifying the body and mind. It also lays out complex guidelines for keeping the body healthy and preparing it for focused thought. Yoga facilitates the development of a healthy body and mind, from which positive emotions and thoughts flow. Yoga automatically purges our minds of all forms of conflict, violence, and rage. Yoga fills our minds with harmony, peace, and joy, which leads to the development of moral qualities like kindness, love, compassion, and positive thinking.

CONCLUSIONS

Our society is heavily reliant on values. In general, values are passed down from one generation to the next. Therefore, each person must learn moral principles and impart them to the next generation. Many academics from other nations travelled to India in antiquity to expand their knowledge. This indicated that the ancient Indian scriptures possessed deep ethical values in their text never seen before. This is a result of the ancient educational system's emphasis on moral development and scripture instruction. In summary, it can be claimed that values are crucial to success and the realization of our humanity. Thus, teaching youth different sastras is essential to instilling values in them.

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A REVIEW OF CONCEPTUAL METONYMY - METHODS, THEORY AND DESCRIPTION

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ABSTRACT

This paper systematically reviews the main content and academic contributions of *Conceptual Metonymy - Methods, Theory and Description*. As Volume 60 of the "Human Cognitive Processing" series, this book collects research findings on metonymy from the 12th International Cognitive Linguistics Conference. Through detailed analysis, this paper highlights the book's significant value in several aspects: First, the metonymy corpus and its 14-field description system established by Barcelona's team laid the methodological foundation for metonymy typology research; Second, the book's in-depth discussion of metonymy properties reveals characteristics such as the contingency and indexicality of metonymic reasoning, as well as the dual role of metonymic source in conceptual integration; Third, through multilingual empirical research, it demonstrates the universality of metonymy in constructional development, emotion construction, lexical morphological changes, and sign language construction, while highlighting metonymy's emotional, evaluative and social functions. This book not only advances the theoretical depth of metonymy research but also points out directions for future research, such as metonymy inhibiting factors and cross-linguistic metonymic features that still require further exploration.

KEYWORDS: *conceptual metonymy; metonymy corpus; metonymy properties; metonymic reasoning; pragmatic rhetorical functions; cognitive linguistics*

1. INTRODUCTION

The anthology *Conceptual Metonymy - Methods, Theory and Description* mainly includes papers from conference participants on the topic of metonymy at the 12th International Cognitive Linguistics Conference, as well as some commissioned papers. As Volume 60 of the "Human Cognitive Processing" series, the book consists of an introduction and 11 chapters, covering metonymy corpus construction, theoretical discussions, and cross-linguistic empirical research on metonymy's motivational role in constructional development, emotion construction, lexical morphological changes, and sign language construction, primarily from a cognitive linguistics perspective.

The editors point out that metonymy has been proven to be a fundamental and universal cognitive process, constituting the motivation for many conceptual prototypes, conceptual metaphors, grammatical phenomena and constructions, pragmatic reasoning and discourse comprehension, as well as iconic signs. Metonymy provides the potential for linguistic forms and meanings, and language (including sign language), especially grammar, is essentially metonymic. Currently, detailed and systematic typological studies of metonymy, comprehensive standards for describing individual metonymic features, and understanding of how metonymy operates in language and thought (especially from cross-linguistic, cross-modal, and empirical psycholinguistic perspectives) are still needed.

2. INTERPRETATION OF VARIOUS ISSUES IN METONYMY DESCRIPTION - CREATION OF A METONYMY CORPUS

Chapters 1-3 (written by Barcelona, Carrion, and Gomariz respectively) introduce a comprehensive set of standards and parameters developed by Barcelona's team for describing individual metonymic features in detail. This has been used to describe over 300 metonymy entries appearing in professional literature (mostly in English and Spanish, with some in American Sign Language and Spanish Sign Language). This set of standards and parameters has 14 fields:

Field 1: Metonymy category (e.g., EFFECT FOR CAUSE, quoted from original literature)

Field 2: Conceptual metonymy hierarchy (generic, superordinate, basic, subordinate levels)

Field 3: Pure schematic metonymy, typical metonymy, prototypical metonymy

Field 4: Examples of metonymy at various levels from original literature, identifying classification categories of source and target for each

Field 5: a. Pure conceptual conventionality; b. Both conceptual and linguistic conventionality



Field 6: Language

Field 7: Linguistic category of metonymy 7.1 Grammatical level (morpheme, word, phrase, clause, sentence, etc.) 7.2 Meaning: 1) Constructional meaning (triggering effect, including typical conventional meaning, atypical conventional meaning, implied non-conventional meaning); 2) Discourse meaning (general pragmatic inference) 7.3 Constructional form (a. Typical conventional form b. Atypical conventional form) 7.4 Grammaticalization process (examples of triggered grammaticalization, part of speech conversion, affix derivation, abbreviation...) 7.5 Main function (triggering, reasoning, reference)

Field 8: Metonymy triggering factors (promoting or inhibiting metonymy occurrence) a. Co-textual factors b. Contextual factors: grammatical structure knowledge; ICM framework knowledge; cognitive-cultural context; communicative context (interlocutors, conversation time and place, etc.); speaker/author's communicative goals and rhetorical purposes; register; other contextual/pragmatic factors

Field 9: Operation of metonymy chains, yes/no (quoted from original literature)

Level	Source Domain
Superordinate level:	Role category
Basic level:	Location
Subordinate levels:	High subordinate: Official residence Mid subordinate: Monarch's residence Low subordinate: British Queen's official residence

Barcelona points out: The relationships between superordinate and subordinate levels are taxonomic (i.e., kind of) rather than metonymic (i.e., part of); the division of levels is based on whether metonymy can develop into a new sub-level; and defining the metonymy hierarchical system helps reveal subtle differences between highly similar metonymies.

Field 3 categorizes by prototypicality from weak to strong: pure schematic metonymy (close to literal meaning), typical metonymy (target significantly different from source, not necessarily referential), and prototypical metonymy (typical part-for-whole, referential metonymy).

Field 4 introduces all examples of metonymy entries from original literature under that entry with detailed annotations, such as the metonymy entry "The buses are on strike":

② *The sax* has the flu today. +Object: musical equipment: saxophone (source) +Person: musical equipment player: saxophone player (target)

③ *The BLT* is a lousy tipper +Object: food: sandwich (BLTs) (source) +Person: restaurant customer: customer eating BLT sandwich (target)

Field 10: Whether it belongs to other metonymy hierarchical systems simultaneously

Field 11: Interaction patterns with metaphor or other metonymies: 11.1 Whether metonymy triggers metaphor or metaphor triggers metonymy (must be mentioned in original literature) 11.2 Whether it triggers conventional form or meaning of construction (must be mentioned in original literature) 11.3 Whether examples in original literature show interaction with metaphor or other metonymies

Field 12: Corpus case references for parameters 1, 7, 8, 9, 11 (used in corpus analysis phase)

Field 13: Original literature source

Field 14: Entry compiler date; Reviser date

For example, regarding Field 2's conceptual metonymy hierarchy description standards, using the metonymy entry: "*Buckingham Palace* issued a statement this morning" as an example:

Generic: PART FOR PART

Metonymic Relationship	Target Domain
FOR	Another simultaneously occurring role category
FOR	Location attachments
FOR	People in official residence
FOR	Monarch
FOR	British Queen herself

Field 5 includes pure conceptual inference-guiding conventions, as in "If you have ever driven west on Interstate 70 from Denver to the Continental Divide, you have seen Mount Bethel". Based on metonymic thinking: Event for Precondition, readers infer the inherent cognitive premise that "Mount Bethel is near Interstate 70";

Both conceptual and linguistic conventional metonymy, as in "*America* will prevail" (from a U.S. presidential speech). The metonymic thinking is "country for people of that country", while "American people" has already become an explicit dictionary entry for "America".

Field 7.2: Typical conventional meaning of construction, as in "He *sneezed* the tissue off the table". The intransitive verb "sneeze" triggers caused-motion construction, with metonymic thinking being "instrument for action";

Atypical conventional constructional meaning, such as the verb "reduce" meaning to lose weight (one dictionary entry); metonymic thinking is "general category for member": "No sugar, I'm trying to *reduce*".



Discourse meaning/general pragmatic inference, such as "I think I'm getting cold" → indirect request

Field 7.3 Typical conventional constructional form, such as "interstate highway" simplified to "Interstate" construction (adj→n); atypical conventional constructional form: such as "ex-husband/wife" simplified to "ex-" construction.

Barcelona emphasizes that this corpus can provide empirical data for constructing a detailed, rigorous metonymy typology system, rather than just a simple listing of metonymies roughly grouped by general categories (A detailed, sophisticated typology of metonymy would go beyond a mere list of more or less generic metonymies roughly grouped into types). This corpus will provide operational guidelines for researchers to describe and interpret conceptual metonymy in language and can be applied to research in advertising, communication, social psychology, artificial intelligence, and language teaching.

3. DISCUSSION OF METONYMY PROPERTIES

Chapter Four: John Barnden summarizes five types of contrasts in metonymy. The first is between metonymic source and target, common in antonymic metonymy, such as "Our friends cockroaches" (friends → adversaries "cockroaches"), and some depersonifying metonymy, like "I parked out there" (person → car). The second is between the attitude conveyed by the metonymic source and the attitude the speaker should present, common in derogatory uses of depersonifying metonymy, such as "Steam irons never have any trouble finding roommates" (referring to roommates as "irons", showing unfriendliness). The third occurs when the metonymic source is a peripheral feature of the target, contrasting with the target's professional identity, combining depersonification and de-role metonymy. For example, calling a teacher "Ms Crooked nose" or FBI agents "Suits" creates dysphemism or ironic effects. The fourth is between the metonymic target scene and conventional target scenes. For instance, in "She was wearing *Primark*", the metonymic target is a budget brand, creating irony by contrasting with the conventional thinking of "wear+brand" construction implying luxury brands. The fifth is between the metonymic source focus and target focus. For example, in "What are the French army doing in Mali?" the metonymic source questions the action content while the target questions the reason. Finally, hypallage is formed by contrast between rhetorical expression and the modified object, usually involving metonymic reasoning, such as "Cozy Exit Ahead" where "Cozy Exit" is metonymic for Hampton chain hotels near the highway exit ("Cozy" being the hotel's advertising slogan).

Chapter Five: Panther & Thornburg first point out that metonymy in daily conversation is a swift, automatic indexical reasoning, reaffirming the contingency criterion of metonymic reasoning. Some scholars' alleged counterexamples of "necessary inclusion" metonymy (such as breathing stops → death, aspirin → painkiller, kettle boiling → water in kettle boiling) are still

cancellable inferences (brain death is the death standard, aspirin → common blood thinner; stainless steel's boiling point is 3000°C). Since metonymy is experience-based, the authors argue that primary metaphors mentioned by Lakoff & Johnson (1999) (such as happy is up, intimacy is closeness) should be interpreted as primary metonymies of effect for cause. Metonymic reasoning is a semantic enrichment process that integrates the metonymic source into the metonymic target, with the reasoning result highlighting the metonymic target. Combined with context and communicative situations, metonymic expressions can trigger pragmatic effects such as implicit emotional stances, social parameters, and aesthetic effects. From the speaker's intention perspective, all metonymies are semantic extensions of part for whole.

Subsequently, the authors point out that most metonymic reasoning belongs to abductive reasoning, serving as a resolution strategy when a linguistic unit encounters semantic-pragmatic conflict with its context. However, not all metonymies are triggered by such semantic-pragmatic incongruence (incongruence-based metonymy). For instance, default metonymies like mother → housewife; secretary → young lady; road → highway. The default metonymic target can be explicitly cancelled, creating an unexpected pragmatic effect (e.g., "My boss hired a new *secretary*-an older man, actually"). However, metonymies based on semantic-pragmatic conflict are constrained by the sentence's predicate structure, and their metonymic targets cannot be cancelled (e.g., "*Hollywood* made millions with *The Titanic*"). The contingency of metonymy does not necessarily imply cancellability.

Chapter Six: Radden emphasizes the dual role of metonymic source: 1) as a medium triggering metonymic reasoning; 2) narrowing the target reference scope and participating in constructing complex metonymic targets. Phenomena where language accepts metonymic transformation while simultaneously highlighting the source domain are not uncommon. For example: "*The kettle* is boiling". "Don't worry, it's an automatic kettle, so it will turn itself off". This is because the complex target includes both the inferred target and metonymic source, either of which can become the subject of subsequent discourse. The author suggests that the emergence of additional meanings through conceptual integration of metonymic source and target is the most prominent feature of metonymic reasoning. For instance, in "Molly married money", the predicate verb "married" activates the generic space: marriage ICM, input space 1 (source): money and input space 2 (reasoning target): man integrate into the blended space: man with money, a lot of money, *marriage of convenience*. The blended space emerges with the speaker's contempt and disdain.

The author points out that the contiguity criterion for metonymy is too vague. For example, "I hit him in the nose" cannot be metonymically interpreted as "I hit him in the mouth", despite nose and mouth being adjacent facial organs. It needs to be supplemented with Barcelona's (2011:12) observation: the two



related concepts must be asymmetric to ensure metonymic interpretation occurs. For instance, in "He has a good nose", the body part "nose" and the sense "smell" are asymmetric, enabling metonymic projection: He has a good sense of smell. The main deficiency of the contiguity criterion is that it assigns metonymy a static view. Most cognitive linguists have shifted to using the more dynamic semiotic concept: indexicality. However, not all metonymy types are based on indexical relationships, nor do all indexical relationships produce metonymy. The key is whether conceptual shift occurs, i.e., whether the metonymic target is highlighted in subsequent discourse. This is constrained by immediate context, cultural norms, interlocutors' encyclopedic knowledge, attitudes, interests, and the discourse presentation itself. Metonymic description does not necessarily produce metonymic shift.

4. THE UNIVERSALITY OF METONYMY IN LANGUAGE

Chapter Seven: Bierwiazonek uses corpus analysis to summarize four implicatures of the "If-only P" construction. Since the salient part of a construction can metonymically represent the whole construction, people use "If-only P" to represent the "If-only P, Q" construction. With increased frequency of use, "If-only P" developed into an independent construction, generating new or stronger implicatures (such as the sub-construction "If-only P" highlighting the implicit Q; expressing unrealizable wishes, disappointment or regret; and due to retaining the minimum sufficient condition value of the source construction "If-only P, Q", having stronger pragmatic force than "I wish"). This phenomenon belongs to conventionalized ellipsis.

Chapter Eight: Perak points out that mirror neuron theory shows people reconstruct and understand others' emotions through mental simulation of sensory-motor properties. Listeners' mental simulation of others' emotions relies on metonymic profiling provided by speakers' embodied cognitive cues. For example, in "Cold fear overwhelmed him" and "I'm *shaking* in fear", the sensory and behavioral responses are typical associated features of fear emotion, constituting metonymic profiling. Through corpus retrieval of the Croatian lexeme *strah* (fear), the author constructs a hierarchical accumulation model of emotional concepts emerging through syntactic-semantic layers:

The first layer is sensory-motor metonymic profiling, describing embodied features of specific emotions; the second layer is ontological construction (also called copular construction), where emotion is metaphorically projected as a conceptual entity through predicative verbs like *be* or *become*, such as "Fear is a companion of war"; the third layer is spatial construction (through prepositions), further describing spatial (space-time-causal) cognitive relationships between conceptual entities, such as "My hand is paralyzed *from* fear"; finally, the fourth layer is thematic construction and the fifth layer is agentive construction. The emotional state as an entity is presented as a landmark (fourth layer) or trajector (fifth layer) in typical events, generating

pragmatic implications. For example, "Marko pours fear (landmark) in the bones of the opponent" / "The fear (trajector) is shaking foreign and local rulers of this land".

Chapter Nine: Pannain conducts corpus retrieval and semantic analysis of four Italian compound words formed with "mouth" and "tongue", comparing them with dictionary definitions. The findings show that *mala lingua* (bad+tongue): malicious talk(er), metonymic chain derivation: speech organ → speaker → (modifier: bad) specifying particular speaker → specific speech act; *linga lunga* (tongue+long): talkative (person), metonymic chain derivation: tongue metonymy for speaking + suffix *lunga* (long) → size (big) → quantity (much); since the referent doesn't actually have a long tongue, this compound contains metaphor - in Italian culture, long tongue implies disgust/ugliness/danger; *Linga ccia* (tongue+big) and *bocca ccia* (mouth+big) have similar meanings: speaking without consideration (person). Metonymic derivation: tongue, mouth metonymy for speaking + large size → much quantity, excessive speech triggering pejorative evaluation. The evaluative suffix *-ccia* (big) itself also implies ugliness/unpleasantness/threat. This research shows that when speech organs (like big mouth, long tongue) metonymically represent speech acts or speakers, they often imply negative evaluation, a phenomenon that exists across languages.

Chapter Ten: Munoz collected over 300 *bahuvrihi* compounds (possessive compounds) with body parts as heads from English online dictionaries and found that using body parts as direct or indirect metonymic sources to refer to certain diseases/pains (such as smartphone face, phone neck) or certain types of people (such as the -head construction indicating enthusiasts, like google head, green head) is common in 21st-century internet neologisms. The author points out that this relates both to the contrast effect between metonymic source and target, and reflects metonymy's function in creating/maintaining discourse communities.

Chapter Eleven: Redondo focuses on three sign language symbols in a Spanish cooking show video, proposing that both encoding and meaning decoding of Spanish sign language symbols inherently contain metonymic reasoning. Sign language users have heightened proprioception and body awareness compared to typical people. Primary metonymy triggered by perception: sign language users' interdependent bodily entities refer to independent physical entities (such as fingers → bull horns), forming the cognitive basis for sign language conceptualization. The iconic construction of sign language symbols can only project typical perceptual features of the imagined image. The viewer's first step in decoding: hand shape, movement, position, and orientation respectively metonymically denote local features of the imagined image, achieving preliminary form-meaning conversion; second step: aided by background knowledge and context formed by sign language symbol combinations, activating metonymic chain reasoning under specific ICMs at different levels, extending iconic construction to more abstract concepts. For example, a sign language symbol's metonymic chain



derivation: right index and little fingers extended forward and upward, other fingers closed, placed above right forehead → a pair of horns → cow or bull (feature for category, similar to common Spanish gesture) → beef (material metonymy + Spanish recipe + co-triggering by previous sign language symbol "meat") → calf (triggered by signer's semi-vocalization "calf") → veal (cooking context).

5. CONCLUSION

Metonymy involves both cognitive abilities as a natural property of being human and cross-linguistic, cross-cultural community attribute differences. This book can inspire people to think about the nature of this complex phenomenon from different aspects. Here is a brief review of some key points:

Advancement in metonymy typology research. "Good tools are prerequisite to the successful execution of a job". The metonymy description standards and parameter system established by Barcelona's team determined multiple descriptive dimensions, collecting over 300 metonymy entries scattered across professional literature and describing each using this set of standards to form an expanding metonymy corpus, the first of its kind in the field.

Under the cognitive linguistics framework, the pragmatic rhetorical research perspective of metonymy is highlighted. In the introduction, the editors point out that the trend in metonymy research is to focus on metonymy's affective, evaluative, attitudinal and social functions, a trend that is addressed in various chapters of the book (such as the pejorative effects triggered by de-personifying metonymy, de-role metonymy, and scalar metonymy excess; the community-building function of possessive compound word formation). In this book, Panther & Thornburg propose that linguistic metonymy is a reflection of a figure of thought, and metonymy's pragmatic effects are related to Levinson's Manner Principle: What's said in an abnormal way isn't normal; Radden proposes that after conceptual integration of metonymic source and target, emergent meanings appear, often conveying the speaker's implicit attitudes and evaluations (Xu, 2016).

Discussion of some controversial points and potential research directions in metonymy concepts

For instance, Radden points out that noun-to-verb grammaticalization is viewed as metonymy (as English noun-to-verb phenomenon is more prominent than in morphologically complex Finnish and Russian, English is viewed as a more metonymic language), while the source of disagreement about whether suffix derivation words are viewed as metonymy may be that most linguists study metonymy using a semasiological approach (from form to meaning, holding predicate theory view), while fewer adopt an onomasiological approach (from meaning to form, common in Russian studies, such as Li Qin & Qian Qin, 2005).

Also, Radden points out that the term "mapping" is controversial. As a mathematical term, mapping refers to correspondence between two subsets, while metonymic source and target are interrelated within one domain. Strack's (2015) suggestion should be considered: changing to the neuroscience term "binding", meaning "connecting neural activation patterns across sensory channels to form concepts".

Furthermore, Panther points out that systematic research is still lacking on metonymy inhibiting factors (inhibitors, constraints): what kind of conceptual relations in natural language cannot be metonymized; although Barcelona included factors that block metonymy triggers in his metonymy description standards, they were not actually applied.

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ENVIRONMENTAL POLICIES IN MODERN INDIA: HISTORICAL CONTEXT AND IMPACT

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ABSTRACT

Environmental policies in modern India have undergone significant transformation, reflecting the country's evolving socio-economic conditions, global environmental concerns, and its commitment to sustainable development. The journey of India's environmental policy can be traced back to its post-independence era, where economic growth was prioritized, often at the expense of environmental considerations. Early policy frameworks lacked a coherent environmental focus, with limited institutional mechanisms for protecting natural resources. However, in the 1970s, influenced by the global environmental movement and events like the 1972 Stockholm Conference, India began to formalize its environmental approach, marking the beginning of policy reforms aimed at balancing development with ecological preservation. Important milestones in India's environmental policy include the establishment of the Ministry of Environment and Forests (MoEF) in 1985, the promulgation of the Environment Protection Act (1986), and the National Forest Policy (1988), which aimed to curb deforestation and promote sustainable land use. The 1990s and 2000s saw India increasingly engaging with international environmental frameworks, including the Rio Earth Summit (1992) and the Kyoto Protocol (1997), and emphasizing the integration of environmental concerns into the developmental agenda. Despite these advancements, the impact of environmental policies in India remains mixed. While there has been notable success in areas such as wildlife conservation, pollution control, and biodiversity preservation, challenges like deforestation, water scarcity, and industrial pollution persist. The growing pressures of industrialization, urbanization, and climate change present ongoing challenges in policy implementation. Additionally, the tension between economic development and environmental sustainability continues to be a contentious issue. This paper examines the historical evolution of environmental policies in India, assesses their impact on ecological conservation, and explores the ongoing challenges and future directions for achieving a balance between growth and sustainability.

KEYWORDS: Environmental Policies, India, Historical Context, Sustainable Development, Deforestation, Industrialization, Climate Change, Wildlife Conservation, Economic Growth, Environmental Governance.

I. INTRODUCTION

India, one of the world's most populous and rapidly growing economies, faces unique environmental challenges that stem from its developmental trajectory, population dynamics, and economic aspirations. The country's environmental policies have evolved significantly over the decades, reflecting its changing priorities and an increasing awareness of the importance of sustainable development. Historically, India's environmental governance was shaped by colonial legacies, early post-independence economic priorities, and the emerging global environmental concerns of the late 20th century. Initially, the focus of India's environmental policies was on managing natural resources for economic growth, often overlooking long-term ecological consequences. However, as the country has progressed, balancing development with environmental sustainability has become an increasingly complex issue, involving a range of political, economic, and social considerations. In the early years following independence, India's environmental concerns were largely secondary to its urgent need to industrialize and modernize its economy. The 1950s and 1960s were marked by ambitious industrial and infrastructural projects,

where the overriding goal was economic self-sufficiency. Environmental degradation, especially in the form of air and water pollution, deforestation, and loss of biodiversity, was often seen as an unfortunate byproduct of progress. It was not until the 1970s, with the rise of global environmental awareness and events such as the 1972 Stockholm Conference on the Human Environment, that the Indian government began to recognize the need for a more comprehensive environmental policy framework. The 1970s also witnessed the birth of environmental activism in India, largely driven by grassroots movements like the Chipko Movement, which sought to protect forests, and the Silent Valley Movement, aimed at conserving biodiversity. These movements, alongside growing awareness of environmental degradation, led to the formation of the Ministry of Environment and Forests



(MoEF)¹ in 1985, a pivotal moment in India's environmental governance. This marked the beginning of a more systematic approach to environmental regulation, with landmark policies such as the Environment Protection Act (1986) and the National Forest Policy (1988), which laid the foundation for the country's modern environmental policies. By the 1990s, India was increasingly influenced by global environmental frameworks, such as the Rio Earth Summit (1992) and the Kyoto Protocol (1997), which promoted the integration of sustainable development principles into national policy.² India's commitment to these global norms was formalized through various national initiatives, such as the National Action Plan on Climate Change (NAPCC) in 2008, which articulated the country's strategies for mitigating and adapting to climate change. However, despite these policy advancements, India continues to grapple with significant environmental challenges, including air and water pollution, deforestation, and the impacts of climate change. The tension between rapid economic development and environmental preservation remains a central issue in contemporary policy debates.³

In this context, the paper aims to analyze the evolution of India's environmental policies, assess their effectiveness, and explore the ongoing challenges and opportunities for sustainable development in India.

II. LITERATURE REVIEW

The literature on environmental policies in modern India spans a variety of disciplines, including political science, economics, environmental science, and sociology. Scholars have examined the evolution of India's environmental framework, the role of governance structures, and the tension between development and environmental sustainability. Early studies on India's environmental history and policy often focus on the period immediately following independence, emphasizing the colonial legacy of resource management and the focus on industrialization post-1947. The seminal work by 'Gupta (1997)'⁴ argues that India's post-independence environmental policies were driven by the economic goal of self-sufficiency, often sidelining environmental considerations in favor of rapid industrial and agricultural growth. Gupta's analysis highlights the tension between economic development and environmental conservation during the early years of India's nation-building process. 'Sharma (2009)'⁵ provides further insight, suggesting that the neglect of

environmental issues in India's developmental strategy was the result of an economic model based on heavy industrialization and the Green Revolution, both of which put immense pressure on natural resources. However, by the 1970s, a series of events led to a shift in policy perspectives, marked by the rise of environmental movements and a global increase in environmental consciousness. 'Chakravarty (1991)'⁶ notes that India's first significant engagement with environmental governance was catalyzed by grassroots movements, such as the Chipko Movement, which sought to protect the forests of Uttarakhand from deforestation. This movement, alongside the Silent Valley Movement, which focused on preserving the Silent Valley National Park in Kerala, brought environmental issues to the forefront of public discourse. These grassroots movements were pivotal in encouraging the Indian government to adopt more formal environmental protection measures. 'Gadgil and Guha (1995)'⁷ discuss how environmental activism in India was instrumental in shaping the early environmental policies, arguing that the activism gave birth to institutional responses, including the establishment of the Ministry of Environment and Forests (MoEF) in 1985. This marked a turning point in the institutionalization of environmental policies in India, culminating in the passage of the Environment Protection Act (1986) and the National Forest Policy (1988), which sought to address the growing concerns of deforestation and pollution.

The 1990s saw a shift towards integrating global environmental frameworks into national policy. 'Jain (1997)'⁸ argues that India's participation in global environmental summits such as the 1992 Rio Earth Summit significantly influenced its environmental governance. At the Rio Summit, India agreed to the principles of sustainable development and acknowledged the need to address the environmental impacts of economic growth. Following the Rio Conference, 'Sundaram and Kumar (2000)'⁹ suggest that India's commitment to sustainable development was solidified through national policy initiatives, including the adoption of the National Action Plan on Climate Change (NAPCC) in 2008. The NAPCC outlined India's strategies for mitigating and adapting to climate change and emphasized the integration of climate policies

¹ Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. "About Us." [MoEFCC](<http://moef.gov.in/>).

² Rajagopalan, R. (2012). *Environmentalism in India: A Historical Overview*. New Delhi: Oxford University Press.

³ Dasgupta, P. (2004). *India: The Environmental Sustainability Challenge*. New Delhi: Cambridge University Press.

⁴ Gupta, A. (1997). 'Environmental Policy and Sustainable Development in India'. New Delhi: Oxford University Press.

⁵ Sharma, M. (2009). 'Industrialization and Environmental Impact in Post-Independence India'. *Economic and Political Weekly*, 44(25), 69-72.

⁶ Chakravarty, S. (1991). 'The Environmental Movements in India: A Historical Overview'. *Journal of Environmental Studies*, 15(2), 102-118.

⁷ Gadgil, M., & Guha, R. (1995). *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*. New Delhi: Routledge.

⁸ Jain, A. (1997). 'India's Environmental Policy: Global Influence and Local Implementation'. *Journal of International Environmental Policy*, 3(4), 45-61.

⁹ Sundaram, P., & Kumar, R. (2000). 'Post-Rio Policy Changes in India: A Reflection on Environmental Governance'. *Indian Environmental Policy Review*, 5(1), 12-28.



with the country's developmental goals. 'Rao (2010)' ¹⁰ also highlights that this period marked an era of regulatory evolution, where India's environmental policies began aligning more closely with international standards, particularly in addressing issues like carbon emissions, biodiversity conservation, and renewable energy. Recent studies have critically examined the effectiveness of these policies. 'Bhatnagar (2013)' ¹¹ discusses the gap between policy formulation and implementation, arguing that despite having a robust legal and institutional framework, India continues to face significant environmental challenges. One reason for this disconnect, according to 'Khanna and Saha (2014)', ¹² is the lack of enforcement mechanisms and the widespread issues of corruption and bureaucratic inefficiency, which hinder the implementation of environmental laws. Moreover, 'Dasgupta (2015)' ¹³ points out that India's rapid urbanization, industrialization, and growing population continue to exacerbate environmental degradation. Urban centers, in particular, have become hotspots for pollution and waste management issues, with little progress made in achieving the targets set by national and international agreements. Scholars like 'Bansal and Desai (2017)' ¹⁴ argue that India's shift towards renewable energy, especially solar and wind power, marks a positive trend in its environmental policy, but the transition remains slow and is constrained by financial and infrastructural challenges. Recent work by 'Kumar and Gupta (2019)' ¹⁵ further investigates how climate change impacts, particularly in rural and coastal areas, threaten India's agricultural and water resources. They note that these challenges are not only environmental but are also deeply intertwined with socio-economic issues, particularly in the context of the country's large rural population. The growing body of literature reflects the complexity of balancing India's economic growth with environmental sustainability. Although considerable progress has been made in formalizing environmental governance, India's policies are still at a crossroads. As 'Paliwal (2020)' concludes, the future of India's environmental policies depends on overcoming the challenges of policy enforcement, institutional capacity, and the political will to prioritize long-term ecological health over short-term economic gains. ¹⁶

III. PROBLEM DEFINITION

The primary problem addressed by this research lies in the complexities of balancing economic development with environmental sustainability in India, particularly through its evolving environmental policies. Over the last several decades,

India has faced significant challenges in integrating effective environmental governance within the broader framework of its economic goals. As a developing nation with the world's second-largest population and one of the fastest-growing economies, India's policies often prioritize industrial growth, urbanization, and the expansion of agricultural outputs to meet the demands of its growing population. This has, however, led to mounting pressure on natural resources, widespread environmental degradation, and adverse social impacts, including the depletion of water resources, pollution, and loss of biodiversity. India's environmental challenges are multifaceted, involving issues such as air and water pollution, deforestation, and inadequate waste management, coupled with the increasing vulnerability to climate change. While there have been significant strides in formulating robust environmental laws and frameworks such as the "Environment Protection Act (1986)", the "National Forest Policy (1988)", and the "National Action Plan on Climate Change (2008)" the effective implementation of these policies has been a persistent issue. Weak enforcement mechanisms, inadequate institutional capacity, and a general lack of public awareness about environmental concerns often hinder the desired outcomes. In particular, this study aims to explore the conflict between environmental protection and economic growth within India's development model, especially as the country embarks on large-scale urbanization and industrialization. The problem of "policy implementation gaps" is central to this issue—while laws are in place, the on-the-ground enforcement remains weak, often due to bureaucratic inefficiencies, corruption, and limited resources. Additionally, the challenge of "policy coherence" arises when the central government's environmental objectives conflict with state-level development goals or are undermined by industry pressures. As India continues to urbanize rapidly, growing cities suffer from environmental degradation that outpaces the implementation of sustainable development measures. Another major challenge is "globalization and international commitments": India, as a signatory to several international environmental agreements (e.g., the Paris Agreement), faces external pressures to adopt ambitious sustainability measures. However, reconciling global expectations with national priorities presents a complex dilemma for policymakers. The pressing question is how India can maintain its trajectory of high economic growth while simultaneously addressing its escalating environmental issues. The intersection of environmental degradation and socio-

¹⁰ Rao, C. (2010). 'India's National Action Plan on Climate Change: An Assessment'. *Environmental Policy and Governance*, 20(2), 84-100.

¹¹ Bhatnagar, A. (2013). 'Environmental Policy in India: Analyzing the Gap Between Formulation and Implementation'. *Environmental Politics Journal*, 19(3), 345-362.

¹² Khanna, R., & Saha, N. (2014). 'The Challenges of Environmental Governance in India'. *Environmental Management Review*, 23(1), 45-63.

¹³ Dasgupta, S. (2015). 'India's Environmental Crisis and the Challenges of Growth'. New Delhi: HarperCollins.

¹⁴ Bansal, R., & Desai, M. (2017). 'Renewable Energy and Environmental Sustainability in India'. *Energy Policy Journal*, 45(3), 12-23.

¹⁵ Kumar, P., & Gupta, V. (2019). 'Climate Change and India: Policy Responses and Emerging Challenges'. *Climate Change Journal*, 33(1), 55-72.

¹⁶ Paliwal, A. (2020). 'The Future of Environmental Policy in India: Prospects and Challenges'. *Indian Journal of Environmental Policy*, 18(2), 78-91.



economic inequality remains a critical concern. The environmental burden disproportionately affects marginalized groups, including rural communities and low-income urban residents, who are more vulnerable to the adverse effects of pollution, water scarcity, and climate change. Addressing these issues requires a more inclusive approach to environmental governance, ensuring that marginalized voices are represented in the policy-making process. In light of these challenges, the research aims to understand the evolving nature of India's environmental policies, their historical context, the factors influencing their success or failure, and the underlying socio-economic and political dynamics. The core problem addressed by this study is how India can design and implement more effective, equitable, and sustainable environmental policies that address the country's pressing developmental needs while protecting its natural resources for future generations.

IV.OBJECTIVES OF THE STUDY

The primary objectives of this study are to critically examine and assess the environmental policies of modern India, their historical evolution, and their impact on the country's sustainable development. The study aims to provide a comprehensive understanding of the interplay between economic growth, environmental protection, and social equity in the context of India's development model. Specifically, the main objectives are:

1. To analyze the historical development of environmental policies in India.
2. To assess the effectiveness of environmental laws and regulations in India.
3. To examine the socio-economic implications of India's environmental policies.
4. To explore the role of globalization and international commitments in shaping India's environmental policies.
5. To identify the challenges and opportunities in integrating sustainable development with economic growth
6. To propose recommendations for improving the implementation of environmental policies in India.

V. PURPOSE AND SCOPE OF THE STUDY

The purpose of this study is to critically explore the historical evolution, effectiveness, and socio-economic implications of environmental policies in modern India. It seeks to understand how India's environmental governance has evolved over time and how various policy frameworks have balanced the need for economic growth with the imperative of environmental protection. In the context of rapid industrialization and urbanization, India faces complex challenges in managing its environmental resources while striving to maintain economic development. This study aims to assess the impact of these policies on both the environment and society, with a particular focus on understanding the trade-offs between development and sustainability. The research will highlight the strengths and weaknesses of existing policies, identify key lessons learned, and propose potential reforms to improve environmental governance in India. The study is also designed to examine the relationship

between environmental policy formulation and implementation in India, considering the influence of political, social, and economic factors. The effectiveness of these policies is often hindered by a lack of enforcement, inadequate institutional capacity, and sometimes competing political interests. By investigating this relationship, the study will provide valuable insights into how well India's environmental policies align with the goals of sustainable development. Special attention will be given to the role of governmental agencies such as the Ministry of Environment, Forest and Climate Change (MoEFCC) and various state-level bodies, as well as the involvement of non-governmental organizations (NGOs), civil society, and the private sector in policy implementation. In addition to policy analysis, this study will investigate the socio-economic impacts of India's environmental policies on different segments of society. It will examine how these policies affect vulnerable and marginalized communities, particularly rural populations, indigenous groups, and the urban poor. The research will explore whether environmental regulations have disproportionately burdened these groups or whether they have benefited from policies that promote sustainable livelihoods, resource conservation, and environmental justice. It will also analyze the role of environmental policies in fostering inclusive growth and addressing the social dimensions of sustainability. The scope of the study spans from the post-independence era to the present day, covering the major environmental policy milestones, including the establishment of environmental legislation such as the Environment Protection Act (1986), the Forest Conservation Act (1980), and the Water and Air Pollution Control Acts. These policies will be examined for their effectiveness in mitigating environmental degradation, such as air and water pollution, deforestation, and loss of biodiversity. The study will also delve into India's international commitments, including its participation in global environmental agreements such as the Paris Agreement on climate change, and assess how these agreements influence domestic policy and implementation strategies. The study will consider the emerging challenges that India faces in its pursuit of sustainable development, such as climate change, water scarcity, and biodiversity loss, and how current policies are evolving to address these concerns. The role of technological advancements, such as renewable energy adoption, and the integration of climate resilience measures into development plans will also be explored. By analyzing both the successes and limitations of India's environmental policies, this study aims to provide a comprehensive understanding of the dynamics at play and offer recommendations for improving environmental governance and policy frameworks in the country. This study seeks to assess the historical trajectory, implementation challenges, and socio-economic impact of India's environmental policies, while offering insights into how these policies can be strengthened to promote sustainable development in the future. Through this, the study aims to contribute to the ongoing discourse on environmental governance in India and provide actionable recommendations for policymakers, scholars, and practitioners in the field.



VI. RESEARCH METHODOLOGY

The research methodology for this study on environmental policies in modern India will be based on a combination of qualitative and quantitative approaches to ensure a comprehensive analysis of the subject matter. The study aims to assess the historical context, effectiveness, and socio-economic impacts of environmental policies, so the methodology will incorporate a range of techniques, including document analysis, case studies, expert interviews, and surveys. This mixed-method approach will allow for a nuanced understanding of both the policy frameworks and their real-world consequences. The primary method for gathering data will be document analysis, which will involve reviewing government publications, policy documents, reports, and academic literature on environmental policies in India. This will include key legislative documents such as the "Environment Protection Act (1986)", the "Forest Conservation Act (1980)", and the "National Action Plan on Climate Change (2008)", as well as reports from international organizations, such as the "United Nations Environment Programme (UNEP)" and the "World Bank", on India's environmental performance. By analyzing these documents, the study will be able to trace the evolution of environmental policy in India and evaluate the effectiveness of legislative measures over time. This approach will also provide insights into the alignment of India's policies with international environmental frameworks and agreements, such as the "Paris Agreement". In addition to document analysis, the study will incorporate case studies of specific environmental policies or programs that have been implemented in India. These case studies will provide an in-depth understanding of how policies are executed on the ground, the challenges faced during their implementation, and the socio-economic and environmental outcomes. For example, case studies might focus on the "Clean Ganga Mission", efforts to reduce "air pollution in Delhi", or initiatives to address "deforestation in the Western Ghats". These case studies will be selected based on their relevance to key themes such as environmental degradation, sustainable development, and climate change. The case study methodology will provide a detailed exploration of the specific contexts in which policies have succeeded or failed.

To gain additional insights into the practical aspects of environmental policy-making and implementation, the study will include interviews with key stakeholders in the field of environmental governance. These will include policymakers, government officials, environmental activists, academics, and representatives of non-governmental organizations (NGOs). Interviews will be semi-structured to allow for flexibility while ensuring that key topics such as the challenges of policy enforcement, political dynamics, and the role of civil society are adequately addressed. Expert interviews will provide first-hand accounts of the policymaking process, the challenges of policy implementation, and the impact of policies on communities and ecosystems. A quantitative approach will also be employed through surveys aimed at capturing public opinion regarding the effectiveness of environmental policies in India. The surveys will

be administered to a sample of citizens from different demographic backgrounds (urban, rural, marginalized groups, etc.) to understand the societal perception of environmental policies. The data collected will be analyzed to identify patterns and trends in public attitudes towards environmental issues such as pollution, deforestation, and climate change. This will provide valuable insights into how environmental policies are viewed by the public and whether there are any gaps between governmental actions and societal needs.

The data collected through document analysis, case studies, expert interviews, and surveys will be analyzed using both qualitative and quantitative methods. Qualitative data will be interpreted using thematic analysis, where recurring themes and patterns in the text data will be identified and examined. Quantitative data from surveys will be analyzed using statistical tools to identify trends and correlations between public opinion and policy outcomes. The findings will be triangulated to ensure the robustness and validity of the conclusions drawn. While the research methodology is designed to provide a comprehensive analysis, the study may face certain limitations, such as limited access to real-time data, variations in policy effectiveness across different states in India, and potential biases in expert opinions. To mitigate these limitations, the study will rely on a broad range of sources and ensure that diverse perspectives are included. The research methodology will combine both qualitative and quantitative methods to comprehensively assess the evolution, effectiveness, and socio-economic impact of environmental policies in modern India. Through document analysis, case studies, expert interviews, and surveys, the study will provide valuable insights into the strengths and weaknesses of India's environmental governance and offer recommendations for future policy improvements.

VII. RESEARCH GAP

Despite the growing body of literature on environmental policies in India, there remains a significant research gap in understanding the long-term socio-economic impacts of these policies, particularly at the grassroots level. While much of the existing research has focused on the formulation and implementation of environmental regulations, less attention has been given to evaluating their real-world outcomes, especially in terms of community well-being, sustainable development, and climate resilience. Much of the existing literature also tends to focus on high-profile, national-level policies, such as the "National Action Plan on Climate Change (NAPCC)" or the "Clean India Mission", while the effectiveness of localized or state-specific initiatives often receives less scrutiny. Another gap in the research is the limited exploration of the "political and socio-economic dynamics" that shape environmental policymaking in India. Environmental policies are often influenced by political interests, economic factors, and power structures, which can affect their implementation and impact. However, most studies focus on the technical or legal aspects of policies, without fully examining the complex, interrelated factors that contribute to their success or failure in practice. There is a lack of research that examines the



role of “civil society organizations” (CSOs) and local communities in shaping environmental policies and their implementation. While civil society has played a critical role in raising awareness and advocating for sustainable development, there is insufficient analysis of how grassroots movements influence policymaking or how they interact with formal governance structures. There is a gap in research exploring the “intersection of environmental policy and economic growth”, particularly in the context of “sustainable development”. How do environmental policies balance the need for economic growth with the imperative of environmental conservation? This area remains under-explored and requires more focused investigation to assess the true impact of policies on both environmental and economic outcomes. Addressing these gaps will provide a more comprehensive understanding of the effectiveness and challenges of India’s environmental policies.

VIII. OVERVIEW OF ENVIRONMENTAL ISSUES IN INDIA

India faces a wide array of environmental challenges, largely driven by rapid industrialization, urbanization, and population growth. The country’s environmental issues are multifaceted, ranging from air and water pollution to deforestation, loss of biodiversity, and climate change impacts. Among the most pressing concerns is “air pollution”, which has reached alarming levels in several Indian cities, including New Delhi, where particulate matter (PM_{2.5}) concentrations often exceed safety limits by several times. According to the World Health Organization (WHO), India accounts for 14 of the 15 most polluted cities in the world, with significant public health consequences, including respiratory diseases, heart problems, and premature deaths.¹⁷ “Water scarcity” is another critical issue. India is home to some of the largest rivers in the world, such as the Ganges and the Yamuna, yet it faces chronic water shortages due to over-extraction, pollution, and ineffective water management. A report by the National Commission for Integrated Water Resources Development (NCIWRD) suggests that by 2050, India could face a severe water crisis, with demand outstripping supply.¹⁸ The contamination of water sources due to industrial effluents, agricultural runoff, and untreated sewage further exacerbates the problem, leading to poor water quality and a rise in waterborne diseases. “Deforestation” and “biodiversity loss” have also been major environmental challenges in India. The country is home to rich ecosystems, but deforestation rates, driven by logging, agricultural expansion, and urban sprawl, have led to the loss of habitat for many species, threatening India’s biodiversity. According to the Food and Agriculture Organization (FAO), India has lost 10 million hectares of forest cover between 1990 and 2015.¹⁹ Additionally, “climate change” has intensified these problems, with rising temperatures, unpredictable monsoon

patterns, and frequent occurrences of floods, droughts, and cyclones affecting large parts of the country. The impacts of climate change are particularly severe for vulnerable communities, especially in coastal and rural regions, where farming and livelihoods are directly tied to natural resources. These environmental issues are further complicated by socio-economic factors, where the pursuit of economic growth often conflicts with environmental preservation. India’s large population, growing demand for energy, and industrial expansion place immense pressure on its natural resources. As a result, the country faces the challenge of balancing development with sustainability, making it imperative to develop and implement effective environmental policies that address both immediate and long-term concerns.

IX. IMPORTANCE OF STUDYING ENVIRONMENTAL POLICIES

The study of environmental policies is crucial in understanding how governments and societies respond to the growing challenges of environmental degradation and sustainable development. Environmental policies play a pivotal role in shaping the relationship between economic development and ecological sustainability, guiding both public and private sector actions toward achieving a balance between growth and environmental conservation. By examining environmental policies, researchers can evaluate the effectiveness of regulatory frameworks in addressing critical issues such as pollution, deforestation, climate change, and resource depletion. Furthermore, such studies allow for an in-depth analysis of how policies can mitigate the adverse effects of industrialization and urbanization, which often lead to environmental crises. In the context of India, studying environmental policies is especially important given the country’s rapid industrial growth, high population density, and vulnerability to climate change. India, as one of the world’s fastest-growing economies, faces the challenge of integrating environmental considerations into its development model. Analyzing India’s environmental policies offers insights into how the country navigates the tension between development and environmental preservation, especially in light of its commitments to international agreements such as the Paris Agreement on climate change. Environmental policies also provide a framework for understanding the role of governance in managing resources and ensuring social equity, as marginalized communities are often disproportionately affected by environmental degradation. Studying these policies helps assess the effectiveness of environmental laws and their enforcement. In India, for example, despite the existence of policies like the Air (Prevention and Control of Pollution) Act (1981) and the Environmental Protection Act (1986),²⁰ there is a significant gap between policy intentions and on-the-ground implementation. Understanding

¹⁷ World Health Organization (WHO). (2020). ‘Ambient air pollution: A global assessment of exposure and burden of disease’. WHO Press.

¹⁸ National Commission for Integrated Water Resources Development (NCIWRD). (2019). ‘Report on the National Water Policy’. Ministry of Water Resources, India.

¹⁹ Food and Agriculture Organization (FAO). (2015). ‘Global Forest Resources Assessment’. FAO Forestry Paper No. 177.

²⁰ Ministry of Law and Justice. (1986). ‘The Environment Protection Act, 1986’. Government of India.



these gaps is essential for recommending improvements that can lead to more effective policy design, stronger enforcement mechanisms, and greater public awareness. Therefore, a critical examination of environmental policies not only facilitates the identification of weaknesses and challenges but also contributes to the formulation of more robust and contextually relevant solutions for sustainable environmental governance.²¹

X. HISTORICAL CONTEXT OF ENVIRONMENTAL POLICIES IN INDIA

The historical context of environmental policies in India is shaped by a combination of ancient traditions, colonial exploitation, and post-independence developmental challenges. Historically, India has had a deep-rooted connection with nature, which can be traced back to the religious and philosophical teachings of Hinduism, Buddhism, and Jainism, where environmental stewardship was seen as integral to spiritual well-being. However, the colonial period marked a turning point, as British policies led to large-scale environmental degradation. The introduction of forest laws in the 19th century, such as the Indian Forest Act of 1865,²² which placed vast tracts of land under state control, caused widespread deforestation and disruption of local livelihoods. These policies were designed to extract maximum resources for colonial purposes, often at the cost of ecological balance and the well-being of indigenous communities. Post-independence, India's approach to environmental management was initially shaped by the country's development agenda, which prioritized economic growth and industrialization. The 1950s and 1960s saw rapid industrialization, which contributed to increased pollution and environmental degradation. It was only in the 1970s that environmental concerns began to receive formal attention in policy circles, as the country began to recognize the detrimental effects of industrial development on public health and the environment. The first significant shift came with the establishment of the "Department of Environment" in 1980,²³ marking the beginning of formal environmental governance in India. The "Environmental Protection Act (1986)",²⁴ enacted after the Bhopal Gas Tragedy in 1984, laid the foundation for modern environmental policy by providing a framework for the protection and improvement of the environment, controlling pollution, and preventing hazards to public health. The 1990s and early 2000s saw the global environmental movement influencing India's policies. As India embraced economic liberalization in 1991, it also began participating in global environmental agreements, notably the "Rio Earth Summit (1992)" and the "Kyoto Protocol (1997)", signaling the country's increasing recognition of the need for sustainable development. This period

also witnessed the development of sector-specific policies, such as the "National Forest Policy (1988)" and the "National Action Plan on Climate Change (2008)", which integrated environmental conservation with development goals. These policies, along with the establishment of institutions such as the "National Green Tribunal (2010)", reflect India's evolving environmental governance framework, emphasizing both environmental protection and economic development. Despite these efforts, India's environmental policies have often struggled with implementation gaps, regulatory challenges, and balancing developmental needs with ecological preservation. The tension between rapid industrialization and environmental sustainability continues to be a central challenge, as India works towards achieving its development goals while addressing pressing environmental concerns such as air and water pollution, deforestation, and climate change.

XI. LEGISLATIVE FRAMEWORK, POLICY INITIATIVES AND PROGRAMS

India's legislative framework and policy initiatives aimed at addressing environmental challenges have evolved over decades, reflecting both the country's development priorities and the increasing recognition of environmental sustainability as essential for long-term growth. The legislative foundation for environmental governance in India began to take shape in the 1970s, with the "Environment Protection Act, 1986" (EPA),²⁵ which became the cornerstone of India's environmental laws. The EPA grants the central government the authority to establish standards for the quality of air, water, and soil, and mandates the creation of policies to safeguard the environment against pollution. It also provides a legal framework for the management of hazardous substances and the control of industrial pollution, addressing some of the significant environmental challenges arising from rapid industrialization. In addition to the EPA, several other laws have been enacted to regulate specific aspects of environmental protection. The "Water (Prevention and Control of Pollution) Act, 1974"²⁶ and the "Air (Prevention and Control of Pollution) Act, 1981"²⁷ provide regulatory measures to prevent pollution of water and air, respectively. These acts empower the "Central Pollution Control Board (CPCB)" and state-level pollution control boards to monitor, regulate, and enforce environmental standards. Another key piece of legislation, the "Forest Conservation Act, 1980", aims to conserve India's rapidly depleting forests by regulating the diversion of forest land for non-forest purposes, particularly for industrial activities. India's commitment to environmental protection is also reflected in various policy initiatives that have been launched in response

²¹ Ministry of Environment, Forest, and Climate Change (MoEFCC). (2020). 'India's National Action Plan on Climate Change'. Government of India.

²² "Indian Forest Act, 1865". Government of India. Retrieved from [India Code](<https://indiacode.nic.in/>)

²³ Ministry of Environment, Forest, and Climate Change (MoEFCC). (1980). 'Department of Environment Established'. Government of India.

²⁴ "Environmental Protection Act, 1986". Government of India.

²⁵ "Environment Protection Act, 1986", Government of India. Available at [India Code](<https://indiacode.nic.in/>).

²⁶ "Water (Prevention and Control of Pollution) Act, 1974", Government of India.

²⁷ "Air (Prevention and Control of Pollution) Act, 1981", Government of India.



to global and domestic environmental concerns. The “National Forest Policy of 1988” emphasizes the need to maintain ecological balance while promoting sustainable forest management. The “National Action Plan on Climate Change (NAPCC)”, established in 2008,²⁸ sets out India's strategy for addressing the challenges posed by climate change. The NAPCC outlines eight national missions that focus on areas such as solar energy, energy efficiency, sustainable agriculture, and water conservation. This is complemented by India's efforts to fulfill its commitments under international agreements such as the “Paris Agreement”, where India pledged to reduce its carbon intensity and increase renewable energy capacity. In addition to these legislative frameworks, the government has launched various programs and schemes aimed at improving environmental quality. The “Swachh Bharat Abhiyan” (Clean India Mission), launched in 2014,²⁹ focuses on improving sanitation and cleanliness across urban and rural areas, tackling issues like open defecation and waste management. The “Namami Gange Program” (2014)³⁰ aims to rejuvenate the Ganges River by reducing pollution levels, improving sewage treatment infrastructure, and promoting sustainable water management practices. Furthermore, the “National Solar Mission” under the NAPCC seeks to promote solar energy as a clean alternative to fossil fuels, with the goal of significantly expanding India's renewable energy capacity by 2022. Despite these robust frameworks and initiatives, challenges remain in terms of implementation and enforcement. Weak monitoring mechanisms, lack of public awareness, and resistance to change from industries often hinder the effectiveness of environmental laws and policies. Nevertheless, the legislative and policy landscape continues to evolve, as India seeks to strike a balance between economic development and environmental sustainability.

XII.IMPACT OF ENVIRONMENTAL POLICIES, CHALLENGES AND LIMITATIONS

The impact of environmental policies in India has been significant in addressing various ecological challenges, but the journey has been fraught with challenges and limitations. While the country has made strides in environmental legislation, the effectiveness of these policies has often been constrained by issues such as inadequate implementation, lack of public awareness, and resistance from industries and other stakeholders. One of the most notable impacts of India's environmental policies has been the improvement in air and water quality management. Legislation like the “Water (Prevention and Control of Pollution) Act, 1974”,³¹ and the “Air (Prevention and Control of Pollution) Act, 1981”,³² has led to the establishment of regulatory bodies such as

the “Central Pollution Control Board (CPCB)”, which has monitored pollution levels across various sectors. Through these policies, several cities have seen improvements in water treatment and the reduction of industrial emissions. Moreover, efforts to manage hazardous waste have gained momentum through the “Hazardous Waste Management Rules, 2016”, ensuring safer disposal of industrial waste, which has long been a critical issue in urban and industrial areas. The “Forest Conservation Act, 1980”,³³ and the “Wildlife Protection Act, 1972”, have also made substantial contributions to the protection of India's biodiversity, reducing deforestation rates, and conserving critical wildlife habitats. India has committed to conserving over 21% of its geographical area under protected areas, including national parks and wildlife sanctuaries. The enactment of the “National Action Plan on Climate Change (NAPCC)” in 2008³⁴ has also played a pivotal role in setting long-term goals for sustainable development, including enhancing solar power capacity and energy efficiency. Under the NAPCC, initiatives like the “National Solar Mission” have led to a significant increase in India's solar energy capacity, positioning the country as one of the leading nations in renewable energy development. The implementation of these policies has been challenging. A major issue has been the ineffective enforcement of laws. For instance, while the “Environment Protection Act, 1986”, gives the central government sweeping powers to take action against environmental violators, the lack of strong enforcement mechanisms has led to inconsistent application of laws. Polluting industries, particularly in urban and industrial zones, continue to bypass regulations due to loopholes or inadequate monitoring. According to a report by the “CPCB”, a large percentage of the industrial units in India still fail to meet pollution control standards, particularly in water and air quality, resulting in widespread environmental degradation in regions like the Ganges and Yamuna river basins. Another critical challenge is the lack of sufficient funding for environmental programs. Though policies such as the “Swachh Bharat Abhiyan” (Clean India Mission) and the “Namami Gange Program” have made notable progress, the scale of implementation required for nationwide coverage remains high. The Ganges, one of the world's most polluted rivers, remains a significant challenge despite government efforts to rejuvenate it. The lack of adequate infrastructure for wastewater treatment, alongside rapidly growing urbanization, has contributed to the ongoing deterioration of the Ganges River despite substantial investments. India's economic development priorities often clash with environmental concerns. The rapid industrialization and urbanization that have driven economic growth have also exacerbated environmental degradation. India's

²⁸ Ministry of Environment, Forest, and Climate Change (MoEFCC). (2008). ‘National Action Plan on Climate Change (NAPCC)’. Retrieved from [MoEFCC](<https://moef.gov.in/>).

²⁹ “Swachh Bharat Abhiyan”, Government of India.

³⁰ “Namami Gange Program”, Ministry of Water Resources, River Development, and Ganga Rejuvenation.

³¹ “Water (Prevention and Control of Pollution) Act, 1974”, Government of India. Available at [India Code](<https://indiacode.nic.in/>).

³² . “Air (Prevention and Control of Pollution) Act, 1981”, Government of India.

³³ “Forest Conservation Act, 1980”, Government of India.

³⁴ “National Action Plan on Climate Change (NAPCC)”, Ministry of Environment, Forest, and Climate Change (MoEFCC). (2008).



dependency on coal for energy production remains a major barrier to reducing its carbon footprint, despite the emphasis on renewable energy in recent climate policies. The “National Action Plan on Climate Change” has made strides in promoting renewable energy, but the country still faces difficulties in achieving the ambitious targets set for carbon emissions reduction, energy efficiency, and renewable energy deployment.³⁵ India’s energy infrastructure is heavily reliant on coal, with nearly 60% of its electricity coming from coal-fired power plants, which contributes significantly to air pollution and greenhouse gas emissions. Public awareness and participation also play a crucial role in the success of environmental policies. The implementation of initiatives such as the “Swachh Bharat Abhiyan” has highlighted the importance of creating public awareness about cleanliness and sanitation. However, without a sustained effort to educate citizens and businesses on environmental issues, policy measures may not translate into long-term behavioral changes. The slow pace of shifting from a linear economy to a circular economy, where waste is minimized and resources are reused, also reflects the challenges in addressing environmental sustainability in India. In conclusion, while India has made significant strides in enacting policies aimed at protecting the environment, challenges such as weak enforcement, inadequate funding, economic pressures, and lack of public participation continue to limit their full impact. A more integrated approach, strengthening enforcement mechanisms, increasing public awareness, and prioritizing sustainable development are essential for the future effectiveness of environmental policies in India.

XIII.CASE STUDIES

1. “THE GANGA RIVER REJUVENATION – NAMAMI GANGE PROGRAM”

The “Namami Gange Program”, launched in 2014 by the Indian government, aimed at the holistic rejuvenation of the Ganga River, one of the most polluted rivers in the world. The initiative integrates measures to clean the river, ensure sewage treatment, restore its ecology, and promote sustainable development around its banks. This program was set into motion after the “National Mission for Clean Ganga (NMCG)” was established in 2011. The mission’s main objectives include the creation of sewage treatment plants, improving waste management, and reducing industrial effluents flowing into the river. Despite its ambitious goals and multi-pronged approach, the “Namami Gange Program” has faced challenges such as inadequate sewage treatment infrastructure, unplanned urbanization along the river’s banks, and difficulties in coordinating between different states through which the river passes. Furthermore, the industrial waste and untreated sewage continue to remain major sources of pollution, despite significant government investments. However, several cities like “Varanasi” and “Haridwar” have seen some positive changes, with the establishment of sewage treatment plants, riverfront development, and improved solid waste

management practices. This case study illustrates the challenges in addressing complex pollution sources, but also shows the importance of integrated solutions, public awareness, and multi-stakeholder involvement in large-scale environmental projects.

2. “AIR POLLUTION CONTROL IN DELHI – GRADED RESPONSE ACTION PLAN (GRAP)”

Delhi, India’s capital, faces severe air pollution, particularly during the winter months when smog and pollutants like PM 2.5 levels reach hazardous levels. In response to this, the “Graded Response Action Plan (GRAP)” was introduced by the “Central Pollution Control Board (CPCB)” in 2017 as a set of emergency measures to address escalating air pollution. The GRAP categorizes the severity of air quality and stipulates different action plans based on the air quality index (AQI). Measures include temporary bans on construction activities, restrictions on vehicular emissions, and the closure of brick kilns and industries contributing to high levels of particulate matter. While the GRAP has been praised for its structured approach to air quality management, it has also faced criticism for being reactive rather than proactive. Despite the implementation of these measures, Delhi’s air quality continues to be among the worst in the world. The major sources of air pollution in Delhi are vehicular emissions, crop burning in neighboring states, industrial pollution, and dust from construction activities. The case study of “Delhi’s Air Pollution” highlights the need for long-term solutions like stricter enforcement of emission standards, investments in cleaner technologies, public transportation, and agricultural reforms to curb crop burning. It also emphasizes the importance of inter-state cooperation to address trans-boundary pollution sources, an area that has often been overlooked in India’s air quality policies.

3. “THE FOREST CONSERVATION ACT – IMPACT ON DEFORESTATION AND WILDLIFE PROTECTION”

India’s “Forest Conservation Act (FCA), 1980” was a landmark piece of legislation aimed at protecting forests from indiscriminate diversion for non-forestry purposes like mining, agriculture, and infrastructure development. It mandates that the clearance for the diversion of forest lands be approved by the central government. Over the years, the act has contributed significantly to reducing the rate of deforestation. However, it has also been critiqued for its application, with the forest clearance process becoming highly bureaucratic and delays in granting permissions affecting both conservation and development activities. In practice, states like “Madhya Pradesh”, “Uttarakhand”, and “Maharashtra” have struggled with the balancing act of forest conservation versus economic development. For instance, the “Chipko Movement” in the 1970s, which predated the FCA, was instrumental in raising awareness about deforestation, but similar movements continue to emerge even today due to illegal logging, mining, and encroachment. The act has also played a crucial role in protecting

³⁵ “Namami Gange Program”. Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.



India's rich biodiversity, such as in the "Sundarbans mangrove forests" and "Western Ghats", which are home to endangered species like tigers and elephants. However, the implementation of the "Forest Conservation Act" has often conflicted with development priorities. For example, the construction of infrastructure projects such as highways, dams, and power plants in forest areas has led to protests from environmentalists, even though such projects often receive clearance under certain conditions. The act's provisions have led to the conservation of large swathes of forest land, but enforcement has often been inconsistent due to pressures from industrial development and political considerations.

XIV. SUGGESTIONS AND RECOMMENDATIONS

In addressing the environmental challenges faced by India, it is crucial to adopt a holistic approach that strengthens legislative frameworks, improves enforcement, and promotes sustainable development practices. First, "inter-governmental coordination" needs to be enhanced to address environmental issues that span state boundaries. For example, air pollution in Delhi is influenced by emissions from neighboring states, underscoring the importance of collaborative efforts between the central and state governments. The "National Clean Air Program (NCAP)" can be further developed by involving local authorities more directly in air quality management and pollution control. Second, "public awareness and stakeholder engagement" must be prioritized. Awareness campaigns should educate citizens about their role in environmental conservation, while local communities should be more involved in decision-making, especially in areas like water management and forest conservation. This will help foster a sense of ownership and responsibility towards environmental preservation. Additionally, the "enforcement of environmental laws" needs strengthening. Agencies such as the "Pollution Control Boards" must be better resourced to monitor compliance effectively, and penalties for violations should be more stringent. The creation of "environmental courts" to expedite legal proceedings and the use of technology such as satellite monitoring can improve enforcement. The promotion of "green technologies" is also vital to driving change. The government should incentivize renewable energy projects, sustainable agriculture, and waste management innovations, while ensuring that urban development incorporates "green building standards". Policies should also focus on "environmental justice", particularly by strengthening laws such as the "Forest Rights Act (FRA)" to ensure marginalized communities are included in environmental governance. Finally, addressing "climate change" requires integrating adaptation and mitigation strategies into national policies. This involves promoting "climate-resilient agriculture", investing in "climate-smart infrastructure", and aligning with global climate agreements such as the "Paris Agreement". "Environmental education" must also be prioritized at all levels of education to build a culture of sustainability. India should also take a leadership role in "international environmental cooperation", ensuring that it adopts global standards in areas like pollution control and waste management. By combining these efforts, India can address its

environmental challenges effectively, set a global example for sustainability, and foster socio-economic development for a sustainable future.

XV. CONCLUSION

In conclusion, India's environmental policies and practices, while commendable, face significant challenges due to the complex and diverse nature of its environmental issues. The country's rapid industrialization, growing population, and urbanization have put immense pressure on its natural resources, leading to critical problems such as air and water pollution, deforestation, and biodiversity loss. However, the country's commitment to environmental conservation is evident through various legislative frameworks, policy initiatives, and programs implemented over the years. Despite these efforts, gaps remain in the enforcement of environmental laws, coordination between different levels of government, and the integration of sustainable practices across industries. To address these challenges, India needs a more comprehensive and integrated approach that emphasizes not only policy enforcement but also public participation, technological innovation, and climate resilience. Strengthening inter-governmental coordination, improving public awareness, and encouraging stakeholder engagement are vital steps in ensuring the successful implementation of environmental policies. Additionally, promoting green technologies, sustainable agriculture, and the transition to renewable energy sources will play a crucial role in reducing the environmental footprint of industries and urban centers. India must also prioritize "environmental justice" to ensure that marginalized communities who bear the brunt of environmental degradation are included in decision-making processes and benefit from policies aimed at environmental protection. Further, integrating "climate change adaptation and mitigation strategies" into national policies will be essential to safeguard the future of India's economy and its ecosystems. The global shift towards sustainability also presents an opportunity for India to assume leadership in international environmental governance, sharing knowledge and solutions with other nations. By aligning with global environmental standards and climate agreements, India can enhance its efforts to combat climate change and contribute to international conservation goals. Ultimately, the future of environmental sustainability in India will depend on the collective efforts of all stakeholders government, businesses, civil society, and the international community. By adopting the recommendations outlined, India can make significant strides toward achieving a balance between development and environmental conservation, ensuring a sustainable and prosperous future for generations to come.



THE ROLE OF CLOUD COMPUTING IN SCALING E-COMMERCE BUSINESSES

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ABSTRACT

In the rapidly evolving digital landscape, e-commerce has emerged as a cornerstone of global trade, necessitating robust, scalable solutions to accommodate increasing consumer demands. Cloud computing has become integral to this transformation, offering e-commerce businesses the flexibility and resources needed to scale effectively. This paper explores the multifaceted role of cloud computing in enhancing the scalability of e-commerce enterprises, addressing both its benefits and challenges. Cloud computing, defined as the delivery of computing services over the internet, encompasses various models such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). These models provide e-commerce businesses with on-demand access to computing resources, allowing for rapid scaling in response to fluctuating market conditions. The inherent flexibility of cloud solutions enables companies to allocate resources dynamically, which is crucial during peak shopping seasons, such as Black Friday or Cyber Monday. This elasticity not only optimizes costs but also enhances the overall customer experience by ensuring high performance and reliability. The adoption of cloud computing can significantly mitigate common challenges faced by e-commerce businesses, including infrastructure limitations and performance bottlenecks. By leveraging cloud services, businesses can achieve load balancing, disaster recovery, and enhanced data security, thereby maintaining operational continuity and protecting sensitive customer information. Furthermore, the compliance features offered by major cloud providers assist businesses in adhering to regulatory requirements, fostering consumer trust. Case studies of prominent e-commerce platforms like Amazon and Shopify illustrate the successful implementation of cloud computing strategies. These companies have demonstrated substantial growth metrics, attributing their scalability to the strategic deployment of cloud technologies. For instance, Amazon's use of its own cloud service, AWS, has allowed it to seamlessly manage millions of transactions daily while maintaining a robust infrastructure that can adapt to changing demands. Such examples provide valuable insights into best practices and the potential for innovation in cloud-driven e-commerce environments. Despite the myriad benefits, the transition to cloud computing is not without challenges. Businesses must consider potential drawbacks, such as dependency on internet connectivity, concerns regarding data privacy, and the complexity of managing cloud resources. To address these issues, organizations are advised to conduct thorough assessments of their specific needs and to carefully select cloud service providers that align with their operational goals and security requirements. Looking forward, the integration of emerging technologies, such as artificial intelligence and machine learning, with cloud computing is set to revolutionize e-commerce scalability further. These advancements will enable more personalized customer experiences, enhanced data analytics capabilities, and greater operational efficiency. In conclusion, cloud computing serves as a vital enabler for scaling e-commerce businesses, providing them with the necessary tools to navigate the complexities of the digital marketplace. As the e-commerce landscape continues to evolve, the strategic adoption of cloud solutions will remain essential for businesses seeking to maintain competitiveness and drive growth.

KEYWORDS : E-Commerce, Cloud Computing, Scalability, Infrastructure As A Service (IaaS), Platform As A Service (PaaS), Software As A Service (SaaS), On-Demand Resources, Dynamic Resource Allocation, Load Balancing, Disaster Recovery, Data Security, Compliance, Consumer Trust, Amazon Web Services (AWS), Shopify, Peak Shopping Seasons, Black Friday, Cyber Monday, Performance Optimization, Internet Connectivity, Data Privacy, Artificial Intelligence, Machine Learning, Data Analytics, Operational Efficiency, Digital Marketplace, Strategic Deployment, Innovation, Regulatory Requirements, Customer Experience.



I. INTRODUCTION

In recent years, the global e-commerce landscape has witnessed significant growth, driven by the increasing reliance on digital technologies and changing consumer behaviors. As businesses strive to meet the demands of a rapidly expanding online market, the need for scalable, flexible, and cost-effective infrastructure has become more crucial than ever. This is where cloud computing plays a pivotal role. By providing e-commerce companies with the tools and infrastructure needed to scale their operations, cloud computing is transforming how businesses manage their resources, deliver services, and interact with customers. Cloud computing refers to the delivery of computing services such as storage, processing power, databases, networking, software, and analytics over the internet, commonly known as the "cloud." Unlike traditional on-premises IT infrastructure, which requires substantial capital investment and maintenance, cloud services are typically offered on a pay-as-you-go basis, allowing businesses to scale their operations up or down as needed without significant upfront costs. For e-commerce businesses, which often face fluctuating traffic volumes, seasonal demand spikes, and rapid growth, the cloud offers unparalleled flexibility and agility. The scalability of cloud platforms is one of the primary reasons e-commerce businesses have embraced this technology. During periods of high demand, such as Black Friday sales or holiday shopping seasons, e-commerce platforms often experience a surge in traffic that can overwhelm traditional infrastructure. Cloud computing enables businesses to instantly scale their resources to handle these spikes without compromising performance or customer experience. This scalability is achieved through elastic computing resources that automatically adjust to the amount of traffic or transactions an e-commerce site is experiencing. As a result, businesses can avoid costly downtime and ensure that their websites remain responsive, fast, and reliable. Cloud computing also facilitates operational efficiency by enabling e-commerce businesses to streamline their IT infrastructure. In traditional models, businesses often need to invest in expensive hardware, software, and dedicated IT staff to manage servers, databases, and security systems. In contrast, cloud-based solutions handle much of this complexity, freeing up resources for innovation and customer-focused initiatives. E-commerce platforms can leverage cloud services to host websites, manage customer databases, process payments securely, and provide personalized user experiences with minimal overhead. This reduces the burden on internal IT teams and allows e-commerce companies to focus more on business growth and product development. Another critical benefit of cloud computing in e-commerce is its ability to support the growing demand for real-time data and analytics. With cloud-based data warehouses and analytical tools, businesses can gather

and analyze vast amounts of consumer data to gain actionable insights into customer behavior, inventory trends, and sales performance. These insights enable e-commerce businesses to make informed decisions about pricing, marketing, product launches, and customer engagement, ultimately enhancing their competitiveness in the market. The Cloud computing supports collaboration and remote work, which are increasingly important for modern e-commerce businesses. Cloud-based tools allow teams across different locations to work together on product development, marketing campaigns, and customer service initiatives without being tied to a specific physical office. This flexibility is especially crucial as e-commerce businesses expand their global reach and need to support teams from diverse geographic regions. The Cloud computing plays a fundamental role in scaling e-commerce businesses by offering scalable infrastructure, operational efficiency, enhanced data analytics, and flexibility for remote collaboration. As the e-commerce sector continues to grow and evolve, cloud computing will remain a key enabler, allowing businesses to meet the demands of a dynamic digital marketplace while driving innovation and enhancing customer experience.

II. LITERATURE REVIEW

The intersection of cloud computing and e-commerce has garnered significant attention in recent years, as businesses increasingly seek scalable solutions to meet evolving market demands. Cloud computing is reshaping how companies operate, particularly in the e-commerce sector, by offering on-demand self-service, broad network access, and resource pooling key characteristics that provide businesses with unparalleled flexibility in resource management (Mell & Grance, 2011).¹ Service models such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) enable e-commerce platforms to scale their infrastructure in response to fluctuating consumer demands, helping to avoid the substantial capital expenditures associated with traditional IT infrastructure (Garrison, Kim, & Wakefield, 2012).² This transition allows businesses to adopt a pay-as-you-go model, optimizing operational costs and reallocating resources to other critical areas, such as marketing and customer service (Garrison et al., 2012). Numerous studies have highlighted the benefits of cloud computing in enhancing the scalability of e-commerce businesses. For instance, the elasticity of cloud resources helps businesses efficiently manage traffic spikes during peak shopping seasons, ensuring a seamless customer experience and fostering loyalty (Kumar & Rajan, 2017).³ The cloud's inherent load-balancing techniques prevent performance degradation, which is crucial for maintaining high service standards. Marston et al.

¹ Mell, P., & Grance, T. (2011). *The NIST Definition of Cloud Computing*. National Institute of Standards and Technology.

² Garrison, S., Kim, S., & Wakefield, R. L. (2012). *Cloud computing: Implementation and management*. *Information Systems Management*, 29(2), 110-119.

³ Kumar, A., & Rajan, M. (2017). *E-commerce and cloud computing: A new paradigm for business*. *International Journal of Information Management*, 37(1), 66-72.



(2011)⁴ emphasize that cloud computing significantly improves operational efficiency and responsiveness by providing tools for data analytics and real-time monitoring, enabling businesses to quickly adapt to market changes. This agility is particularly important in the fast-paced e-commerce environment, where consumer preferences can shift rapidly. However, security and compliance remain significant concerns in the adoption of cloud computing. While cloud providers implement robust security measures, businesses must remain vigilant regarding data privacy and regulatory compliance (Zhang & Lian, 2017).⁵ The shared responsibility model, in which both the provider and the customer share security obligations, underscores the need for businesses to understand potential vulnerabilities. Additionally, compliance with regulations such as the General Data Protection Regulation (GDPR) is critical for e-commerce businesses operating across multiple jurisdictions (Garrison et al., 2012). Despite these benefits, challenges persist in the implementation of cloud solutions. According to a survey conducted by IBM (2019),⁶ many organizations face obstacles such as resistance to change, lack of technical expertise, and concerns over vendor lock-in, all of which can hinder successful cloud adoption. Chou (2020)⁷ also points out the potential risks associated with dependency on internet connectivity and the implications of service outages, which could severely disrupt e-commerce operations. Businesses must therefore develop contingency plans and invest in training to ensure a smooth transition to cloud-based systems. Looking forward, the integration of emerging technologies such as artificial intelligence (AI) and machine learning is expected to further enhance the capabilities of cloud computing in e-commerce. Benlian and Hess (2011)⁸ highlight that these technologies can drive personalized customer experiences and advanced analytics, which will give businesses a competitive edge in the marketplace. In summary, while cloud computing offers significant advantages in scalability, flexibility, and performance for e-commerce businesses, organizations must address implementation challenges, security concerns, and compliance requirements to fully leverage its potential.

III. PROBLEM DEFINITION

As e-commerce continues to expand at an unprecedented rate, businesses face significant challenges in scaling their operations to meet increasing consumer demand and market competition. One of the primary issues is the inadequacy of traditional IT infrastructure, which often leads to performance bottlenecks, especially during peak shopping seasons. This results in slow website load times, transaction failures, and ultimately, a poor

customer experience. Furthermore, the rapid fluctuations in traffic can strain resources, making it difficult for businesses to maintain operational efficiency and cost-effectiveness. While cloud computing presents a viable solution by offering flexible, on-demand resources, many e-commerce enterprises struggle with its implementation due to concerns about data security, compliance with regulations, and the potential for vendor lock-in. Additionally, there is a lack of understanding regarding how to effectively integrate cloud solutions into existing systems, which can lead to wasted resources and missed opportunities for growth. Despite the evident advantages of cloud computing such as enhanced scalability, improved performance, and reduced operational costs these barriers hinder organizations from fully capitalizing on the technology. This research paper seeks to address these problems by exploring the relationship between cloud computing and the scalability of e-commerce businesses, identifying best practices for successful implementation, and providing insights into overcoming the associated challenges. Ultimately, understanding and mitigating these issues are critical for e-commerce businesses aiming to thrive in a digital economy that demands agility and responsiveness.

IV. OBJECTIVE OF THE STUDY

The primary objective of this study is to investigate the role of cloud computing in enabling scalability for e-commerce businesses. Specifically, the study aims to achieve the following goals:

1. To identify and articulate the key advantages that cloud computing offers to e-commerce enterprises, including enhanced flexibility, cost efficiency, and improved performance during peak demand periods.
2. To explore the common challenges faced by e-commerce businesses in adopting cloud solutions, such as security concerns, compliance with regulations, and the complexities of integrating cloud technologies into existing infrastructure.
3. To present and analyze case studies of successful e-commerce platforms that have leveraged cloud computing to scale their operations, drawing insights from their experiences and best practices.
4. To develop a set of recommendations for e-commerce businesses on how to effectively implement cloud computing solutions, focusing on overcoming obstacles and maximizing benefits.
5. To investigate emerging trends in cloud computing and e-commerce, particularly the integration of advanced technologies

⁴ Marston, S., Li, Z., Bandyopadhyay, S., & Zhang, J. (2011). Cloud computing – The business perspective. *Decision Support Systems*, 51(1), 176-189.

⁵ Zhang, R., & Lian, Y. (2017). The impact of cloud computing on the business model innovation of e-commerce. *International Journal of Cloud Computing and Services Science*, 6(2), 77-88.

⁶ IBM. (2019). *The State of Cloud Adoption*. Retrieved from [IBM Cloud Reports](<https://www.ibm.com/cloud/reports>).

⁷ Chou, D. C. (2020). *Cloud computing: A business perspective*. *International Journal of Information Systems for Crisis Response and Management*, 11(3), 35-49.

⁸ Benlian, A., & Hess, T. (2011). A model of the business value of cloud computing: An empirical study. *Journal of Information Technology*, 26(2), 115-128.



like artificial intelligence and machine learning, and their potential impact on scalability.

By addressing these objectives, the study aims to provide a comprehensive understanding of how cloud computing can be harnessed as a strategic asset for e-commerce businesses seeking to enhance their scalability and competitiveness in a rapidly changing market.

V. PURPOSE AND SCOPE OF THE STUDY

The purpose of this study is to explore the transformative impact of cloud computing on the scalability of e-commerce businesses. As the digital marketplace becomes increasingly competitive, understanding how cloud technologies can enable e-commerce platforms to adapt to varying demands is essential. This study seeks to highlight the benefits of cloud computing, such as improved operational efficiency, enhanced customer experience, and cost-effectiveness, while also addressing the challenges that may arise during implementation. The scope of the study encompasses a comprehensive review of existing literature on cloud computing and e-commerce, case studies of successful implementations, and an analysis of the common obstacles businesses face when adopting cloud solutions. It will cover various e-commerce sectors, including retail, services, and digital products, to provide a broad perspective on how different types of businesses can leverage cloud technologies. Furthermore, the study will investigate future trends and innovations within cloud computing that could further influence e-commerce scalability, including the integration of artificial intelligence, big data analytics, and machine learning. By focusing on these areas, the study aims to offer actionable insights and strategic recommendations for e-commerce businesses looking to enhance their scalability through effective cloud computing adoption. Ultimately, this research will contribute to a deeper understanding of the relationship between cloud computing and e-commerce scalability, serving as a valuable resource for practitioners and researchers alike in navigating the complexities of the digital economy.

VI. RESEARCH METHODOLOGY

This study adopts a mixed-methods approach to investigate the role of cloud computing in scaling e-commerce businesses, combining both qualitative and quantitative data to provide a comprehensive understanding of the topic. The research begins with an extensive literature review to establish a theoretical foundation. This phase involves analyzing academic articles, industry reports, and case studies that explore how cloud computing influences e-commerce scalability. The review will identify key themes, benefits, challenges, and best practices derived from prior research, offering insights into how cloud technologies support business growth and operational efficiency in the e-commerce sector. The second phase of the study focuses on in-depth case studies of selected e-commerce businesses that have successfully implemented cloud computing solutions. These case studies will offer real-world examples of cloud adoption, focusing on areas such as scalability, operational efficiency, and

customer experience. Data for this phase will be collected through interviews with key stakeholders, including IT managers and business leaders, as well as through the analysis of company performance metrics before and after cloud adoption. These case studies will provide a deeper understanding of the practical applications and challenges of cloud computing. To complement the qualitative data, a structured survey will be distributed to a broader sample of e-commerce businesses. The survey will gather quantitative data on current cloud usage, perceived benefits, implementation challenges, and overall satisfaction with cloud solutions. This data will help identify trends in cloud adoption across various e-commerce sectors and provide insights into the broader impact of cloud technologies on business scalability. The collected data will be analyzed thematically for qualitative insights and statistically for quantitative trends. Triangulation will be used to ensure the reliability and validity of the findings by comparing results from literature, case studies, and surveys. Ultimately, this study aims to provide actionable insights and practical recommendations for e-commerce businesses seeking to leverage cloud computing for scalable growth.

VII. RESEARCH GAP

Despite the growing body of literature on cloud computing and e-commerce, several critical gaps remain that this study aims to address. First, while many studies highlight the theoretical benefits of cloud computing, there is a lack of empirical research focusing on the practical challenges e-commerce businesses face during the implementation phase. Specifically, there is limited data on the obstacles encountered by businesses and the strategies they employ to overcome them. Additionally, existing research often treats e-commerce as a homogeneous sector, neglecting the nuances and varying requirements of different e-commerce models, such as B2B, B2C, and C2C platforms. Understanding how cloud computing impacts scalability in these distinct contexts is crucial for developing tailored solutions. Another significant gap is the absence of longitudinal studies that track the effects of cloud adoption over time. Most research provides a snapshot view, failing to examine the long-term benefits and potential drawbacks of cloud integration in e-commerce operations. Furthermore, while the theoretical integration of emerging technologies like artificial intelligence (AI) and machine learning (ML) with cloud computing is discussed, there is insufficient analysis of how these technologies can enhance scalability in e-commerce. Investigating this interplay is essential for future strategic planning. Lastly, much of the existing research focuses on operational efficiencies and cost savings, with limited attention to how cloud computing affects the customer experience. Understanding the impact on customer satisfaction and loyalty is vital for e-commerce success. By addressing these gaps, this study seeks to offer a more nuanced and comprehensive understanding of the relationship between cloud computing and e-commerce scalability, providing valuable insights for both practitioners and researchers in the field.



VIII. DEFINITION AND OVERVIEW OF CLOUD COMPUTING

Cloud computing is a paradigm that provides on-demand access to a shared pool of configurable computing resources, including networks, servers, storage, applications, and services, which can be rapidly provisioned and released with minimal management effort or service provider interaction. This model allows businesses and individuals to utilize computing capabilities without the need for extensive physical infrastructure, thus significantly reducing both costs and operational complexity (National Institute of Standards and Technology, 2011). According to the National Institute of Standards and Technology (NIST), cloud computing is characterized by five key features: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service (NIST, 2011).⁹ These features enable users to automatically provision resources as needed, access them from various devices, and scale resources dynamically based on demand, while also providing transparency in resource usage (Armbrust et al., 2010). Cloud computing is typically divided into three primary service models: Infrastructure as a Service (IaaS), which provides virtualized computing resources over the internet on a pay-per-use basis; Platform as a Service (PaaS), which allows users to develop, run, and manage applications without needing to handle the underlying infrastructure; and Software as a Service (SaaS), which delivers software applications over the internet, eliminating the need for installation and maintenance (Zhang, Cheng, & Boutaba, 2010). Additionally, cloud computing can be deployed in several models, including public clouds, where services are shared across multiple organizations; private clouds, where infrastructure is dedicated to a single organization for greater control and security; and hybrid clouds, which combine public and private clouds to offer increased flexibility and scalability (Armbrust et al., 2010).¹⁰ For businesses, particularly in e-commerce, cloud computing offers significant advantages, such as the ability to scale resources rapidly, improve cost efficiency, and enhance collaboration, enabling companies to adapt to market fluctuations, manage customer demand, and deploy new applications quickly, thereby gaining a competitive edge in the digital marketplace (Zhang et al., 2010).¹¹

⁹ National Institute of Standards and Technology. (2011). *The NIST Definition of Cloud Computing*. Retrieved from [NIST Special Publication 800-145](https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-145.pdf).

¹⁰ Armbrust, M., et al. (2010). *A view of cloud computing*. *Communications of the ACM*, 53(4), 50-58.

¹¹ Zhang, Q., Cheng, L., & Boutaba, R. (2010). *Cloud computing: State-of-the-art and research challenges*. *Journal of Internet Services and Applications*, 1(1), 7-18.

IX. DEFINITION AND OVERVIEW OF E-COMMERCE AND ITS GROWTH

E-commerce, or electronic commerce, refers to the buying and selling of goods and services over the internet and encompasses a variety of business models, such as business-to-consumer (B2C), business-to-business (B2B), consumer-to-consumer (C2C), and consumer-to-business (C2B). These models enable businesses to engage with customers through online storefronts, marketplaces, and social media platforms, facilitating seamless transactions where consumers can browse products, make purchases, and interact with businesses. In the B2C model, transactions occur between businesses and individual consumers, as seen with online retailers like Amazon and eBay. B2B transactions typically involve wholesale distributors or manufacturers supplying products to retailers. C2C e-commerce, facilitated by platforms like eBay and Craigslist, allows consumers to sell directly to other consumers, while the C2B model enables individuals to offer products or services to businesses, such as freelance platforms where individuals provide services to companies. The growth of e-commerce has been remarkable over the past two decades, with global sales reaching approximately \$4.28 trillion in 2020 and projected to surpass \$6.38 trillion by 2024 (Statista, 2021).¹² This rapid expansion can be attributed to factors such as increased internet access, shifting consumer preferences for the convenience of online shopping, technological innovations like mobile payment systems and personalized marketing, and the globalization of markets, which have opened opportunities for businesses to reach customers worldwide. E-commerce has had a transformative impact on traditional retail, disrupting conventional business models and leading to the rise of omnichannel strategies that integrate online and offline experiences. It has also contributed to economic growth by creating new jobs, enabling small businesses to enter the market, and driving consumer spending (Laudon & Traver, 2021; WTO, 2019).¹³ In summary, e-commerce represents a dynamic and evolving force in the global economy, shaped by technological advancements and changing consumer demands (Khan, 2016; Chaffey, 2020).¹⁴

X. THE IMPORTANCE OF SCALABILITY IN E-COMMERCE

Scalability is a critical aspect of e-commerce that enables businesses to manage growth and ensure long-term success in an increasingly competitive digital environment. In e-commerce,

¹² Statista. (2021). *E-commerce worldwide - Statistics & Facts*. Retrieved from [Statista E-commerce

Overview](https://www.statista.com/topics/871/online-shopping/).

¹³ Chaffey, D. (2020). *Digital Business and E-Commerce Management*. Pearson.

¹⁴ WTO. (2019). *World Trade Report 2019: The Future of World Trade: How Digital Technologies Are Transforming Global Trade*. World Trade Organization.



scalability refers to the ability of a platform to expand its capacity and handle increased demand without compromising performance or user experience. One key factor is the ability to manage traffic fluctuations, which often occur during peak shopping seasons, promotional events, or product launches. A scalable infrastructure ensures that websites remain responsive and accessible, even under high demand. Research by Akamai highlights that a one-second delay in page load time can result in a 7% reduction in conversions, emphasizing the importance of maintaining performance during these traffic spikes (Akamai, 2017).¹⁵ Furthermore, scalability is essential for delivering an optimal customer experience. Research from Oracle indicates that 40% of consumers abandon websites that take more than three seconds to load, making quick page loads and efficient order processing critical to customer satisfaction and retention (Oracle, 2019).¹⁶ Scalable systems also enable cost efficiency, as businesses can avoid over-investing in infrastructure by utilizing flexible, pay-per-use solutions, such as cloud computing. Gartner's research shows that adopting scalable cloud solutions can save organizations 30% or more on IT costs (Gartner, 2020).¹⁷ In addition to cost savings, scalability offers a competitive advantage by allowing businesses to quickly adapt to market changes, launch new products, and expand into new markets, positioning them for sustained growth. According to Forrester Research, companies that prioritize scalability are 60% more likely to achieve sustained growth (Forrester Research, 2019).¹⁸ Lastly, scalability positions businesses for future growth, helping them adapt to shifting market conditions and technological advancements. Deloitte's study suggests that scalable businesses are more resilient to market disruptions and better positioned to seize emerging opportunities (Deloitte, 2021).¹⁹ In conclusion, scalability is essential for e-commerce success, enabling businesses to manage demand fluctuations, improve customer experiences, optimize costs, maintain a competitive edge, and prepare for future growth.

XI. CASE STUDIES OF E-COMMERCE BUSINESSES UTILIZING CLOUD COMPUTING

Cloud computing has revolutionized the e-commerce landscape, enabling businesses to scale efficiently, enhance customer experience, and streamline operations. Several notable case studies of e-commerce businesses that have successfully leveraged cloud computing.

1. AMAZON: Amazon, the world's largest online retailer, relies heavily on cloud computing through its Amazon Web Services

(AWS) platform. Amazon uses AWS to manage its vast infrastructure, supporting millions of customers and a diverse range of services, from e-commerce to cloud solutions for other businesses. During high-demand periods like Prime Day, Amazon can instantly scale its resources to handle increased traffic. By using a pay-as-you-go model, Amazon optimizes its operational costs, allowing for investment in new technologies and services. AWS's global infrastructure ensures low latency and high availability, significantly enhancing the shopping experience for customers worldwide.

2. ZALANDO: Zalando is a leading European online fashion platform that offers a wide range of apparel and accessories. Zalando adopted a cloud-first strategy, migrating its IT infrastructure to Google Cloud Platform (GCP) to enhance scalability and performance. Zalando can quickly deploy new features and applications, significantly reducing time to market. Utilizing GCP's data analytics tools, Zalando can better understand customer preferences and optimize its inventory and marketing strategies. The cloud infrastructure supports Zalando's ambitions to enter new markets, allowing it to scale operations seamlessly.

3. SHOPIFY: Shopify is a leading e-commerce platform that allows businesses to create their online stores easily. Shopify operates entirely on the cloud, utilizing a multi-tenant architecture that supports hundreds of thousands of merchants globally. Shopify can accommodate spikes in traffic during major sales events, such as Black Friday, without downtime. The cloud-based model simplifies setup and management for users, allowing small businesses to launch quickly. Shopify continuously adds features and integrations, enhancing its platform without requiring users to manage updates.

4. EBAY: eBay is a global e-commerce leader that facilitates consumer-to-consumer and business-to-consumer sales. eBay has moved significant portions of its operations to the cloud to enhance agility and performance. The shift to the cloud has allowed eBay to enhance site performance and reduce latency, resulting in better customer experiences. By adopting a cloud infrastructure, eBay can manage costs more effectively, especially during fluctuating demand periods. eBay benefits from the advanced security measures offered by cloud providers, protecting sensitive user data and transaction information.

¹⁵ Akamai. (2017). *The Importance of Website Performance*. Retrieved from [Akamai

Technologies](<https://www.akamai.com/us/en/resources/white-papers/importance-of-website-performance.jsp>).

¹⁶ Oracle. (2019). *Customer Experience Impact Report: The Impact of Delays on Customer Experience*. Retrieved from [Oracle Reports](<https://www.oracle.com/engagement-cloud/cx-impact-report.html>).

¹⁷ Gartner. (2020). *Cloud Adoption Trends: How Organizations Save on IT Costs*. Retrieved from [Gartner Research](<https://www.gartner.com/en/information-technology>).

¹⁸ Forrester Research. (2019). *The State of E-Commerce: The Importance of Scalability*. Retrieved from [Forrester Reports](<https://go.forrester.com/research/>).

¹⁹ Deloitte. (2021). *The Future of Business: How Scalability Drives Growth*. Retrieved from [Deloitte Insights](<https://www2.deloitte.com/us/en/insights.html>).



5. WALMART: Walmart, one of the largest retailers globally, has increasingly integrated cloud computing into its e-commerce operations. Walmart partnered with Microsoft Azure to modernize its IT infrastructure, enhancing its e-commerce capabilities. The cloud enables Walmart to provide personalized shopping experiences through data analytics and machine learning. Cloud solutions streamline Walmart's supply chain and inventory management, improving responsiveness to customer demands. During major sales events, Walmart can scale its resources to ensure that its website handles increased traffic without performance issues.

XII. CHALLENGES AND CONSIDERATIONS IN IMPLEMENTING CLOUD SOLUTIONS

While cloud computing offers numerous advantages for e-commerce businesses, its implementation presents several challenges that must be addressed for successful adoption. Data security and compliance are major concerns, as e-commerce platforms handle sensitive customer data and must adhere to regulations like GDPR and PCI DSS, requiring robust security measures such as encryption and intrusion detection (European Commission, 2018).²⁰ Integration with existing legacy systems is another challenge, as e-commerce businesses often rely on established platforms that may not easily integrate with new cloud technologies, necessitating a well-planned migration strategy (IBM, 2020).²¹ Cost management is also critical, as businesses may face unexpected operational costs if cloud resources are not effectively monitored, making the use of cloud cost management tools and setting clear budgets essential (Gartner, 2020).²² Vendor lock-in can limit flexibility and increase costs over time, so multi-cloud strategies are recommended to avoid dependency on a single provider (Forrester Research, 2019).²³ Performance and downtime risks are another concern, as cloud outages can lead to lost sales and diminished customer trust; selecting a reliable provider with strong service-level agreements (SLAs) and implementing redundancy strategies are crucial (Akamai, 2017).²⁴ Furthermore, the cultural shift required for cloud migration can cause resistance from employees, making comprehensive training and change management strategies essential for a smooth transition (McKinsey & Company, 2021).²⁵ Lastly, while cloud solutions are scalable, improper configuration can lead to performance bottlenecks, so regular performance

monitoring, capacity planning, and auto-scaling features are vital to managing peak traffic demands effectively (Amazon Web Services, 2020).²⁶ By addressing these challenges, e-commerce businesses can harness the full potential of cloud computing for growth and efficiency.

XIII. SUGGESTIONS AND RECOMMENDATIONS

To maximize the benefits of cloud computing for e-commerce scalability while minimizing risks and challenges, businesses must take a strategic approach. First, conducting a thorough needs assessment is crucial to understand current infrastructure, operational requirements, and long-term goals, helping identify the most suitable cloud services and potential bottlenecks. Choosing the right cloud provider with a proven track record in security, compliance, and performance is essential for ensuring that the provider's offerings align with the business's objectives. Prioritizing robust security measures, such as encryption and access controls, and ensuring compliance with relevant regulations, will protect sensitive customer data and maintain trust. To further enhance flexibility and avoid vendor lock-in, businesses should consider implementing a multi-cloud strategy, leveraging different providers to optimize performance and cost management. Investing in training and change management is also critical to ensure that employees are well-prepared for the transition and can adapt to new technologies and processes. Additionally, implementing cloud cost management tools will help track usage and spending, ensuring resources are optimized and budgets are adhered to. Regular performance monitoring, using analytics tools to gain insights into usage patterns, enables proactive adjustments to optimize cloud performance, particularly during peak traffic periods. A detailed migration plan, including pilot tests and risk mitigation strategies, will help ensure a smooth transition to the cloud, minimizing potential disruptions. It's also important to establish redundancy and backup plans to safeguard data integrity and ensure business continuity. Finally, engaging with a cloud solutions partner or consultant specializing in e-commerce migrations will provide expert guidance and ensure best practices are followed. By following these recommendations, e-commerce businesses can successfully harness the power of cloud computing, improving scalability, operational efficiency, and customer experience,

²⁰ European Commission. (2018). General Data Protection Regulation (GDPR). Retrieved from [European Commission](https://ec.europa.eu/info/law/law-topic/data-protection_en).

²¹ IBM. (2020). Cloud Integration: How to Integrate Legacy Systems with Cloud. Retrieved from [IBM Cloud](https://www.ibm.com/cloud/learn/cloud-integration).

²² Gartner. (2020). Cloud Adoption Trends: How Organizations Save on IT Costs. Retrieved from [Gartner Research](https://www.gartner.com/en/information-technology).

²³ Forrester Research. (2019). The State of E-Commerce: The Importance of Scalability. Retrieved from [Forrester Reports](https://go.forrester.com/research/).

²⁴ Akamai. (2017). The Importance of Website Performance. Retrieved from [Akamai Technologies](https://www.akamai.com/us/en/resources/white-papers/importance-of-website-performance.jsp).

²⁵ McKinsey & Company. (2021). Cloud Transformation: Building Resilience and Innovation. Retrieved from [McKinsey Insights](https://www.mckinsey.com/).

²⁶ Amazon Web Services (AWS). (2020). Best Practices for Cloud Infrastructure and Cost Optimization. Retrieved from [AWS Whitepapers](https://aws.amazon.com/whitepapers/).



positioning themselves for sustainable growth in the digital marketplace.

XIV. CONCLUSION

The integration of cloud computing into e-commerce has transformed the way businesses operate, offering unparalleled scalability, flexibility, and efficiency. As e-commerce continues to grow rapidly, the ability to scale effectively is paramount for businesses seeking to meet increasing consumer demands and remain competitive in a dynamic market. Cloud solutions provide e-commerce businesses with the tools necessary to manage traffic fluctuations, optimize operational costs, and enhance customer experiences. However, the journey to cloud adoption is not without its challenges. Issues related to data security, compliance, integration with legacy systems, and cost management require careful consideration and proactive strategies. By conducting thorough needs assessments, selecting the right cloud providers, prioritizing security, and investing in employee training, e-commerce businesses can navigate the complexities of cloud implementation successfully. Moreover, adopting a multi-cloud strategy, utilizing cloud cost management tools, and establishing redundancy measures will further bolster the effectiveness of cloud solutions. The benefits of cloud computing for e-commerce scalability are substantial, paving the way for innovation and growth. By embracing these technologies thoughtfully and strategically, businesses can not only enhance their operational capabilities but also ensure they are well-positioned to thrive in the evolving digital landscape. With a strong commitment to best practices and continuous improvement, e-commerce organizations can harness the full potential of cloud computing, delivering exceptional value to their customers and stakeholders alike.

XV. FUTURE TRENDS IN CLOUD COMPUTING AND E-COMMERCE

As technology continues to evolve, the intersection of cloud computing and e-commerce is set to drive transformative changes in how businesses operate and engage with customers. Cloud computing has already revolutionized many aspects of business operations, offering scalable infrastructure and cost efficiencies. Moving forward, the integration of emerging technologies with cloud solutions will further enhance e-commerce platforms, making them more adaptive, efficient, and customer-centric. Several key trends are expected to shape this evolving landscape, offering new opportunities for e-commerce businesses to innovate and grow. One of the most significant trends is the increased adoption of artificial intelligence (AI) and machine learning (ML) technologies in cloud environments. As e-commerce companies increasingly collect vast amounts of data from their digital platforms, AI and ML will enable them to analyze this data more effectively. These technologies will empower businesses to gain deeper insights into customer preferences, purchasing patterns, and inventory demands, allowing for better decision-making. With AI-powered algorithms, e-commerce platforms can offer hyper-personalized

recommendations, predict future buying behavior, and optimize pricing strategies, all of which will enhance the customer experience and operational efficiency. Furthermore, AI will enable automated customer service solutions like chatbots and virtual assistants, which will provide real-time, responsive support, improving user satisfaction. Another critical trend is the growing adoption of multi-cloud and hybrid cloud strategies. As businesses face increasing pressure to optimize their performance and minimize risks, multi-cloud and hybrid approaches offer an effective way to meet these needs. By leveraging the strengths of multiple cloud providers, e-commerce businesses can avoid the pitfalls of vendor lock-in, ensuring they can select the best services for each specific workload. This approach offers greater flexibility, resilience, and cost optimization by enabling companies to distribute workloads across different platforms based on performance and cost considerations. A hybrid cloud model, combining both public and private clouds, further enhances this flexibility, allowing businesses to maintain sensitive data in private environments while tapping into the scalability of public clouds for other services. Serverless computing is another emerging trend that will benefit e-commerce businesses. With serverless architectures, businesses can shift away from the need to manage and maintain server infrastructure. Instead, developers can focus on writing and deploying code without worrying about provisioning servers or managing server capacity. This eliminates many operational inefficiencies and allows businesses to scale automatically based on demand. For e-commerce platforms that experience unpredictable traffic patterns, such as during seasonal sales or product launches, serverless computing provides a way to scale rapidly and efficiently, reducing costs and improving agility. Data security and privacy will continue to be paramount concerns for e-commerce businesses as they adopt cloud solutions. With the increasing prevalence of data breaches and stricter regulations like GDPR, cloud providers are investing heavily in advanced security measures. Solutions such as zero-trust security models, enhanced encryption techniques, and AI-powered threat detection will help businesses safeguard customer data. E-commerce companies must also ensure compliance with regulatory standards to avoid costly penalties and maintain consumer trust. As privacy concerns grow among consumers, businesses that prioritize data security will be better positioned to foster long-term customer loyalty. The integration of the Internet of Things (IoT) with cloud computing will further transform e-commerce operations. IoT devices, such as smart sensors and connected inventory systems, will allow e-commerce businesses to gather real-time data across their supply chains. This data can be used to improve inventory accuracy, optimize logistics, and enhance the customer experience. By analyzing IoT data, businesses can better understand consumer behavior, enabling more targeted and personalized marketing strategies. For example, if a consumer uses a smart device to browse a product, the e-commerce platform could send tailored offers or recommendations based on real-time engagement. Edge computing is another key trend that will complement cloud solutions. With edge computing, data is



processed closer to the source, reducing latency and improving response times. For e-commerce businesses, this means faster, more responsive applications, particularly for mobile and IoT devices. With real-time processing capabilities, businesses can deliver immediate responses to customer requests, whether it's an order status update or an AI-powered recommendation, creating a smoother and more engaging experience. Lastly, as environmental concerns grow, there will be a shift towards sustainable cloud solutions. Cloud providers are increasingly adopting renewable energy sources and optimizing their data centers to reduce energy consumption. E-commerce businesses that leverage these green cloud solutions will not only reduce operational costs but also appeal to environmentally conscious consumers. This focus on sustainability will become a competitive advantage, as consumers become more discerning about the environmental impact of their purchases and the companies they support. In conclusion, the future of cloud computing in e-commerce will be shaped by the integration of AI, ML, multi-cloud strategies, serverless computing, enhanced security, IoT, edge computing, and sustainable practices. E-commerce businesses that embrace these trends will be well-positioned to improve operational efficiency, deliver personalized customer experiences, and remain competitive in an increasingly digital and fast-evolving marketplace. By leveraging the power of cloud technologies, businesses can drive innovation, reduce costs, and ensure sustainable growth in the years ahead.



THE IDEA AND REALITY OF ONLINE ISLAMIC CLASSES: APPLICABILITY AND COLLABORATIVE RESEARCH

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ABSTRACT

This study delves into the methodology of interpreting the Holy Quran, which can be applied to any field of Islamic inquiry. Modern research methods are seen to have flaws in various areas, including ideologies, theories, and methodologies, hence they are not applicable to any study pertaining to Islam. This could be because the results acquired from study are not reliable enough, and the usual research method lacks adequate analysis tools, particularly when it comes to Islamic-related research. That is why studies pertaining to Islam should not employ the standard method. Therefore, is there any applicable methodology for studying Islam? In response to this query, the interpretation method has a distinct and ordered process that may be applied effectively to any research pertaining to Islam. In order to achieve this goal, research was carried out in libraries to gather information about the process of interpreting the Holy Quran holistically via both ancient and contemporary works of art. This study demonstrates that the three components of this interpretation technique – research design, data collection method, and data analysis method – are applicable to any research pertaining to Islam. Finally, this study shows that any modern research can benefit from using the approach of the Holy Quran's interpretations.

KEYWORDS: *The Applications, Method, Interpretation, Islamic-Related Research*

INTRODUCTION

Researchers go into an area of study because they have questions about something that has happened, is happening, or has not happened yet; in other words, they want to know what the "uncertainties" are. According to Drew and Hardman (1985:17) and Chua (2006), research is a methodical process that entails conducting research, collecting data, analyzing it, and reporting the results in a systematic manner. Mahmood Zuhdi Abdul Majid (2009) asserts that a study's analytical status depends on adhering to a set of rules in research methodology. Particular attention to the research's specifics is indicative of high-quality research. Researchers also need to plan out the procedures for each stage of a research project in advance. Generally, a research technique involves three distinct phases. According to Neuman (2011):38; Ahmad Sunawari Long (2011):24; Babbie (2013):120; Rozmi Ismail (2014):64–65, the research design is the first consideration, followed by the method of data collecting, and finally, the method of data analysis.

Furthermore, the fundamental procedures are based on standard research techniques that are also part of the field of classic Islamic studies. In order to investigate a specific topic, earlier Islamic scholars had followed a systematic approach. Nevertheless, each operates independently. For instance, scholars of fiqh, kalam (tauhid), hadith, and interpretation may employ diverse research methodologies. All of these things are conditional on the desired

outcome of the investigation. But the approaches taken by Islamic scholars in the past were not actually systematic and evaluated extensively to guarantee their continued relevance in light of the study setting of today.

The article examines the interpretative methodologies employed by mufassirin (scholars of interpretation), particularly in clarifying the verses of the al-Qur'an. After justifying the interpretation methods, this paper will assess the relevant parts of their implementation, including study design, data gathering methods, and data analysis techniques. The Islamic-related research referenced in this study constitutes a sort of social inquiry pertaining to Islam and Muslims. It encompasses all research pertaining to Islam within the framework of cultural studies, including social, cultural, economic, or legal analyses.

What methods of interpretation do the mufassirin employ? Are the interpretative methodologies employed pertinent for application in contemporary Islamic research? This paper will address all these topics by dividing the discussions into three primary pieces. The first section delves into the definition of interpretation techniques, followed by an analysis of the mufassirin's interpretation methods, and finally, the application of these methods in modern Islamic studies.



Definition of the Interpretation Method

The term 'interpretation method' is a composite of the words 'method' and 'interpretation.' A method is a procedure or a collection of rules for accomplishing a task in accordance with its guidelines.

There exist particular laws and principles (Kamus Dewan, 2013:224). In the linguistic context, Qawa'id (method) specifically refers to the source and foundation that establishes anything. Every method functions as a foundation and source for the elements it encompasses, irrespective of their visibility. The method of a house is analogous to its foundation (al-Sabt, 2000:22). Furthermore, Al-Khalidiy (2006:18) characterizes methods as al-tariqah (ways). The term 'method' refers to a comprehensive law that, together with it, constitutes part of the law or subordinate laws (al-Jurjaniy, 1985:177; al-Sabt, 2000:23). This suggests that all should be based on a larger framework, enabling a clearer perspective on various situations. Moreover, the term interpretation has undergone a protracted evolution in its definition, resulting in multiple meanings and interpretations. Researchers highlight that ancient and modern Islamic scholars interpret terminology differently.

When it comes to the word tafsir's etymology, Arabic linguists disagree on its origin (al-Rumiy 1995:2). The etymology of the word fassara was suggested by some as being derived from the verb fasara. From its grammatical definition, the word fasara has many meanings, including "clarifying," "explaining," "enlightening," "unveiling," and "determining" (al-izhar; al-tabyin; al-idah; al-Qattan; al-Akk, 1994:30).

The Arabic word tafsir may have descended from the verb safara, according to certain language experts (al-Suyutyi, 1988:167). Both al-fasara and alsafara are distinct words with nearly identical meanings and pronunciations, according to al-Asfahaniy (tt:350). Their respective meanings include elucidating, revealing, explaining, and illuminating. In spite of this, fasara is more commonly utilized than safara.

Based on the arguments and explanations presented above, it is evident that the ability to interpret is a form of technical knowledge with a common goal.

This is to interpret the verses of the Qur'an according to one's moral compass. Additionally, the scope of interpretation is broad because it encompasses many aspects of the al-Qur'an, including but not limited to the purpose for its revelation, word structure, i'rab, qiraat, nasikh, and mansukh.

Al-Sabt (2000:30) and al-Khalidiy (2010:209) agree that the term "interpretation method" is best understood as a system of laws that, taken together, can reveal the meaning of the words in the al-Qur'an and establish the processes for applying its values. Therefore, the knowledge that is putting the laws into specific methods to understand the words in the al-Qur'an is the

interpretation method. An interpretation method is any procedure that reveals the meaning of a word in the al-Qur'an. The al-Qur'an differs from other books in its approach to interpretation. Although the veracity of the Al-Qur'an is assured, the approach to interpreting it is subjective. Reason being, interpretation experts bring their own unique sociocultural perspectives, cognitive abilities, and academic specializations to bear on any given issue, leading to a wide variety of approaches to methodological development.

The aforementioned definition of the interpretation method indicates that this area of knowledge has garnered significant interest from researchers and has undergone rapid development. This demonstrates that the interpretative method constitutes a scientific approach to analyzing the words of the al-Qur'an, and it will remain pertinent for ongoing comprehension of its text. Additionally, it possesses robust internal components as a study methodology for the terminology in the al-Qur'an. Therefore, a comprehensive understanding of the interpretative methodologies employed by Mufassirin's analyses is essential. Only then can we develop and apply the methodologies more broadly, especially in the realm of research.

Interpretation Methods

The method of interpreting the Al-Qur'an has existed for an extended period alongside the revelation to Prophet Muhammad (PBUH). The method was initially that of Prophet Muhammad (PBUH), who provided justifications to his Companions (Sahabah) r.a. concerning the verses in the al-Qur'an.

The methodology is evident when Prophet Muhammad (PBUH) elucidated to his companions (Sahabah) r.a. who had a limited comprehension of the verses in the al-Qur'an (al-Qattan, 1993:20).

The perplexity of the Companions (Sahabah) r.a. in comprehending the terminology in the al-Qur'an and the Prophet Muhammad's (SAW) elucidation of these terms is distinctly evident in the hadiths. One instance is when the Prophet Muhammad (PBUH) elucidated the phrases in the al-Qur'an by correlating them with other pertinent terms within the al-Qur'an. For example, he elucidated the significance of the term 'zulm' used in these statements:

"Those who possess faith and do not conflate their belief with wrongdoing will attain security and are rightly guided." (Quran, Surah al-An'am, 6:82). He characterized the term 'zulm' as denoting superstition and the establishment of "partners" beside Allah SWT, correlating it with other terms referenced in the al-Qur'an.

"And recall when Luqman advised his son, saying: "O my progeny!" Do not engage in worship alongside others with Allah. Indeed! Participating in collective worship with Allah is a significant injustice. (Quran Surah Luqman, 31:13).



Another instance, in addition to the interpretation of the terms referenced in the al-Qur'an, is the pronouncement by Prophet Muhammad (PBUH), including his elucidation of the expressions 'al-Wusta (al-Baqarah, 2:238)', 'Quwwah (al-Anfal, 8:60)', 'Kalimah al-Taqwa (al-Fath, 48:26)', and 'al-Kawthar (al-Kawthar, 108:1)'. Prophet Muhammad (PBUH) elucidated that the term 'al-Wusta' refers to the Asr prayer, 'Quwwah' denotes archery, 'Kalimah al-Taqwa' signifies La Ilaha Illallah, and 'al-Kawthar' represents the river bestowed by Allah SWT to Prophet Muhammad (PBUH) in paradise (Mat Saad Abdul Rahman, 1982: 30).

In summary, since the legacy of Prophet Muhammad (PBUH), the interpretation of the al-Qur'an has occurred, even throughout the progressive revelation. The interpretative method employed by Prophet Muhammad (PBUH) involved elucidating the terms found in the al-Qur'an through its own interpretative framework, as well as utilizing other methods such as verbal expression, actions, and clarifications provided by the Prophet (PBUH) in hadiths, which served as foundational elements for al-Qur'an interpretation during that period (al-Qattan, 1993:334-335). During the era of the Companions (Sahabah) r.a. and Tabi'in, there were no established methodologies for the interpretation of al-Qur'an, apart from those that pertained to the sources of interpretation, which were expanded through their independent reasoning and insights obtained from the People of the Book ('Ahl al-Kitāb) (al-Qattan, 1993:336-337). The interpretative method employed during the era of the Companions (Sahabah) r.a. and Tabi'in was consistently utilized till the 3rd century AH. During that period, the interpretative methodology can be comprehended through the advent of comprehensive exegeses authored by the mufasssirin, beginning with Tafsir al-Tabariy al-Musamma. Jami' al-Bayan fi al-Tak'wil al-Qur'an, authored by Abi Ja'far Muhammad bin Jarir al-Tabariy; Tafsir al-Qur'an al-'Azim by al-Hafiz Abi al-Fida' Ismail Ibn Kathir; and al-Tafsir al-Kabir, or Mafatih al-Ghayb, by Fakhr al-Din al-Razi, among others (Mohd Shukri Hanapi, 2013:10).

There are seven methods of interpretation employed by the mufasssirin in analyzing the al-Qur'an. These seven approaches are classified into two categories, which are:

1. Historical Interpretation Methods

Interpretation methods from the historical period refer to those that were established from the time of Prophet Muhammad (PBUH) to the 3rd century Hijrah (AH). The interpretative methods that were prevalent during that period are referred to as the interpretive approach. The methodologies are tafsir bi alma'thur, tafsir bi al-ra'yi, and tafsir al-isyariy. The descriptions of each interpretative approach are as follows:

a) The Tafsir Bi Al-Ma'thur Method

The Tafsir bi al-ma'thur approach involves interpreting the Qur'an through the Qur'an itself, the Sunnah, and the statements of the Companions (Sahabah) r.a., including all

aspects in the elucidation and clarification of Allah SWT's commands as articulated in the Qur'an (al-Dhahabiy, 2000: 112). This method is the most effective means of interpreting the al-Qur'an. The explanation indicates that Tafsir bi al-Ma'thur comprises four segments: interpretation of the Qur'an through the Qur'an, interpretation of the Qur'an through the Hadith of Prophet Muhammad (PBUH), interpretation of the Qur'an incorporating the views of the Companions (Sahabah) r.a., and interpretation of the Qur'an based on the consensus of the Tabi'in r.a. 1. The interpretation of the al-Qur'an through the al-Qur'an is fundamental, as Allah SWT is the Most High in conveying His message inside the al-Qur'an, and Allah SWT is al-Hakim, the All-Knowing, the Most Wise.

Consequently, anybody seeking to interpret the al-Qur'an must begin by consulting the al-Qur'an itself, compiling all relevant repetitions on the same subject, and thereafter comparing these segments with one another. This is due to the presence of specific terms that are initially referenced briefly and subsequently elaborated upon in other contexts, with any ambiguities clarified elsewhere (al-Qardawiy, 2001:46).

However, not all interpretations of the words in the al-Qur'an can be derived from the four previously listed sources. Therefore, the tafsir bi al-ra'ya methodology may be pertinent.

b) The Tafsir bi al-ra'y Methodology

The Tafsir bi al-ra'y method is the second way in Qur'anic interpretation, signifying the understanding of the Qur'an by independent reasoning (ijtihad). Once the interpreter comprehends the Arabic phrases, their linguistic style, as well as their pronunciations and meanings.

Moreover, scholars of interpretation must comprehend the rationale behind each revelation of words, as well as the concepts of nasikh and mansukh for every term in the al-Qur'an, in addition to other requisite elements for al-Qur'an interpretation (al-Dhahabiy, 2000: 183).

In addition to the aforementioned two ways, there exists an interpretative method that not only elucidates the explicit meanings of the words in the al-Qur'an but also encompasses the implicit meanings and isyarah. This interpretative method is referred to as the tafsir alisyariy approach.

b) The Tafsir al-Isyariy Methodology

As stated by al-Zarqaniy (1998:386) and al-Akk (1986:205), this interpretative method pertains to efforts made to elucidate the terms found in the al-Qur'an without relying on pronunciations that are comprehensible and conventional.



Al-Zarqaniy (1988:16) elucidated that there were discrepancies over the inclusion of the views of the Tabi'in r.a. within the tafsir bi al-ma'thur methodology. Some opinions categorize it as tafsir bi al-ma'thur, while others classify it under the tafsir bi al-ra'yi approach.

2. According to al-Amidiy (1985), Ijtihad is the endeavor to utilize all available resources to derive Islamic regulations that are zanni until one acknowledges the inability to enhance those resources further. Al-Qaradawi (2002) concurred with al-Syawkani's definition, which emphasizes utilizing all available strengths to derive practical Islamic laws through istinbat methods. Individuals who engage in ijtihad are referred to as mujtahids, distinguished scholars among their peers, who diligently strive to comprehend and analyze Allah SWT's directives on specific issues and formulate corresponding Islamic rulings. The prerequisites for those engaging in Ijtihad include rationality, adulthood, and possession of advanced knowledge pertaining to the Islamic faith, particularly in fiqh, fiqh hadith, and the Arabic language (Mahayuddin Yahaya, 1987:840). The Arabic language relies on implicit signals or concealed indicators that can be coherently interpreted and connected. Interpretations conducted by Isyarah are a divine gift bestowed by Allah SWT upon His followers with a pure heart and recognized by the members of tasawuf. The aforementioned three interpretive techniques are employed by the mufasssirin in their exegetical writings. Interpretation emphasizes reliable historical accounts that utilize hadiths and statements from the Companions (Sahabah) r.a. and Tabi'in r.a., which are appropriately classified under the tafsir bi al-ma'thur methodology. The interpretative methods that aim to direct all comprehension and values within the Qur'an through independent reasoning and intellectual rigor are referred to as the tafsir bi al-ra'yi approach. Finally, interpretative works that analyze the explicit or implicit meanings of the words in the al-Qur'an, whether through direct language or subtle indications, are referred to as the tafsir al-isyariy method.

Contemporary Interpretation Methods

Contemporary interpretation approaches have been in existence since the 3rd century Hijrah (AH) and continue to the present day. These procedures are employed immediately after the completion of the interpretations of the Qur'an up to the 30th juz'. In total, there are four interpretative approaches employed by the interpreter when analyzing the output: the terms referenced in the al-Qur'an, which are:

a) The al-Ijmaliy Method (General)

The al-Ijmaliy technique is an interpretative approach that elucidates the contents of the al-Qur'an using clear and accessible language. This strategy enables interpreters to elucidate the comprehensive meaning of the phrases found in the al-Qur'an (Abuddin Nata, 2007:220; al-Rumiyy, 1998:60; al-Khalidiy,

2012:31). Notable works of interpretation employing this style include Tafsir al-Jalalayn by al-Suyutiyy and al-Mahalliy, al-Wajiz fi Tafsir al-Kitab al-'Aziz by al-Wahidiy al-Naysabury, and Sofwat al-Bayan lima'ani al-Qur'an by Husin Makhlu'f (al-Khalidiy, 2012:31).

b) The al-Tahliliy (Comprehensive Analysis)

The al-Tahlili technique is an interpretative approach that elucidates the meanings of the words in the al-Qur'an from all perspectives, following the sequential arrangement of words and surahs inside the text (Abuddin Nata, 2007:219; al-Kiswaniy, 2011:15). Furthermore, interpreters will encompass various issues, narratives, or events pertinent to Islamic beliefs and other viewpoints (al-Khalidiy, 2012:31). The distinctive features of interpretations derived from this method include the readers' perception of comprehending the entirety of the meanings conveyed in the al-Qur'an. Furthermore, this approach is employed by numerous interpretation scholars, including al-Tabari, al-Khazini, al-Wahidi, al-Baghawi, al-Shawkani, Ibn Kathir, and Ibn 'Atiyyah (al-Rumiyy, 2007:58).

b) The al-Muqaran Method (Comparison)

The al-Muqaran method is an interpretative approach that elucidates the terms in the al-Qur'an by referencing the exegeses and variances among interpretation scholars, who differ in their methodologies for acquiring, analyzing, and applying knowledge (manhaj) of the interpretations. The interpretation is confined to a single surah or a certain domain, such as religion, fiqh, and language, followed by comparative analysis among them. The comparison does not encompass the al-Qur'an in its entirety but rather focuses on particular surahs or specific subjects.

Moreover, this strategy asserts the credibility of the techniques employed by interpretation specialists and yields the most robust conclusions or alternatives. (Abuddin Nata, 2007:220; al-Khalidiy, 2012:32). One interpretation derived from this method is Tafsir Jami' al-Bayan fi Ta'wil al-Qur'an by Imam Abi Ja'far Muhammad Ibn Jarir al-Tabariy. In his exegesis, he juxtaposed the views of other scholars and substantiated his reasoning for each perspective, ultimately aligning with the most compelling argument while discrediting those he deemed less robust (al-Rumiyy, 2007:62).

d) The al-Mawdu'iy Method (Theme)

The al-Mawdu'iy method is an interpretative approach that involves compiling relevant terms found in the al-Qur'an pertaining to specific themes and issues under examination.

The arrangement will follow the sequence of revelation while also assessing the reasons for the revelations and the interconnections among the words, themes, and surahs in the al-Qur'an. It shall only be evaluated and examined using applicable theories and information pertaining to the studied problems. This method is employed to formulate the most prominent concept from the al-Qur'an concerning the examined issues (al-Rumiyy, 2000:62; al-



Khalidiy, 2012:34). M. Quraish Shihab (1996) and al-Khalidiy (2012) assert that the al-Mawdu'iy style of interpretation, which emphasizes terms in the al-Quran sharing the same theme and issue, is also referred to as the al-Tawhidiy technique, signifying unity. Notable interpretative texts utilizing this methodology include Qadaya al-'Aqidah fi Du'i Surah Qaf by al-Kilaniy, Qadaya al-Mar'ah fi Surah al-Nisa' by Muhammad Yusuf, and Surah al-Waqiah wa Manhajuh fi al-'Aqa'id by Mahmud Garib (al-Rumiy, 2007:69). According to the aforementioned categories, there exist seven methods of interpretation: tafsir bi al-ma'thur, tafsir bi al-ra'yi, tafsir al-isyariy, al-tahliliy, al-ijmaliy, al-muqaran, and al-mawdu'iy. All of these strategies are employed by the mufassirin in their exegeses. These approaches will be selected based on their alignment with the approach and the inclinations of the mufassirin in their interpretations. In conclusion, the seven interpretative systems possess distinct principles and methodologies that are well established for comprehending the text of the al-Qur'an. It is also considered capable of expanding and enhancing contemporary applications, particularly in Islamic-related studies. Consequently, the pertinent parts of interpretation methodologies to be utilized in standard research should be evaluated in advance.

THE UTILIZATION OF AL-QUR'AN INTERPRETATION METHODS IN ISLAMIC-RELATED RESEARCH

Following a comprehensive assessment of the aforementioned interpretation methodologies, three pertinent elements emerge about their application in research, particularly in studies related to Islam. The three approaches are: first, research design; second, data collection; and third, data analysis.

1. The Research Framework

When establishing the research design, it is crucial to align it with the study purpose and the research issue. In typical research projects, the study design is selected at the outset of the research process. Qualitative research that emphasizes exploration and history can be categorized into four groups based on interpretation methodologies. Initially, comprehensive research encompassing all facets and dimensions of justification is more appropriately conducted using the Tafsir al-Tahliliy technique. Secondly, the Tafsir al-Muqaran approach is appropriate for doing clear and general research to articulate the similarities and distinctions of a specific issue. Finally, the Tafsir al-Mawdu'iy technique is appropriate for study focused on specific topics or contemporary issues related to aqidah, ibadah, politics, economics, social matters, and universal features.

The contemporary interpretative strategies employed by researchers are highly pertinent for application in any research concerning design. Furthermore, it might serve as a criterion to be adhered to in establishing the research design. Nevertheless, four of the aforementioned methodologies are not confined just to

Islamic-related research; they may also be applied in any context to ensure adherence to the previously selected study design.

2. The Data Collection Method

Prior to data collection, the information pertaining to the research issue must be clearly delineated. In identifying studies pertinent to Islam and Muslims, the research must consult information sanctioned by the discipline of Islamic knowledge. In other terms, it is referred to as the procedure of standardizing the data source. For example, information pertaining to the revelation of the al-Qur'an and al-Hadith should be prioritized over non-revelatory knowledge such as ijthad and personal opinions. The initial step in the research data-gathering methodology involves the researcher examining data pertinent to Islam, particularly the al-Qur'an, al-Hadith, and the views of the Companions (Sahabah) r.a. and Tabi'in r.a. that are assuredly authentic. All of this information Sources are required to be examined in the tafsir bi al-ma'thur methodology. The subsequent step is The facts are gathered from the perspectives of researchers who are experts in their respective subjects, based on their publications or interviews. Their judgments are aligned with the truth, and they possess greater expertise in their respective research domains than others.

This procedure is derived from the tafsir bi al-ra'yi approach. The final phase involves examining data pertinent to the research topic or content; it may incorporate the tafsir al-isyariy approach. Consequently, the interpretative methodologies from previous eras are more pertinent for application in data collection methods for Islamic-related study. The data-gathering method, grounded in interpretative techniques, is not confined solely to Islamic research or Muslim subjects, akin to the previously discussed research design. Other study disciplines unrelated to Islam are also urged to employ this procedure for assessing the validity, authorization, and reliability of the gathered data.

3. The Approach to Data Analysis

The interpretation methods in the contemporary age can be categorized into four distinct types: in-depth (al-tahliliy), general (al-ijmaliy), comparative (al-muqaran), and specialized themes (al-mawdu'iy). A range of interpretative methodologies can be utilized to study qualitative texts or documents in Islamic research. These methodologies can be utilized as a benchmark for data analysis derived from in-depth (al-tahliliy), general (al-ijmaliy), comparative (al-muqaran), and thematic (al-mawdu'iy) approaches. The appropriate research design is contingent upon the assigned interpretation method utilized in data analysis. A researcher can utilize the al-mawdu'iy method as the analytical approach for a study grounded in texts or documents. Moreover, the researcher may employ the al-mawdu'iy approach to examine texts and documents pertaining to Islam in five stages (Mohd Shukri Hanapi, 2013:16). Initially, identify the theme for examination; subsequently, classify the text based on the discussions conducted; thirdly, organize the discussions utilizing a detailed framework; fourthly, analyze the primary sources in



accordance with the hierarchy of source authorization; and finally, draw conclusions and discuss the results derived from the studied text.

From this explanation, the interpretation techniques can be structured into a study methodology comprising three steps. The initial stage involves identifying the sources of interpretation methods; the subsequent The second level involves a comprehensive understanding of each interpretation approach, while the third stage pertains to the implementation of these methods within Islamic research methodologies. The stages are thoroughly elucidated in Diagram 1.0 below.

THE SOURCES OF INTERPRETATION

Dalil-DalilNaqli ===== Dalil-Dalil ‘Aqli
 Al-Qur’an=====Al-Hadith Opinion from the fellow
 companion=====Opinion from the Tabiin

=====INTERPRETATION

METHODS=====

Interpretation Methods in the Past

Era=====Interpretation Methods in the
 Modern Era

Tafsir bi al-Ma’tthur=====Al-Tahliliy

Tafsir bi al-Ra’yi =====Al-Ijmaliy

Tafsir al-Isyariy=====Al-Muqaran

=====Al-Mawdu’iy

THE APPLICATION OF AL-QUR’AN INTERPRETATION
 METHODS IN ISLAMIC-RELATED RESEARCH

Research Design (Interpretation)====Data Collection

(Interpretation)==== Data Analysis (Interpretation)

Diagram 1.0: The Framework for the Applications of the
 Interpretation Method

In summary, the seven interpretation strategies mentioned are applicable across all study domains. in accordance with its defined extent. Furthermore, these interpretative methods can establish a comprehensive study methodology framework. Consequently, it is pertinent for application in research, particularly in studies related to Islam.

Final Assessment

In conclusion, the comprehensive discussion in this document clearly indicates that both historical and contemporary interpretative approaches are pertinent to the research methodology for Islamic studies. The research technique has three segments: research design, data collection, and data analysis methods. The four interpretative methods—al-tahliliy, al-ijmaliy, al-muqaran, and al-mawdu’iy—are applicable in establishing the research design, whereas the al-ma’tthur, bi al-ra’yi, and al-isyariy approaches can be utilized in data-gathering procedures. Finally, the tafsir al-mawdu’iy method is pertinent for application in data analysis, particularly for texts and documents. In summary, all the aforementioned interpretation approaches have the ability to serve as research procedures that depict Islam as systematic and comprehensive, applicable to any Islamic-related research.

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A COMPARATIVE STUDY ON ENTREPRENEURIAL ATTITUDES AMONG URBAN AND RURAL WOMEN IN DHANBAD AND BOKARO DISTRICTS OF JHARKHAND

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ABSTRACT

In the changing economic scenario in Jharkhand, entrepreneurship has gained more importance at the global level. The Dhanbad and Bokaro districts are poised for rapid growth as the global economy in general and the Indian economy, in particular, are driven by entrepreneurship. An entrepreneur is a person who can recognize opportunities in the environment. In this state, many factors like urbanization, technological advancement, women's education, etc. have deeply changed these traditional conditions even in a developing country like India. The researcher selected 60 women from rural areas and the remaining 60 women from urban areas to identify respondent-based decisions. A pilot study was conducted before the actual study. Women's entrepreneurship development is one of the important areas.

KEYWORDS: - Entrepreneurship, Environmental, Indian Economy and Urbanization

INTRODUCTION

Dhanbad and Bokaro districts of Jharkhand have traditionally been considered entrepreneurship-dominated districts for women empowerment as they are home to many of the most influential and vibrant entrepreneurs of today. Yet many factors like urbanization, technological advancement, women's education, etc. have profoundly changed these traditional situations even in developing states like India. These days India is seeing women's representation in top positions in banking and financial services and many other sectors and they have even emerged as powerful entrepreneurs. Women are becoming increasingly aware of their existence, their rights, and their working conditions. If the current trends continue, women may constitute 20% of the entrepreneurial force in the next five years. A woman entrepreneur is a person who accepts a challenging role to fulfill her personal needs and become financially independent. A strong desire to do something positive is an inherent trait of entrepreneurial women who are capable of contributing values to both family and social life. With the advent of media, women are also becoming aware of their qualities, rights, and working conditions. Challenges and opportunities for women are increasing rapidly in the digital age, turning job seekers into job creators. In India, although women constitute a majority of the total population, the world of entrepreneurship is still male-dominated.

SIGNIFICANCE OF THE STUDY

A woman entrepreneur is a person who accepts a challenge are found engaged in all kinds of business. The entry of women into business in India is seen as an extension of their kitchen activities, mainly the work of making pickles, powders, and papads. But with the spread of education and the passage of time, women have acquired skills, knowledge, and adaptability

in business which are the main reasons for the emergence of women in business ventures. A woman entrepreneur is a person who accepts a challenging role to fulfill her personal needs and become financially independent.

OBJECTIVES OF THE STUDY

1. To know the attitude towards women entrepreneurship in urban and rural areas.
2. To study the motivational factors affecting women's entrepreneurship.
3. To study the attitude towards entrepreneurship among rural and urban women.
4. To examine the entrepreneurship skills among rural and urban women.

METHODOLOGY SOURCES OF THE STUDY

The data required for this study is properly collected from both primary and secondary sources,

The primary data is collected directly from women using the interview schedule method.

The secondary data is collected from published Journals,
Books,
Magazines
Websites.

SAMPLING SIZE

In the comparative study of the district, a total of 120 samples of urban and rural women workers were selected from rural and urban areas using a purposive sampling technique. In this work, in purposive sampling, the researcher selected 60 women from rural areas and the remaining 60 women from urban areas to properly identify the respondents based on his judgment.



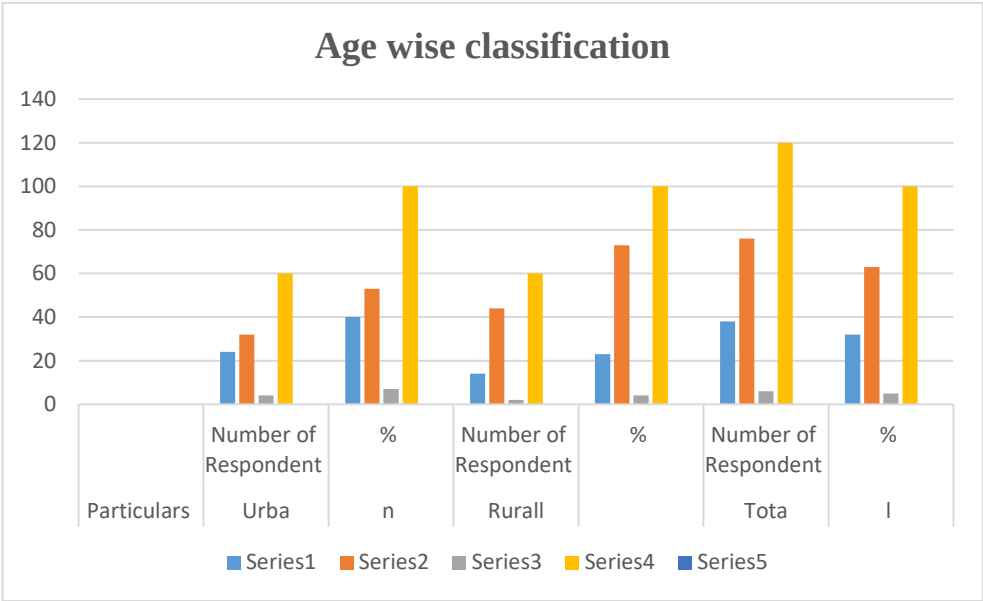
RESULT AND DISCUSSION

Table -01
Age-wise classification of female workers in both districts

Particulars	Urban		Rural		Total	
	Number of Respondent	%	Number of Respondent	%	Number of Respondent	%
Below 20 years	24	40	14	23	38	32
20-40 years	32	53	44	73	76	63
Above 40 years	04	07	02	04	06	05
Total	60	100	60	100	120	100

Source: Primary Data

Age-Wise Classification of female workers in both districts



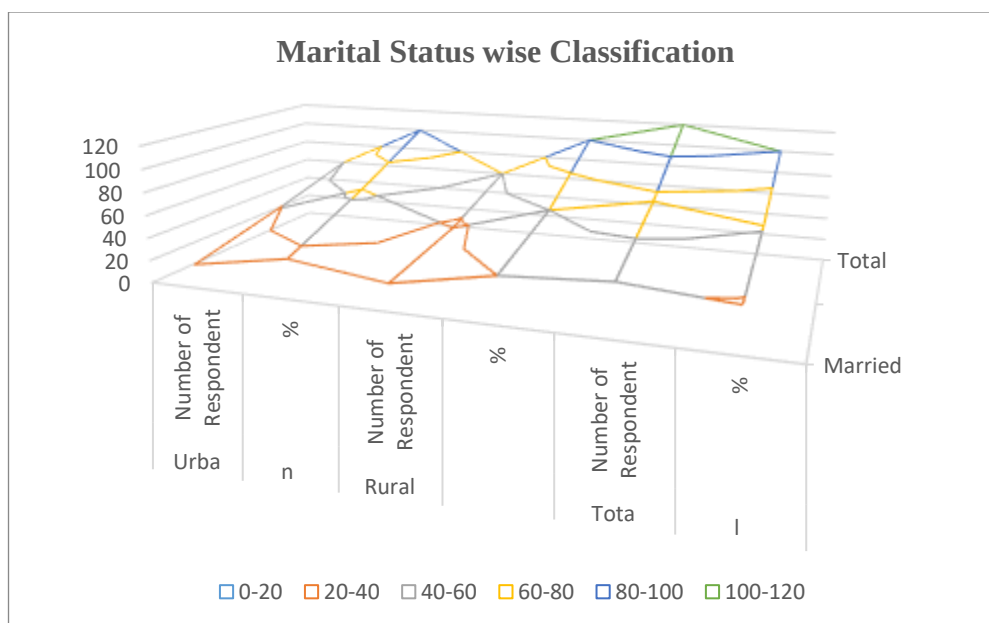
It is evident that the general observation relating to age reveals that out of 120 women respondents, 63 percent belong to the age group of 20-40 years, 32 percent belong to the age group of

below 20 years and the remaining 05 percent belong to the age group of above 40 years respectively.

Table -02
Age-wise classification of female workers Marital Status-wise Classification

Particulars	Urban		Rural		Total	
	Number of Respondent	%	Number of Respondent	%	Number of Respondent	%
Married	21	35	24	40	45	38
Unmarried	39	65	36	60	75	62
Total	60	100	60	100	120	100

Source: Primary Data



It is evident that the overall observation relating to the study provides information that out of the 120 respondents 62 percent are unmarried and the remaining 38 percent are married.

Table -03
Educational wise Classification

Particulars	Urban		Rural		Total	
	Number of Respondent	%	Number of Respondent	%	Number of Respondent	%
No Formal Education	05	08	07	12	12	10
Below High School Level	08	13	05	08	13	11
HSS	07	12	12	20	19	16
Graduate	12	20	10	17	22	18
Postgraduate	10	17	06	10	16	13
Professional	06	10	05	08	11	09
Diploma	05	08	07	12	12	10
Iti	07	12	08	13	15	13
Total	60	100	60	100	120	100

Source: Primary Data

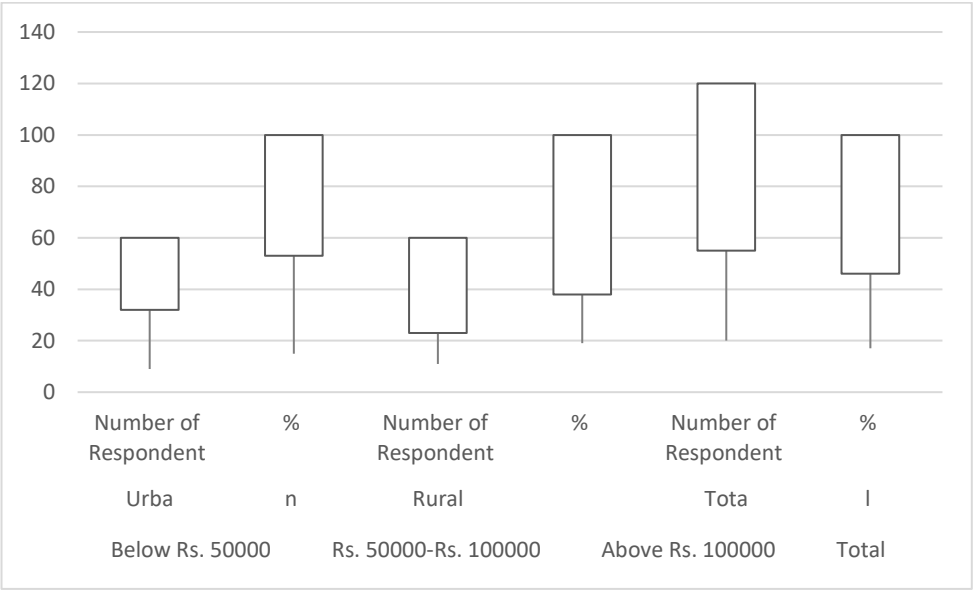
The overall observation relating to the study provides information that out of 120 respondents 18 percent studied graduate, 16 percent studied high secondary school, 13 percent

studied postgraduate and ITI, 11 percent studied below high school, 10 percent studied diploma and no formal education and the remaining 09 percent have professional courses.

Table -04
Annual Income-Classification

Particulars	Urban		Rural		Total	
	Number of Respondent	%	Number of Respondent	%	Number of Respondent	%
Below Rs. 50000	32	53	23	38	55	46
Rs. 50000-Rs. 100000	19	32	26	43	45	37
Above Rs. 100000	09	15	11	19	20	17
Total	60	100	60	100	120	100

Source: Primary Data

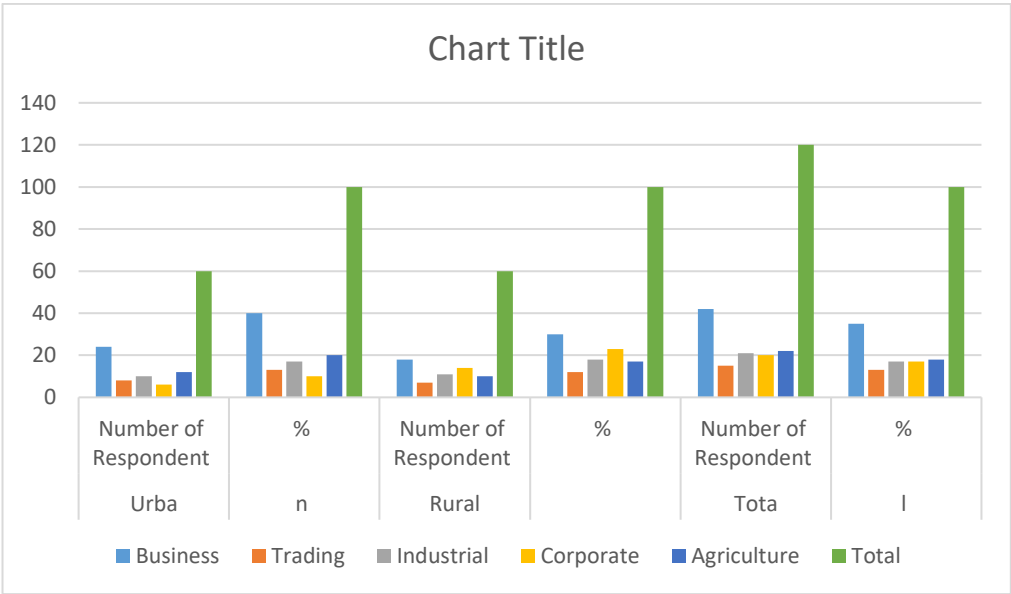


It is evident that the overall observation relating to the study provides information that out of the 120 respondents, 46 percent of the respondent family income is below Rs.50000, 37 percent of the respondent family income is Rs. 50000-Rs. 100000 and the remaining 17 percent of the respondent family income is above Rs.100000 respectively.

Table -05
Type of Entrepreneurship-Classification

Particulars	Urban		Rural		Total	
	Number of Respondent	%	Number of Respondent	%	Number of Respondent	%
Business	24	40	18	30	42	35
Trading	08	13	07	12	15	13
Industrial	10	17	11	18	21	17
Corporate	06	10	14	23	20	17
Agriculture	12	20	10	17	22	18
Total	60	100	60	100	120	100

Source: Primary Data





It is evident that the overall observation relating to the study provides information that out of the 120 respondents 35 percent of the respondent type of entrepreneurship is business, 18 percent of the respondent type of entrepreneurship is agriculture, 17 percent of the respondent type of entrepreneurship is industrial & corporate and 13 percent of the respondent type of entrepreneurship is trading.

CONCLUSION

Entrepreneurship among women has been a recent concern through comparative study in this district. Women have become aware of their existence, their rights, and their working status. However, middle-class women are not very keen to change their roles for fear of social retribution. Progress is more visible in upper-class families in urban cities. Women constitute almost half of the total population in India but they are not able to enjoy freedom, equality, or privileges equal to their male counterparts. Since the implementation of planning in India, many policies and approaches have been made to reduce the inequalities between women and men. Women's entrepreneurship development is one of the important areas. It has been well ascertained by the policymakers of the countries that the strategic development of an economy requires equal participation and equal opportunity for all classes and genders.

SUGGESTIONS

1. The government has to conduct special training programs, entrepreneurial development programs, and improvement programs for Women Entrepreneurs as well as their employees to enhance their productivity.
2. Women entrepreneurs and women employees have to play dual roles as a family organizer and managers of women's enterprises. So the government has to take appropriate measures.
3. Cultivate Entrepreneurial Culture and provide effective Training to potential Entrepreneurs.
4. Must provide better educational facilities and schemes to women's Education institutions.
5. Training Programs on management skills should be provided to the women's community.

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A STUDY ON THE PERCEPTION AND IMPACT OF ONLINE SHOPPING ON YOUNG ASPIRATIONAL PEOPLE ABOUT DHANBAD CITY OF JHARKHAND STATE

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ABSTRACT

In today's era of globalization, there has been a very significant change in electronic marketing in the Dhanbad district of Jharkhand state. In the last ten years, most of the business organizations have properly adopted technological change. And the use of technology (i.e. computers and mobile devices) for better marketing results is known as online shopping or e-shopping. Online shopping, also known as e-commerce, enables users to make purchases directly from sellers of goods or services via the Internet using a computer browser. The goal of the current investigation was to better understand what young people think about online shopping. This study is being conducted in Dhanbad city. Apart from students, businessmen were selected for the study. Thus, 150 respondents make up the entire sample size. The information was collected using a pre-tested and standardized questionnaire. A proper statistical analysis was done on the data collected. The findings revealed that 49% of the respondents had a negative perception of internet shopping while the other 51% had a positive perception. The top three favourite online websites of the respondents are Flipkart, Amazon, Myntra, etc.

KEYWORDS: globalization, Online shopping, Youth Aspirants.

INTRODUCTION

In this modern era, the use of the Internet is increasing day by day in various places located in the Dhanbad district of Jharkhand. As the popularity of e-commerce has increased, most business owners have started doing their sales and marketing online. In recent years, the popularity of online shopping has increased significantly. On the other hand, many customers prefer traditional markets because they want to check the quality of the product and take possession of it as soon as they make the payment. In today's world, the consumer is mainly concerned about getting a good quality thing and being satisfied with it. Even though online shopping is easier and less expensive than traditional shopping, offline shopping is still the preferred method. Customers choose the method of shopping according to their needs, whether online or offline. Customers now prefer Internet shopping over traditional shopping because it gives them discounts and other benefits. Internet shopping is becoming increasingly popular with the development of technology. Many traditional firms that previously sold their products only in physical stores have now chosen to enter the e-commerce industry. The success of an internet business is determined by the businessman's ability to attract customers for his product.

The e-commerce industry is growing rapidly due to the various benefits offered by the company to people in rural and urban areas of this district through online shopping. Transactions and searches in online shopping are less expensive than traditional shopping. Customers can order goods and services online more quickly, with more selection, and at the lowest possible cost.

LITERATURE REVIEW

Rajesh Malhotra and Anwar Sheik (2021): Through online consumer research, it was found that the perceived usefulness of the online shopper, combined with the ease of transacting goods and their security, is a key factor in influencing consumers' purchasing intentions and, subsequently, consumers' decision to choose the best option for their purchasing activity. While demographic variables such as buyer's age and wealth significantly influence consumers' purchasing behavior, it also helps in understanding the shopping behavior of online shoppers.

Akhilesh Mishra (2022): This study aimed to investigate the relationship between young consumers' online shopping behavior and their perceived perceptions of e-shop reputation. The goal of this study was to determine the relationship between those aspects of online shopping consumer behavior that influence the perception of e-reputation shops in the eyes of young consumers. In addition to the domestic origin of the products, the merchant's participation in CSR activities, and the offering of eco and bio-products, the reputation of the e-shop was also influenced by variables related to sustainability (mostly represented by variables included in the "Social responsibility and promotions" factor). In addition, we analyzed the reputation representing the opposite elements of sustainability, such as free shipping, the fastest way of delivery, and special offers of the e-commerce site (mostly represented by variables included in the "E-commerce services" factor).

Roy Dhananjay (2023): The reduction in business activities, due to increased unemployment and decreased spending, has had a huge impact on people's lives and behavior, causing both health and economic concerns around the world. Current



businesses and customers have been impacted. Online shopping is becoming more popular among consumers, and more businesses are investing in the infrastructure. According to most prior surveys, consumers are generally hesitant to use Internet shopping because their positive perceptions do not translate into actual use.

OBJECTIVES OF THE STUDY

The following objectives are taken into consideration:

1. To study the relationship between perception and influence of online shopping on young aspirants.
2. To analyze the perception of young aspirants towards online shopping.

LIMITATIONS OF THE STUDY

The study focuses on the perception and impact of online shopping on young and mature people. The information has

been collected from 150 candidates residing in different areas of Dhanbad district who were randomly selected to show their perception of online shopping. The respondents have been given a single questionnaire to complete. The results of the survey will apply to this study only. Any researchers' questionnaire will be the primary source of information.

METHODOLOGY

This research aims to learn more about the mindset and habits of the residents of Dhanbad city in terms of online shopping. What affects consumer happiness, loyalty, and company success among buyers of different ages in terms of online shopping. Most of the data is collected through questionnaires only. Academic journals, newspapers, magazines, books, and websites are used for secondary data.

DATA ANALYSIS

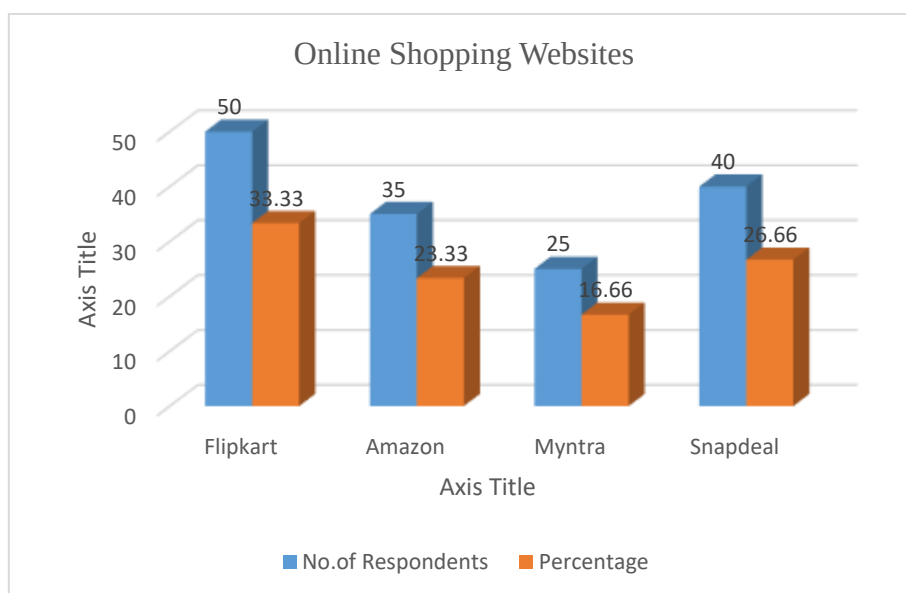
Favorite Online Shopping Websites Ranked by Respondents

Table No.01

Sl. No	Online shopping Website	No. of Respondents	Percentage	Ranked
01	Flipkart	50	33.33	I
02	Amazon	35	23.33	III
03	Myntra	25	16.66	IV
04	Snapdeal	40	26.66	II
05	Total	150		

Source: Primary Data

Favorite Online Shopping Websites Ranked by Respondents



It is evident that the online shopping websites ranked by the respondents are the top three favorite online shopping websites Flipkart Snapdeal Amazon Myntra respectively which is the

data received from the respondents living in different areas of the Dhanbad district.



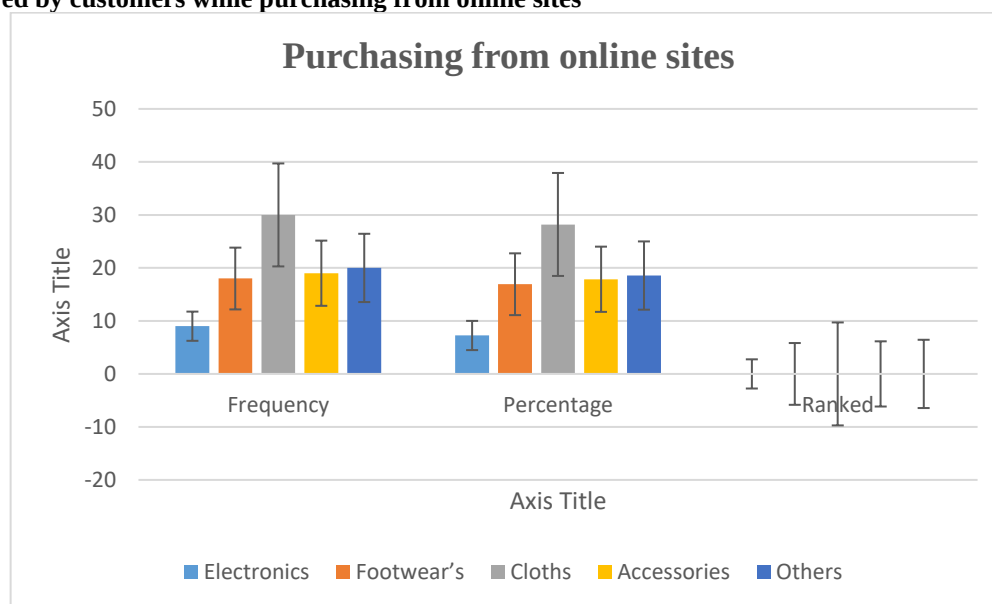
Table No.02

Items preferred by customers while purchasing from online sites:

Sl. No	Items	Frequency	Percentage	Ranked
01	Electronics	09	7.25	V
02	Footwear	18	16.92	IV
03	Clothes	30	28.20	I
04	Accessories	19	17.86	III
05	Others	20	18.56	II
	Total	96	88.29	

Source: Primary Data

Items preferred by customers while purchasing from online sites



It is evident that the various items were purchased by the customers through online shopping sites. The data showed that 88.29% of the customers purchased clothes from various online shopping sites, 28.20% of the customers purchased others from various online shopping sites, 18.56% of the customers purchased shoes from various online shopping sites and 7.25% of the customers purchased electronics from various online shopping sites. The analysis showed that most customers preferred online shopping sites for purchasing clothes.

CONCLUSION

Not only in India but in all countries, people are changing their way of shopping and doing business online very fast. Because developing countries are also encouraging people to use this new way of shopping on a large scale. The increasing number of youth using the Internet has attracted them to online shopping sites. Another reason why youth like online stores is that they can use Android phones. The results of the study have shown that students in Dhanbad City prefer to shop online more than in stores. Students shop online because it is easy, it has a wide range of products, it saves time and they can compare prices. The results of the study have shown that most students prefer to pay by cash on delivery rather than other methods. Social media plays a big role in motivating people around the world to shop online. Keeping in mind the results of the study, it can be said that customers will feel more comfortable buying goods online.

RECOMMENDATIONS

1. Online shopping in India is still hampered as the internet penetration has not yet reached what it should have been.
2. By offering cheap broadband connections, the e-commerce revolution can be boosted.
3. The primary benefits of online shopping are convenience and time-saving. Therefore, business model websites should be created so that users can access the information they need.

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CONSUMER AWARENESS AND MOBILE PHONE TRANSACTIONS THROUGH E-BANKING IN DHANBAD DISTRICT OF JHARKHAND

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ABSTRACT

The term electronic banking or e-banking aptly refers to the process of transition of organizations, industries, or common people with banking centers. A group of banks started providing the service of e-banking in 1985, though the concept was formulated in the mid-1970s. After the development of e-banking, customers started seamlessly experiencing the banking process due to the amalgamation of transaction processes and other processes. Indian banks are adopting the latest technologies to serve customers with all the comfort and easy banking process, paving the way for the massive growth of e-banking all over the world, which is also spreading in India. The main objective of the study is consumer awareness and usage of e-banking transactions through mobile phones with special reference to the Dhanbad district of Jharkhand with a sample size of 350. The study suggested providing proper training to customers to use i-banking, building confidence in the minds of customers about the security of their accounts, and providing a platform from where customers can access multiple accounts at the same time without any additional charges. The impact on profit generation due to e-banking has not been considered though it may provide a good area for further investigation.

KEYWORDS: E-banking, Dhanbad, transaction process

INTRODUCTION

Not only in India but in every region of the world, the E-banking revolution is taking place rapidly and is emerging as the driving force of growth. With the widespread use of the Internet and innovative developments in areas such as technology-related processes, etc., internal Internet-related systems are constantly pushing forward the development of the way organizations connect with their customers. So as a result of development in technology, e-banking services have improved. Compared to earlier times, people are educated and so busy in their lives that the machine life has not given them time to visit banks regularly. The use of mobile has increased in almost all corners of the world. Since all human work is shared by technological possibilities, its use has increased in work areas and homes. At an acceptable pace, Indian customers are getting acquainted with facilities such as the Internet and banking processes through mobile. Mobile banking is called "the use of Internet-based communication networks and strategies that directly or indirectly lead to the effect of transactions with financial value." Internet and mobile-based banking have become self-service delivery outlets, allowing banks to provide information and services to their customers more quickly through web services technology and mobile services.

Online banking, also called Internet banking, electronic banking, or virtual banking, constitutes e-payment services that focus on enabling customers of a bank or a financial association to execute a series of monetary transactions using the website of the financial institution. E-banking is the process of bank services provided by banks through the Internet. Some of the facilities provided are payment of bills, transfer of funds,

checking of financial statements, etc. They also give the latest merchandise and assistance through the Internet.

OBJECTIVES OF THE STUDY

1. To study consumer awareness towards e-banking transactions through mobile phones.
2. To study on usage of e-banking transactions.

REVIEW OF LITERATURE

Rajesh Kumar (2022) E-banking is seen as a highly evolved advancement compared to earlier electronic delivery systems, which has resulted in opening up many opportunities for new business prospects for the banking business.

Kumari Priya (2023) A survey revealed that the banking sector has seen fresh investments of \$5 billion in new electronic banking technology. Out of the banks, about two-thirds (66%) intended to invest in telephone banking technology, while the remaining one third (34%) already have targeted e-banking options. Boss et al., state, "Some of the major problems mentioned in the literature survey.

Raj Kumar Etal (2024) customer recognition and satisfaction, services provided, added benefits to customers and banks, privacy statement, productivity, and competitiveness from non-banking institutions Addition to e-banking delivery systems, ATMs, and mobile operation dealing out hubs, Internet banking provides banks with a new and highly efficient electronic delivery too.

STATEMENT OF THE PROBLEM

E-banking in the Dhanbad district also provides numerous facilities and services to customers, which can be properly used



from any corner of the world with internet connectivity. Through E-banking service, any small information related to the account can be viewed anytime without any hindrance. Customers can transact with account holders in every bank across the world through E-service. Thus, it is the center of checking and persuading the various services offered by understanding the convenience of the customers.

RESEARCH METHODOLOGY

The descriptive research method is used to study the proper usage and consumer awareness of E-banking transactions through mobile phones with special reference to the Dhanbad district. It is considered to be the most important role.

SOURCE OF DATA

Primary Data

Primary data is collected directly from the respondents using data collection methods such as survey Interviews
Questionnaires
Measurements
Direct observation

Secondary Data

Secondary data is data that already exists that has been collected by another person or organization for their use, and is generally made available to other researchers free of cost or at a discounted rate. The source of secondary data to make the study more effective was possible with the help of published data such as company data and websites

DATA ANALYSIS AND INTERPRETATION

Table No.01

Online Transaction Limit In E-Banking Through Mobile Phone

Online Transaction limit in E-banking through mobile phone	No. of Respondents	Percent
Upto Rs.25000	38	38.0
Rs.25000 - Rs.1 Lakh	31	31.0
Rs.1 Lakh – Rs.5 Lakhs	17	17.0
Rs.5 Lakhs and above	14	14.0
Total	100	100.0

Source: Primary Data

It is evident that in this table, an attempt is being made to show the extent of online transactions in e-banking through mobile phones in this district. The extent of online transactions in e-banking No. Of respondents Percentage Up to Rs 25000 38 38.0

Rs 25000 - Rs 1 lakh 31 31.0 Rs 1 lakh - Rs 5 lakh 17 17.0 Rs 5 lakh and above 14 14.0 respectively.

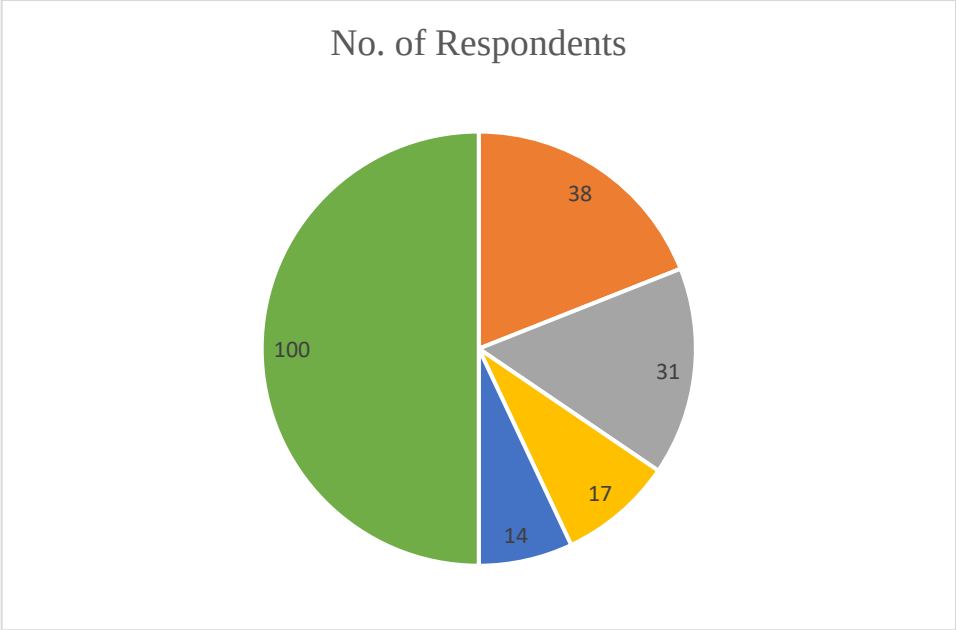




Table No.02

Type Of Account Using For E-Banking Through Mobile Phone

Type of account you using for E-banking through mobile phone	No of Respondents	Percent
Current Account	12	12.0
Savings Account	64	64.0
Both	24	24.0
Total	100	100.0

Source: Primary Data

It is evident that an attempt is being made in this table to show how much online transaction is done in E-banking through mobile phones in this district. People using E-banking through mobile phones Which type of medium are you using for E-

banking through mobile phones Number of respondents Percentage Current account 12 12.0 Saving account 64 64.0 Both 24 24.0 respectively.

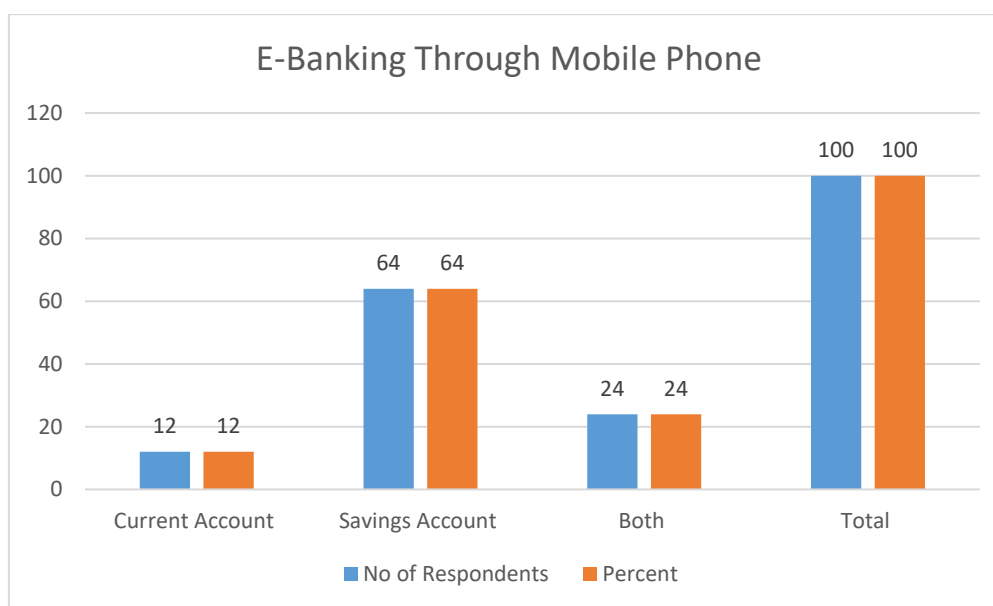


Table No.03

E-banking facility is available to customers through mobile phones in the district.

Available E-banking through mobile phone	No. of Respondents	Percent
HDFC Bank	8	8.0
ICICI Bank	25	25.0
SBI Bank	33	33.0
Indian Bank	15	15.0
Axis Bank	19	19.0
Total	100	100.0

Source: Primary data

It is evident that the E-banking facility is available to customers through mobile phones in the district. The information obtained through the data is presented in this form: Availability of E-banking through mobile phone No. Of respondents Percentage HDFC Bank 8 8.0 ICICI Bank 25 25.0 SBI Bank 33 33.0 Indian Bank 15 15.0 Axis Bank 19 19.0 respectively.

CONCLUSION

It is concluded that given the growth in consumer banking revenue in Jharkhand in the last few years and the intensity of competition in the times to come, it is important for online banking service providers to rethink their strategies and

marketing plans to sustain the growth of consumer banking revenue. With limited potential for the growth of banking business in the Dhanbad district, local correspondent banking service providers may have to struggle for a larger share. Online Banking services are provided entirely at the risk of the customer, who shall indemnify the Bank for any loss or damage arising out of the use of any Online Banking service, howsoever caused. The Bank shall not be responsible for any loss or damage arising directly or indirectly from any malfunction or failure of the Online Banking services.



SUGGESTIONS

1. Create confidence in the minds of customers about the security of their accounts.
2. Provide proper training to customers to use E-banking.
3. Provide a platform from where customers can access different accounts at the same time without any extra charges.
4. Customers should be encouraged to make more use of internet banking facilities.

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CLINICAL PROFILE AND OUTCOME AMONG ADULT COVID-19 PATIENTS ADMITTED IN SELECTED LEVEL 1 HOSPITAL IN QUIRINO PROVINCE: A RETROSPECTIVE STUDY

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ABSTRACT

The COVID-19 pandemic has posed unprecedented challenges to healthcare systems worldwide, necessitating a thorough understanding of its impact on patient demographics, clinical presentations, and outcomes. Thus, this study was conducted to investigate the demographic and clinical profiles, as well as outcomes, of COVID-19 patients admitted to Quirino Province Medical Hospital from 2021 to 2022. The patient population exhibited a diverse age distribution, with a concentration in the 58-67 age group, indicating potential higher risks for severe illness among older adults. Respiratory issues were predominant. Also, there were patients experiencing moderate disease severity and facing severe disease. Despite most patients having no comorbidities, cardiovascular conditions led among those with comorbidities, emphasizing the need for cardiac health monitoring. As to clinical outcomes large number of patients were discharged alive. Significant differences in clinical status and outcomes were observed when grouped by age, sex, civil status, and occupation. Age and civil status demonstrated notable associations with disease severity, while sex and occupation had less influence. These findings underscore the importance of tailored healthcare strategies, proactive planning, and early detection to effectively manage COVID-19 patients and promote health equity. Further research is essential to adapt and improve healthcare approaches in this dynamic landscape.

KEYWORDS: Clinical Profile, Clinical Outcome, Comorbidity, COVID-19, Severity

INTRODUCTION

The COVID-19 pandemic has emerged as a global health crisis, profoundly impacting individuals and reshaping the healthcare landscape. On March 11, 2020, the World Health Organization (WHO) officially recognized COVID-19 as a global pandemic, marking a pivotal moment in the fight against the novel coronavirus (National Center for Biotechnology Information, n.d.). Since then, extensive research has been undertaken to unravel the complex nature of the disease, focusing on a broad spectrum of factors that influence patient outcomes. Studies have delved into the laboratory findings, clinical presentations, demographic details, and epidemiological patterns associated with COVID-19 (Muralidar *et al.*, 2020). Researchers have explored various dimensions of the disease, including the range of symptoms from mild to severe, the impact of comorbid conditions, and the differences in disease progression across different age groups and populations. This comprehensive analysis is crucial for developing targeted treatment strategies and public health interventions. Understanding these factors helps in assessing the overall impact of the pandemic on different segments of the population and informs efforts to mitigate the effects of future outbreaks.

A significant study analyzed adult COVID-19 patients admitted to Level 1 hospitals during the initial and subsequent waves of the

pandemic in India. This research, which involved 1744 patients in the first wave and 1596 in the second, examined a range of variables including demographics, epidemiology, clinical features, and laboratory results. The study found notable differences between the two waves, such as a higher proportion of female patients in the first wave. The fatality rate during the second wave was reported at 22% (Chhabra *et al.*, 2022). Further research by Palomo *et al.* (2022) explored the clinical characteristics of patients seeking emergency care throughout the pandemic. This study highlighted shifts in patient demographics and clinical presentations before and after the pandemic's onset, noting changes in the types of diagnoses and mental health issues observed during lockdown periods.

In the United States, a study focused on young adults aged 18 to 34 revealed significant adverse outcomes among this group. The study found that 21% required intensive care, 10% needed mechanical ventilation, and 2.7% succumbed to the disease. The presence of comorbidities such as morbid obesity, hypertension, and diabetes was linked to worse outcomes (Cunningham *et al.*, 2021). Another study conducted in northern India assessed the clinical features and outcomes of 114 COVID-19 patients between April and May 2020. It noted that severe illness was particularly prevalent among individuals aged 60 and above, as well as those with diabetes and hypertension. Comorbidities such



as diabetes and chronic kidney disease were strongly associated with mortality (Soni *et al.*, 2021). This study provides an observational description of the clinical characteristics and outcomes of adult COVID-19 patients admitted to specified level 1 hospitals in the Philippines, specifically Manila Doctors Hospital (MDH), between March and June 2020. The article provides information on the clinical characteristics, laboratory findings, imaging outcomes, available treatment choices, potential consequences, and results of individuals diagnosed with COVID-19 at MDH. The study had 124 predominantly male participants with a median age of 47. Fever and cough were the predominant symptoms observed upon initial presentation (Punzalan *et al.*, 2021).

Octaviano *et al.* (2021) conducted a study at UP-PGH in the Philippines, where they evaluated the records of all COVID-19 patients admitted to the medical ICU from April 1 to May 31, 2020. This study elucidated the characteristics and outcomes of COVID-19 patients in an intensive care unit, specifically emphasizing patients admitted to the medical ICU. Furthermore, a cross-sectional study conducted in India investigated 727 individuals who tested positive for COVID-19 and had resided in a specific area for over a year. The study aimed to comprehend the clinical characteristics and outcomes of patients who tested positive for COVID-19. It specifically examined variables such as age, gender, presence of other medical conditions, symptoms, physical indicators, treatment received, and the resulting outcomes. Age, familial medical background, presence of other medical conditions, past medication usage, smoking behavior, alcohol intake, and symptoms were all linked to the results (Karthaka *et al.*, 2021). These studies contribute valuable information about COVID-19 patient profiles and outcomes in the Philippines. However, they also highlight existing research gaps. The lack of consensus on core outcome sets for prolonged COVID-19 may lead to missing crucial aspects relevant to patients and caregivers. There is a need for more precise definitions of protracted COVID-19 symptoms, along with further research into their causes, treatments, and prognoses. Comprehensive investigations are essential to fully understand the long-term effects of COVID-19 in adults.

In the Philippines, the COVID-19 pandemic has posed a considerable public health threat since the first case was detected on January 30, 2020. As of February 22, 2024, the Department of Health (DOH) reported a total of 4,140,383 confirmed COVID-19 cases and 66,864 deaths. The initial case involved a 38-year-old Chinese woman in Metro Manila. The pandemic response included community quarantine measures and the implementation of the Bayanihan to Heal as One Act. By February 2022, the country experienced a decline in cases and achieved "minimal-risk" status by May 2022. As of early June 2022, approximately 69.4 million Filipinos had completed their vaccination regimen, and 14.3 million had received booster doses. This indicates a significant impact of the vaccination campaign. Initially, the country struggled with inadequate testing capacity but eventually improved its testing infrastructure (Tee *et al.*, 2020).

The identified research gaps underscore the necessity for more studies on the enduring consequences of COVID-19 in adults. This research gap will highlight the urgent need for further studies on the long-term effects of COVID-19 in adults. To gain a deeper understanding of persistent COVID-19 symptoms and outcomes across different age groups and environments, comprehensive longitudinal studies and well-designed case-control investigations are essential.

In the context of Quirino Province Medical Center (QPMC), it is clear that substantial improvements are necessary. As the primary hospital for the province and a designated COVID-19 treatment facility, QPMC plays a crucial role in managing patients with varying degrees of severity. Analyzing the characteristics of COVID-19 admissions at this hospital is vital, as these cases represent the initial encounters with the virus and provide critical clinical insights. The provincial government of Quirino, provincial and municipal health offices, hospital administrators, epidemiological surveillance unit, therapeutic committee, infection control and prevention committee, healthcare workers and health advocates can leverage these findings to better understand and address the challenges posed by COVID-19.

This study aims to provide a comprehensive analysis of COVID-19 patients admitted to Level 1 hospitals in Quirino Province. By detailing demographic, epidemiological, clinical, and laboratory characteristics, as well as treatment approaches, complications, and outcomes, the research will offer valuable insights for local health authorities and guide future public health strategies. By achieving these goals, the study will contribute to a deeper understanding of COVID-19's impact in Quirino Province and support the development of informed public health strategies. This comprehensive approach will not only aid in immediate COVID-19 management but also prepare the healthcare system for future challenges.

RESEARCH METHODOLOGY

Research Design

This study employed a retrospective quantitative approach, specifically utilizing a comparative design to explore significant differences in the clinical profiles and outcomes of COVID-19 patients when grouped according to selected demographic and clinical variables. The retrospective nature of the study involves analyzing existing patient records to gather relevant data, enabling the researcher to examine trends and patterns over a defined period.

The primary goal of the study was to provide a comprehensive analysis of the characteristics of COVID-19 patients, focusing on their demographics data, clinical profiles, and outcome of care. By utilizing a quantitative approach, the study aimed to collect and analyze numerical data systematically, allowing for objective and statistically valid conclusions. Investigating the factors influencing the severity and outcomes of COVID-19 cases in the chosen region could yield valuable novel insights. The study's objective was to investigate the attributes of individuals affected



by COVID-19, such as their age, sex, gender, civil status, location, occupation, symptoms at admission, presence of other medical conditions, test outcomes, severity of sickness, and outcome of care.

Research Method

The study employed a purposive sampling design to analyze the clinical profiles and outcomes of COVID-19 patients at Quirino Province Medical Center over a two-year period, from January 1, 2021, to December 31, 2022. It included 1,124 participants, all aged 18 and older, who tested positive for COVID-19 via rapid antigen or RT-PCR tests. Data were collected from the hospital's information system and patient medical records, focusing on demographic variables (age, sex, civil status, religion, location, occupation) as well as clinical profiles (chief complaints, comorbidities, chest X-ray results) and outcomes (severity of

disease, discharge status).The research process began with obtaining approval from the hospital's Chief and the ethics review committee, ensuring compliance with ethical standards and the Data Privacy Act. A structured template was used for data organization, which was later analyzed using Microsoft Excel and Jamovi 2.3. Statistical methods included frequency analysis, t-tests for comparing two groups, and ANOVA for assessing differences across multiple groups.The study's findings aim to highlight significant associations between demographic and clinical profiles and patient outcomes, contributing valuable insights into the management of COVID-19. Ethical considerations were prioritized throughout the research, ensuring participant confidentiality and adherence to data protection regulations.

It highlights the study's contributions, interprets the results within existing literature, and explores any unexpected findings or trends, offering broader insights into the research and its significance.

RESULTS AND DISCUSSIONS

This section presents the study's key findings, analyzing them in relation to the research objectives and theoretical framework.

Part I. Demographic Profile of the Respondents

Table 1. Profile of the Respondents

	Profile	Frequency	Percent
Age	18 – 27	127	11.3 %
	28 – 37	165	14.7 %
	38 – 47	153	13.6 %
	48 – 57	208	18.5 %
	58 – 67	263	23.4 %
	68 and above	208	18.5 %
	<i>Min. = 18; Max = 94; Mean = 51.4; SD = 17.6</i>		
Sex	Male	480	42.7 %
	Female	644	57.3 %
Civil Status	Single	168	14.9
	Married	841	74.8
	Widow/er	115	10.2
Location	Aglipay	137	12.2 %
	Cabarroguis	278	24.7 %
	Diffun	351	31.2 %
	Maddela	133	11.8 %
	Nagtipunan	45	4.0 %
	Saguday	94	8.4 %
	Outside Quirino	86	7.7 %
Religion	Roman Catholic	610	54.3 %
	Islam/Music	2	0.2 %
	Iglesia Ni Cristo	96	8.5 %
	Born again Christian	125	11.1 %
	Jehovah's Witnesses	22	2.0 %
	Others	269	23.9 %
Occupation	Unemployed	789	70.2 %
	Government Employee	171	15.2 %
	Private Employee	65	5.8 %
	Self-Employed	99	8.8 %
TOTAL		1124	100%



Table 1 details the demographic characteristics of patients admitted to Quirino Province Medical Center between January 1, 2021, and December 31, 2022. The age distribution suggests that the majority of patients (23.4% of total admissions) are between the ages of 58 and 67. This is followed by the age categories 48-57 and 68 and above, which account for 18.5% apiece. The patients' average age is 51.4 years, with a standard deviation of 17.6, demonstrating a wide age range among the hospitalized population. According to research, older age groups are more likely to experience severe COVID-19 outcomes, which is consistent with their larger representation in hospital admissions data (Onder, Rezza, & Brusaferro, 2020).

Gender distribution indicates a slight female majority, with women accounting for 57.3% of the patient population. This is consistent with research indicating that females may be somewhat more susceptible or more likely to seek healthcare during the pandemic. However, additional study indicates that males frequently have more severe effects when infected, making gender an important component in COVID-19 investigations (Peckham *et al.*, 2020).

In terms of civil status, the majority of patients are married, which comprises 74.8% of the total, followed by single persons (14.9%) and widowed individuals (10.2%). This demographic trend may reflect families' supporting role in healthcare access and results, as evidenced by research showing that married people frequently have better health outcomes due to greater support systems (Kiecolt-Glaser & Newton 2001).

Cabarroguis and Diffun had the highest representation geographically, implying higher transmission rates or better

access to healthcare services in these localities. Urbanized and highly inhabited areas have greater COVID-19 transmission rates, which may explain the observed geographic dispersion (Wilder-Smith and Freedman, 2020).

Roman Catholicism is the predominant religion among the patients, reflecting the general religious landscape of the region. However, there is a diversity of other religious affiliations, which can influence health behaviors and healthcare access. Research indicates that religious beliefs can significantly impact health-seeking behavior and attitudes towards medical interventions (Koenig, 2020).

Employment status reveals that the majority of patients are unemployed, highlighting the economic challenges exacerbated by the pandemic. The relationship between unemployment and adverse health outcomes is well-documented, with unemployed individuals often experiencing increased stress, reduced access to healthcare, and lower overall socioeconomic status, all of which can negatively impact health (Janke *et al.*, 2020).

Overall, the demographic data from Quirino Province Medical Center provides valuable insights into the characteristics of COVID-19 patients during the study period. These findings are consistent with global trends, where age, gender, civil status, location, religion, and employment status have all been shown to influence the spread and impact of COVID-19. Integrating this data with current research can help tailor public health interventions more effectively to the specific needs of the population.

Part II. Clinical Profile of the Patients

Table 2. Clinical Profile of the Patients in terms of Chief Complaint

Chief Complaint	Frequency	Percent
Reproductive	85	7.6 %
Respiratory	537	47.8 %
Gastrointestinal	74	6.6 %
Immunological	180	16.0 %
Neurological	201	17.9 %
Musculoskeletal	22	2.0 %
Cardiovascular	25	2.2 %

Table 2 provides a detailed overview of the clinical status of patients, categorized by their chief complaints upon admission. The data reveals a varied distribution of medical concerns, with respiratory issues being the most prevalent, accounting for 47.8% of cases. This aligns with the well-documented respiratory involvement in COVID-19, where symptoms like cough, shortness of breath, and pneumonia are common initial manifestations (Khan *et al.*, 2021). Neurological complaints are the second most frequent, comprising 17.9% of cases. This highlights the significant impact of COVID-19 on the nervous system, which is consistent with emerging research that identifies

neurological symptoms such as altered mental status, headaches, and hemiparesis in a substantial number of patients (Situmeang *et al.*, 2021). Immunological issues are also notable, representing 16.0% of cases. This category likely includes conditions such as cytokine storm syndrome and other immune-mediated complications, which are critical in the pathophysiology of severe COVID-19 (Mehta *et al.*, 2020). Reproductive health concerns, though less common, account for 7.6% of cases, indicating the broad spectrum of COVID-19's impact, which extends to reproductive organs and functions. Gastrointestinal issues make up 6.6% of the cases, reflecting the known association of COVID-



19 with symptoms like diarrhea, nausea, and abdominal pain. Cardiovascular complaints, while representing only 2.2% of cases, are still significant, considering the virus's potential to exacerbate pre-existing cardiovascular conditions or directly affect the heart (Guo *et al.*, 2020). Musculoskeletal complaints are the least frequent, accounting for 2.0% of cases, but pain related to myalgia and arthralgia remains a notable symptom in some patients (Murat *et al.*, 2020).

The distribution of these complaints demonstrates the wide spectrum of health concerns related with COVID-19, emphasizing the need for extensive clinical examination and therapeutic techniques. This variety in presenting symptoms emphasizes that healthcare practitioners must be watchful for a wide range of possible consequences, particularly in patients with pre-existing comorbidities, which can complicate the clinical picture and impact outcomes.

Table 3. Clinical Profile of the Patients in terms of Chest X-Ray Results

Chest X-Ray	Frequency	Percent
None	44	3.9 %
Normal	393	35.0 %
Atheromatous Aorta	127	11.3 %
Pneumonia	451	40.1 %
Cardiomegaly	51	4.5 %
Pleural Effusion	7	0.6 %
PTB	28	2.5 %
Pneumonitis	12	1.1 %
Pulmonary Mass	2	0.2 %
Chronic Bronchitis	3	0.3 %
Consolidation	3	0.3 %
Fibrothorax	1	0.1 %
Pneumothorax	2	0.2 %

The table details the clinical status of patients based on chest X-ray examination results, highlighting the frequencies and percentages of various pulmonary conditions. Pneumonia emerges as the most prevalent condition, observed in 40.1% of cases, underscoring the significant impact of COVID-19 on the respiratory system. This is followed by normal chest X-ray findings in 35.0% of patients, suggesting that a substantial portion of the population may have mild or asymptomatic disease, or that chest X-ray may not detect all COVID-19 related abnormalities in early stages. Atheromatous aorta is noted in 11.3% of patients, indicating a relatively common presence of vascular changes, which could be associated with aging or underlying cardiovascular risk factors. Cardiomegaly, observed in 4.5% of cases, may reflect the cardiac complications often seen in severe COVID-19, including myocarditis and stress-induced cardiomyopathy (Guo *et al.*, 2020). Pulmonary tuberculosis (PTB) is present in 2.5% of cases, and although not directly related to COVID-19, its presence highlights the ongoing burden of TB in the region, which may complicate COVID-19 management. Pneumonitis, identified in 1.1% of patients, along with rarer conditions such as pulmonary mass, chronic bronchitis, consolidation, fibrothorax, and pneumothorax (each comprising less than 1% of the total), showcases the wide spectrum of chest

pathologies that may be observed in this patient population. Additionally, 3.9% of patients did not undergo chest X-ray examinations, which might be due to various factors including clinical discretion or logistical challenges, while pleural effusion is detected in only 0.6% of cases.

These findings provide a comprehensive overview of the pulmonary conditions identified through chest X-ray examinations, reflecting the diversity of clinical presentations among the patients. Recent studies emphasize the role of chest X-ray in the clinical assessment of COVID-19, particularly in evaluating disease severity and progression. Rahman (2021) and Srisud (2022) both found a significant correlation between chest X-ray abnormalities and the severity of COVID-19, suggesting its utility in triage and treatment planning. The most common radiographic findings in COVID-19 patients include patchy and confluent ground-glass opacities, typically with a peripheral subpleural distribution, and involving multiple lung zones bilaterally. These findings have been consistently reported across various studies, underscoring the importance of chest X-rays as a key diagnostic tool in managing COVID-19 patients (Khan *et al.*, 2020; Hussain *et al.*, 2021).



Table 4. Clinical Profile of the Patients in terms of Comorbidity by System

Comorbidity	Frequency	Percent
None	450	40.0 %
Cardiovascular	253	22.5 %
Endocrine	76	6.8 %
Gastrointestinal	8	0.7 %
Hematology	18	1.6 %
Immunology	13	1.2 %
Metabolic System	6	0.5 %
Musculoskeletal	1	0.1 %
Neurology	10	0.9 %
Pulmonary	20	1.8 %
Reproductive	114	10.1 %
Respiratory	47	4.2 %
Urinary	108	9.6 %

Table 4 presents the clinical status of patients with respect to the presence of comorbidities. Notably, 40.0% of patients do not have any comorbid conditions, indicating that a significant portion of the population might have been affected by COVID-19 without underlying health issues. Among those with comorbidities, cardiovascular conditions are the most common, affecting 22.5% of patients. This is consistent with the established understanding that cardiovascular diseases, including hypertension and coronary artery disease, are significant risk factors for severe COVID-19 outcomes (Sultana *et al.*, 2022). Reproductive system issues are the next most prevalent, observed in 10.1% of patients, followed closely by urinary conditions in 9.6% of cases. Endocrine disorders, particularly diabetes mellitus, are present in 6.8% of patients, further emphasizing the role of metabolic dysfunction in complicating COVID-19 (Abida *et al.*, 2020). Respiratory and pulmonary comorbidities, including chronic obstructive pulmonary disease (COPD) and asthma, are identified in 4.2% and 1.8% of patients, respectively, highlighting their role in increasing susceptibility to severe respiratory complications in COVID-19 patients (Dong *et al.*, 2021).

Less common comorbidities, including gastrointestinal, hematological, immunological, metabolic, musculoskeletal, and neurological conditions, affect a small percentage of the patient population, each contributing to the complexity of managing COVID-19 in these individuals.

Research consistently demonstrates that COVID-19 patients with comorbidities, especially those with conditions such as hypertension, diabetes, cardiovascular disease, cerebrovascular disease, and chronic lung disease, are at a significantly higher risk of severe complications and mortality (Indriyani *et al.*, 2022). These patients often exhibit lower lymphocyte counts and elevated inflammatory markers, indicative of a more severe disease course (Dong *et al.*, 2021). The prognosis worsens with the presence of multiple comorbidities, making clinical management more challenging (Indriyani *et al.*, 2022). However, there have been successful cases where patients with comorbidities responded well to targeted therapies, such as Tocilizumab, which has been shown to mitigate the severe inflammatory response associated with COVID-19 (Sultana *et al.*, 2022).

Part III. Clinical Outcome of the Patients

Table 5. Clinical Outcome of the Patients in terms of Severity of the Disease

Severity of the Disease	Frequency	Percent
Mild	455	40.5 %
Moderate	504	44.8 %
Severe	130	11.6 %
Critical	35	3.1 %

The table above highlights the distribution of disease severity among the patient population, revealing that 44.8% of patients exhibit moderate disease severity. This suggests a significant impact on their health, requiring careful monitoring and management, though still within manageable limits. Meanwhile, 40.5% of patients experience mild disease severity, indicating that their conditions are relatively stable and manageable with standard care protocols. A smaller subset of the population, 11.6%, faces severe disease, which indicates a considerable impact on their health and often necessitates intensive treatment

or close monitoring to prevent further deterioration. Critical cases are the least common, representing only 3.1% of patients, but they signify the most severe level of illness. These cases typically require immediate and intensive medical intervention, such as mechanical ventilation or admission to the intensive care unit (ICU). This breakdown provides valuable insights into the range of COVID-19 severity among patients, offering healthcare professionals a clearer understanding of the spectrum of conditions they may encounter. It also underscores the necessity of tailoring care approaches to the severity of the disease,



ensuring that each patient receives the appropriate level of intervention.

Recent studies have identified several factors that influence the severity of COVID-19. For instance, Baimakanova *et al.* (2021) found that patients with chronic conditions, especially those affecting the endocrine, circulatory, and respiratory systems, are more likely to experience severe forms of the disease. This finding emphasizes the need for heightened vigilance and proactive management in patients with pre-existing health conditions. Furthermore, Abdulah *et al.* (2022) highlighted the

predictive value of certain biomarkers, such as C-reactive protein (CRP) and D-dimer, in assessing disease severity and mortality risk. Elevated levels of these biomarkers have been associated with more severe disease outcomes, making them critical tools in the early identification of high-risk patients. These studies collectively underscore the importance of early detection, continuous monitoring, and targeted interventions to improve clinical outcomes in patients with varying degrees of COVID-19 severity.

Table 6. Clinical Outcome of the Patients in terms of Disposition Upon Discharged

Disposition Upon Discharged	Frequency	Percent
Alive	929	82.7 %
Transferred to Higher Level Facility	69	6.1 %
Discharged Against Medical Advised	14	1.2 %
Died	112	10.0 %

The clinical outcomes of patients upon discharge from medical care, as shown in the table above, reveal a diverse distribution of dispositions that reflect varying levels of recovery and ongoing healthcare needs. The vast majority, 82.7%, were discharged alive, signifying successful treatment and recovery. This positive outcome underscores the effectiveness of the medical interventions provided during their hospitalization. However, a significant portion of the patient population, 10.0%, succumbed to their illness. This highlights the severity and potential lethality of COVID-19, particularly in patients with underlying health conditions or those who experienced severe or critical disease. The mortality rate underscores the ongoing challenges in managing and treating the most vulnerable patient groups. Additionally, 6.1% of patients were transferred to higher-level medical facilities, indicating that their conditions required more specialized care or resources that were not available in the initial care setting. This transfer to tertiary or specialized centers often reflects the need for advanced interventions, such as mechanical ventilation, renal replacement therapy, or more intensive monitoring. A smaller percentage of patients, 1.2%, were discharged against medical advice (DAMA), suggesting instances where patients or their families opted to leave the hospital contrary to the recommendations of their healthcare providers.

DAMA cases can be complex, often involving considerations of personal beliefs, financial constraints, or a perceived lack of improvement, and they pose additional risks for adverse outcomes.

These varied discharge outcomes offer valuable insights into the complexity of patient experiences and the challenges within the healthcare system, reflecting both successful recoveries and the difficulties in managing severe medical conditions. Recent studies have provided further understanding of these clinical outcomes in COVID-19 patients. Ishaque *et al.* (2020) and Wang *et al.* (2020) reported that the majority of patients experienced significant recovery, including a reduction in symptoms and improvements in chest X-ray findings, upon discharge. However, it was also noted that some patients faced complications post-discharge, including transient fever and the recurrence of symptoms, leading to a small percentage requiring readmission (Wang *et al.*, 2020). Persistent symptoms such as fatigue were common, indicating that recovery from COVID-19 can be prolonged and may require ongoing care and support (Ishaque *et al.*, 2021). These findings emphasize the importance of continued monitoring and follow-up care for discharged COVID-19 patients to ensure full recovery and address any lingering health issues.

Part IV. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Selected Profile Variables

Table 7. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Age

Clinical Status	p-Value	Decision
Chief Complaint	< .001	Reject H ₀₁
Chest X-Ray Result	< .001	Reject H ₀₁
Comorbidity	0.301	Failed to Reject H ₀₁

p-value of 0.05 and below is significant and above 0.05 is not significant

Table 7 presents an analysis of the clinical profile of COVID-19 patients, categorized by age, which yielded significant findings. The analysis revealed that both the chief complaints and chest X-

ray results varied significantly across different age groups, as indicated by p-values of less than 0.001. These low p-values led to the rejection of the null hypothesis, suggesting that age plays a



crucial role in influencing the clinical presentation and radiological findings of COVID-19 patients. Specifically, the differences in reported symptoms and chest X-ray abnormalities among various age groups underscore the importance of considering age as a key factor in the assessment and management of COVID-19. In contrast, the analysis of comorbidities yielded a p-value of 0.301, indicating that there is insufficient evidence to reject the null hypothesis. This suggests that, unlike symptoms and chest X-ray results, the prevalence and impact of comorbidities do not significantly differ across age groups in this patient population. Therefore, while age is a significant determinant of symptom severity and radiological findings, it may not be as influential in the context of underlying health conditions.

These findings are supported by a body of research that highlights the relationship between age and chest X-ray findings in COVID-19 patients. Li *et al.* (2020) and Mohan *et al.* (2023) both reported that older patients, particularly those with pre-existing comorbidities, tend to exhibit more severe chest X-ray abnormalities. Mohan *et al.* (2023) specifically noted that older age groups had higher radiographic severity scores, reflecting more extensive lung involvement. Similarly, studies by M.D. *et al.* (2021) and Parlak *et al.* (2020) identified significant differences in chest X-ray features based on age, with older patients displaying more pronounced radiological changes. These studies collectively suggest that age, along with the presence of comorbidities, significantly influences the severity of chest X-ray findings in COVID-19 patients, thereby impacting their overall clinical profile and prognosis.

Table 8. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Sex

Clinical Status	p-value	Decision
Chief Complaint	< .001	Reject H ₀₁
Chest X-Ray Result	0.002	Reject H ₀₁
Comorbidity	0.970	Failed to Reject H ₀₁

p-value of 0.05 and below is significant and above 0.05 is not significant

The analysis of the clinical profile of COVID-19 patients categorized by sex revealed significant findings, particularly in the areas of chief complaints and chest X-ray results. The p-values for both of these variables were found to be less than 0.05, which led to the rejection of the null hypothesis. This indicates that there are significant differences in the clinical presentation of COVID-19 between males and females, specifically in terms of reported symptoms and radiological findings. These differences suggest that sex may play a critical role in the severity and nature of the disease, with potential implications for diagnosis and treatment strategies. On the other hand, when evaluating the presence of comorbidities, the analysis yielded a p-value of 0.970, which indicates insufficient evidence to reject the null hypothesis. This suggests that there is no significant difference in the prevalence of pre-existing health conditions between males and females in this patient cohort. Therefore, while sex appears to be a significant factor influencing symptom severity and chest X-ray

abnormalities, it does not seem to have a substantial impact on the distribution of comorbidities among COVID-19 patients.

These findings align with existing research that highlights sex-specific differences in COVID-19 outcomes. For instance, a study by Peckham *et al.* (2020) demonstrated that males are more likely to experience severe outcomes and higher mortality rates compared to females, potentially due to differences in immune response and the presence of certain risk factors. Additionally, Zhao *et al.* (2020) found that males are more prone to severe chest X-ray findings, such as bilateral lung involvement and greater lung opacity, which could explain the significant differences observed in this study. However, when it comes to comorbidities, research by Biswas *et al.* (2021) indicates that the distribution of underlying conditions such as hypertension, diabetes, and cardiovascular disease is relatively similar between sexes, supporting the finding that sex does not significantly influence the prevalence of comorbidities in COVID-19 patients.

Table 9. Test of Significant Difference on the Profile of the COVID-19 Patients when they are Grouped as to Civil Status

Clinical Status	p-value	Decision
Chief Complaint	0.025	Reject H ₀₁
Chest X-Ray Result	< .001	Reject H ₀₁
Comorbidity	0.466	Failed to Reject H ₀₁

p-value of 0.05 and below is significant and above 0.05 is not significant

Table 9 presents data on chief complaints categorized by civil status, with a p-value of 0.025, which is below the 0.05 threshold for statistical significance. This result indicates a significant association between civil status and the severity of symptoms reported by COVID-19 patients. Additionally, the p-value for chest X-ray findings was less than 0.001, reinforcing the

conclusion that there is a notable difference in radiological results based on civil status. These findings suggest that civil status might impact the clinical presentation of COVID-19, particularly in terms of symptom severity and radiological manifestations. Conversely, the analysis of comorbidities yielded a p-value of 0.466, which exceeds the significance level, implying no



substantial evidence to reject the null hypothesis. This result indicates that pre-existing health conditions do not significantly vary across different civil statuses in this study. Supporting these findings, Zhao *et al.* (2020) discovered that married people with COVID-19 had more severe depression symptoms and somatic problems than single or widowed people.

This study emphasizes the possible role of marital status in the psychological burden of the disease. Zhao's findings support the idea that civil status may influence the overall clinical and emotional outcomes of COVID-19 patients.

Table 10. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Occupation

Clinical Status	p-value	Decision
Chief Complaint	0.111	Failed to Reject H_{01}
Chest X-Ray Result	0.007	Reject H_{01}
Comorbidity	0.427	Failed to Reject H_{01}

p-value of 0.05 and below is significant and above 0.05 is not significant

The table assesses the clinical state of COVID-19 individuals from various occupational categories, with varying outcomes. The analysis of chief complaints and comorbidities yielded p-values of 0.111 and 0.427, respectively, which above the 0.05 significant level. This shows that occupational variations have no substantial effect on these elements of clinical state. In contrast, the p-value for chest X-ray data was 0.007, demonstrating a statistically significant difference according to occupation. Patients working in the government or commercial sector tended to have normal chest X-ray findings, but those who were jobless or self-employed had more aberrant outcomes. This demonstrates occupational differences in COVID-19 outcomes, notably in radiological results.

Recent literature supports these observations. Thompson (2023) documented that individuals who took time off work due to

COVID-19 quarantine often experienced persistent physical, psychiatric, and neurocognitive challenges. Moghe (2021) found that employed individuals generally had better family connections and lower levels of tension compared to the unemployed, who were more anxious about productivity and work quality. Additionally, Little (2021) reported that individuals from high-poverty areas, often younger and with higher comorbidity rates, faced a steeper socioeconomic gradient in their COVID-19 clinical presentation. Ruffolo (2021) further highlighted that employed individuals experienced lower levels of mental health distress and higher psychosocial well-being, correlating with better overall quality of life. These studies underscore the need for targeted interventions to mitigate the differential impacts of employment status on COVID-19 patients' clinical outcomes.

Part V. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Selected Profile

Table 11. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Age

Clinical Outcome	p-value	Decision
Severity of the Disease	0.035	Reject H_{02}
Disposition Upon Discharged	0.266	Failed to Reject H_{02}

p-value of 0.05 and below is significant and above 0.05 is not significant

The table shows that analyzing COVID-19 clinical outcomes by age yields substantial insights. The p-value of 0.035 for illness severity, which is less than the 0.05 level, indicating a significant difference in disease severity between age groups. This data implies that age influences the severity of COVID-19. In contrast, the p-value for discharge disposition was 0.266, which is larger than the significance level, showing no significant difference in discharge outcomes among age groups. This implies that, while age may influence the severity of the condition, it does not appear to have a substantial impact on the temperament after discharge.

Recent study confirms these findings, highlighting the impact of age on COVID-19 severity and prognosis. McKay (2021) discovered that older individuals with underlying diseases such hypoxia, tachycardia, hypertension, diabetes, coronary artery disease, chronic renal disease, and cancer have a greater chance of readmission. This study emphasizes the higher sensitivity of older people to severe COVID-19 problems, which is consistent with the present analysis's finding of substantial variations in illness severity by age group.



Table 12. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Sex

Clinical Outcome	p-value	Decision
Severity of the Disease	0.994	Failed to Reject H ₀
Disposition Upon Discharged	0.953	Failed to Reject H ₀

p-value of 0.05 and below is significant and above 0.05 is not significant

The table depicts an examination of COVID-19 clinical outcomes by gender, which revealed no significant variations in illness severity or discharge disposition. This shows that, within the scope of this study, sex had no meaningful impact on clinical outcomes for COVID-19 individuals.

However, an increasing body of evidence indicates that sex may play a significant impact in COVID-19 results. Matsumoto (2022) found that men patients with cardiovascular risk factors had a greater in-hospital death rate than their female counterparts.

Similarly, Biole (2021) discovered that men had much higher 30-day death rates. Studies by Sha (2021) and Jirak (2022) support these findings, with both seeing greater illness severity in male patients. Sha (2021) also found a significant relationship between age and sex in in-hospital death rates. These studies show that males had poorer clinical outcomes than women, implying that sex may have a crucial role in explaining COVID-19 severity and mortality.

Table 13. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Civil Status

Clinical Outcome	p-value	Decision
Severity of the Disease	0.045	Reject H ₀
Disposition Upon Discharged	0.465	Failed to Reject H ₀

p-value of 0.05 and below is significant and above 0.05 is not significant

The research found a p-value of 0.045 for illness severity when categorized by civil status, which is less than the 0.05 criterion. This suggests a statistically significant variation in the severity of COVID-19 among various civil statuses. However, the p-value of 0.465 for discharge disposition indicates that there is no significant variation in discharge outcomes depending on civil status.

These findings are consistent with the findings of Farooqi (2021), who discovered increased illness severity among married health

professionals. In contrast, several research give a different viewpoint. Biole (2021) and Jirak (2022) discovered that unmarried COVID-19 patients had greater levels of illness severity. Biole (2021) found that unmarried patients had more severe symptoms and higher fatality rates, whereas Jirak (2022) discovered that these patients also had longer ICU stays. This discrepancy shows that the influence of civil status on illness severity varies, with some research showing that unmarried individuals have a higher risk.

Table 14. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Occupation

Clinical Outcome	p-value	Decision
Severity of the Disease	0.072	Failed to Reject H ₀
Disposition Upon Discharged	0.102	Failed to Reject H ₀

p-value of 0.05 and below is significant and above 0.05 is not significant

The analysis in Table 15, with p-values of 0.072 for illness severity and 0.102 for discharge disposition, shows that there is insufficient evidence to reject the null hypothesis for both measures. This shows that, according to this investigation, occupational variations have no significant effect on the severity of COVID-19 or the outcomes following discharge.

However, recent literature provides a more nuanced view of how occupation and employment status can influence COVID-19 outcomes. Ruffolo (2021) reported that employed individuals generally experienced better mental health throughout the pandemic. On the other hand, Dragano (2020) found that

unemployed individuals faced a higher risk of hospitalization due to COVID-19, suggesting that employment status can impact the likelihood of severe outcomes. Clarke (2022) highlighted that individuals with disabilities experienced increased severity of COVID-19 outcomes, indicating that disability status might exacerbate the impact of the disease. Additionally, Sprong (2024) observed that there were no significant changes in employment rates among veterans with mental health disorders before and after the pandemic, suggesting stability in employment status for this group despite the pandemic. These studies collectively suggest that while occupation might not directly influence the clinical outcomes of COVID-19 as per the



current analysis, related factors such as employment status, mental health, and disability status do play significant roles in shaping these outcomes.

Part VI. Proposed Action Plan

Table 15. Health Education and Prevention Campaigns

Objective	Strategy / Actions	Tasks	Timeline	Persons Involved	Expected Outcome
Increase awareness and adoption of preventive measures among high-risk demographic groups.	Develop Targeted Educational Materials	Design informative materials addressing preventive measures for infectious diseases tailored to older adults, residents of Diffun and Cabarroguis, and individuals with cardiovascular conditions. Create materials in multiple languages and accessible formats (e.g., large print, audio).	Twice a year	Public Health Department, in collaboration with medical professionals and communication experts.	Enhanced understanding and adoption of preventive measures among targeted groups.
	Collaborate with Community Leaders and Organizations	Engage local community leaders, grassroots organizations and religious institutions to disseminate information. Partner with local schools and businesses to reach a broader audience.	Quarterly	Community Outreach Team, Public Health Department	Increased community involvement and dissemination of health information.
	Distribute Educational Materials	Use diverse channels such as social media platforms, local radio stations, community newsletters, and posters in public spaces. Set up informational booths at community events and health fairs.	Monthly	Community Outreach Team, Local Media Partners	Wider reach and improved accessibility of educational materials.
	Conduct Regular Educational Sessions	Arrange regular sessions in healthcare facilities for patients, caregivers, and healthcare workers.	Quarterly	Public Health Department, Healthcare Facilities, Community Leaders	Reinforced preventive behaviors and updated knowledge on infectious diseases.



		Host workshops and webinars on preventive behaviors and updates on infectious diseases.			
	Implement School and Workplace Programs	Develop school-based programs focusing on hygiene practices, vaccination, and disease prevention. Introduce workplace wellness programs that include health screenings and educational workshops.	Annually	School Administrators, Employers, Public Health Department	Improved preventive practices among students and employees.
	Evaluate and Adjust Campaign Effectiveness	Conduct surveys and focus groups to assess the impact of educational materials and sessions. Analyze data on disease incidence and participant feedback to refine strategies.	Annually	Public Health Department, Research Analysts	Ongoing improvement of campaign strategies and effectiveness.

DISCUSSION

Demographic Profile of COVID-19 Patients

The analysis of COVID-19 patients admitted to Quirino Province Medical Center from 2021 to 2022 provides valuable insights into the demographic characteristics of this population, which are essential for tailoring healthcare delivery and resource allocation. The age distribution of admitted COVID-19 patients is notably diverse. However, a significant concentration of patients falls within the 58-67 age group. This trend suggests a heightened risk for severe illness among older adults. The increased vulnerability in this age bracket may be due to age-related factors such as weakened immune response and the presence of comorbid conditions, which are known to exacerbate the severity of COVID-19. The data indicates a slight predominance of female patients. This gender distribution, while not drastically imbalanced, could influence the design and implementation of gender-sensitive health interventions and support services. The majority of patients are married, which could impact family dynamics and caregiving responsibilities during illness. Understanding the marital status of patients can help in planning family support services and ensuring that caregivers receive appropriate resources and guidance. There is a notable higher representation of patients from Diffun and Cabarroguis. This geographical concentration may reflect regional variations in

infection rates or access to healthcare facilities. It highlights the need for targeted public health interventions and resource allocation in these areas to manage and mitigate the spread of the virus more effectively. The predominant religion among the patients is Roman Catholicism. This information can be useful in addressing the cultural and religious needs of patients, ensuring that health communication and support services are culturally sensitive and respectful of religious practices. A significant proportion of patients are unemployed. This demographic factor may be associated with socioeconomic vulnerabilities, including limited access to healthcare and resources. Addressing these socioeconomic factors can improve healthcare delivery and ensure that interventions are equitable and inclusive.

In conclusion, analyzing the demographic profile of COVID-19 patients at Quirino Province Medical Center helps healthcare planners and policymakers customize their plans more efficiently. Healthcare services can be optimized to improve patient outcomes and promote health equity in the community by focusing on the specific needs and characteristics of various patient groups, such as older adults, those from specific regions, and individuals with specific socioeconomic conditions.

Clinical Profile of COVID-19 Patients

The clinical profile of COVID-19 patients reveals a wide range of presentations and underlying medical concerns, offering



crucial insights for effective management and treatment. The most common chief complaints among COVID-19 patients are respiratory issues. These include symptoms such as cough, shortness of breath, and chest pain, which are indicative of the significant pulmonary impact of the virus. Respiratory issues being predominant underscores the critical need for focused respiratory care and close monitoring throughout the course of the illness. In addition to respiratory symptoms, neurological complaints (e.g., headache, confusion, and altered mental status) and immunological issues (e.g., cytokine storm and systemic inflammation) are also frequently observed. The prominence of these complaints highlights the necessity of a comprehensive approach to patient care that not only addresses respiratory symptoms but also anticipates and manages potential neurological and immunological complications.

Comorbidity analysis demonstrates that the vast majority of individuals had no pre-existing health issues. This study is crucial because it demonstrates how COVID-19 may have a serious impact on those who have no past health difficulties, underlining the significance of universal preventative efforts and early identification techniques to reduce risks across all patient categories. Cardiovascular diseases are the most prevalent comorbidities in individuals. Conditions including hypertension, heart disease, and prior cardiac episodes are common. The significant prevalence of cardiovascular disorders shows that heart health is critical to COVID-19 results. As a result, emphasizing cardiac surveillance and therapy for individuals with preexisting cardiovascular diseases is critical for improving their prognosis and managing any consequences.

Chest X-rays show that pneumonia is the most common radiological finding among COVID-19 patients. The occurrence of pneumonia indicates that the illness has caused considerable lung involvement. Regular imaging is critical for detecting disease development, determining medication efficacy, and making appropriate changes to the management strategy. In addition, some individuals have normal chest X-rays, indicating that the disease's severity and expression vary. This diversity emphasizes the need of imaging as part of a comprehensive diagnostic strategy that includes clinical examination and other diagnostic testing.

The clinical profile of COVID-19 patients, as shown by primary complaints, comorbidities, and chest X-ray abnormalities, offers a complete picture of the disease's impact. Respiratory difficulties remain fundamental to COVID-19 therapy, but the existence of neurological and immunological symptoms, as well as concomitant cardiovascular disorders, needs a multidisciplinary approach to patient care. This extensive breakdown of clinical and radiological signs underscores the importance of a comprehensive care approach that considers all elements of the patient's health. Healthcare practitioners can give more effective and individualized therapy to COVID-19 patients by taking into account respiratory, neurological, immunological, and cardiovascular factors.

Clinical Outcomes of COVID-19 Patients

The clinical outcomes of COVID-19 patients reveal a spectrum of disease severity and diverse treatment responses, which provide valuable insights for healthcare management and planning. The analysis of clinical outcomes demonstrates varying degrees of disease severity among patients. A significant proportion of patients have moderate disease severity, followed by those experiencing mild symptoms. The management of moderate cases often involves monitoring and addressing symptoms to prevent progression. There were also severe cases and critical cases, which often needing immediate medical intervention. These patients necessitating intensive treatment. These cases often involve severe respiratory distress, potential organ dysfunction, and may require advanced therapeutic interventions such as mechanical ventilation or high-flow oxygen therapy. Critical cases often involve life-threatening complications and may necessitate specialized treatments in intensive care units or other advanced care settings. This distribution informs healthcare professionals about the range of conditions they may encounter and the level of care needed. The distribution of disease severity levels helps healthcare professionals anticipate the range of conditions they may encounter and allocate resources appropriately. Understanding the varying needs of patients based on severity can enhance the efficiency and effectiveness of healthcare delivery.

A large number of patients were discharged alive, indicating successful treatment and recovery. This positive outcome reflects the effectiveness of the healthcare interventions provided and underscores the importance of timely and appropriate care. Unfortunately, some patients succumbed to the illness. The occurrence of fatalities highlights the potential severity of COVID-19 and the challenges associated with managing advanced or complicated cases. This outcome underscores the need for continuous improvement in treatment protocols and patient care strategies. A portion of patients required transfer to higher-level medical facilities for specialized care. These transfers are often necessary for patients with complex or severe conditions that cannot be adequately managed at the initial treatment facility. The need for such transfers emphasizes the importance of a well-coordinated healthcare system that can support patient needs through various levels of care. Some patients chose to discharge themselves against medical advice. This decision can pose risks to patient health and may complicate outcomes. Addressing the reasons for DAMA discharges and providing adequate counseling and support can help mitigate these risks.

The diverse clinical outcomes of COVID-19 patients highlight the complexity of the disease and the challenges faced in managing it. The range of disease severities and outcomes underscores the necessity for a flexible and responsive healthcare system that can cater to different levels of care needs. It also emphasizes the importance of effective treatment protocols, patient monitoring, and the need for specialized care when necessary. By understanding the various clinical outcomes, healthcare providers



can better prepare for and manage the diverse needs of COVID-19 patients, ultimately improving patient care and outcomes.

Significant Differences in the Clinical Profile of COVID-19 Patients Based on Selected Demographic Factors

The analysis of COVID-19 patient clinical status, categorized by age, sex, civil status, and occupation, revealed both significant and insignificant variations across different aspects of their clinical profiles. These findings offer valuable insights into how demographic factors may influence the presentation and outcomes of COVID-19 patients.

When patients were divided by age, there were substantial disparities in reported symptoms and chest X-ray results. Older individuals exhibited more severe symptoms and radiological abnormalities. This shows that age has a significant impact on both the intensity of symptoms and the amount of pulmonary involvement as determined by chest imaging. Despite the large disparities in symptoms and X-ray findings, there were no discernible differences in the incidence of comorbidities among age groups. This suggests that, while age influences the clinical presentation and severity of COVID-19, it is not always associated with the presence of other health issues.

When patients were divided into sexes, reported symptoms and chest X-ray results varied significantly. These variations indicate that sex may impact the severity and kinds of symptoms experienced, as well as the level of pulmonary involvement as shown by radiological evaluations. However, no significant variations in comorbidities were discovered across sexes, demonstrating that, while sex may influence symptom severity and imaging results, it has no effect on the chance of having pre-existing health disorders.

Grouping patients by civil status revealed significant disparities in both reported symptoms and chest X-ray findings. This implies that a patient's civil status might affect the severity of symptoms and the extent of lung damage. Nonetheless, no significant differences in comorbidities across different civil statuses were observed. This suggests that while civil status influences symptom severity and radiological outcomes, it does not necessarily correlate with the presence of comorbidities.

The impact of occupation on the clinical profile of COVID-19 patients showed varied results. There were no significant differences in reported symptoms and comorbidities among different occupational groups. However, chest X-ray results exhibited significant disparities based on occupation. Specifically, patients employed in government or private sectors were more likely to show normal chest X-ray results compared to those who were unemployed or self-employed. This may reflect differences in exposure risk or access to healthcare resources based on occupation. The significant differences in chest X-ray findings underscore the need to consider occupational factors when evaluating the clinical outcomes of COVID-19 patients.

In summary, the analysis highlights how demographic factors such as age, sex, civil status, and occupation can influence various aspects of the clinical profile of COVID-19 patients. Significant differences in symptoms and chest X-ray results were observed based on these factors, while comorbidities appeared unaffected by these demographic variables. These findings underscore the importance of considering demographic characteristics in understanding and addressing disparities in COVID-19 clinical outcomes, ultimately contributing to more targeted and effective healthcare strategies.

Significant Differences in the Clinical Outcomes of COVID-19 Patients Based on Selected Demographic Factors

The analysis of clinical outcomes for COVID-19 patients, categorized by various demographic factors, has revealed significant insights into how these factors influence patient outcomes. This evaluation highlights the nuanced role of demographic characteristics in determining clinical outcomes.

When examining the clinical outcomes by age, a significant difference was found in disease severity, with a p-value of 0.035. This suggests that age has a notable impact on the severity of COVID-19, with older patients potentially experiencing more severe manifestations of the disease. However, the analysis showed no significant difference in discharge disposition across age groups, with a p-value of 0.266. This indicates that while age significantly influences disease severity, it does not appear to have a substantial effect on the final discharge outcomes of patients. In other words, regardless of age, the likelihood of being discharged alive or otherwise does not vary significantly.

The analysis of clinical outcomes based on sex did not reveal significant differences in either disease severity or discharge disposition. The p-values for both outcomes were above conventional significance thresholds, indicating that sex may not play a significant role in determining the severity of illness or the nature of discharge outcomes for COVID-19 patients. This finding suggests that, in this study, the impact of sex on clinical outcomes is relatively minor.

The evaluation of clinical outcomes by civil status revealed a significant association with disease severity, as indicated by a p-value of 0.045. This suggests that civil status might influence the severity of the disease, with variations potentially reflecting differences in social support or other related factors. However, no significant difference was observed in discharge disposition across different civil statuses, with no substantial variance in how patients with different civil statuses were discharged. This implies that while civil status may affect the severity of COVID-19, it does not significantly influence the likelihood of discharge outcomes.

Analysis of clinical outcomes based on occupation showed no significant associations with either disease severity or discharge disposition. The p-values for these outcomes were 0.072 and 0.102, respectively, indicating that occupation does not have a



significant impact on the severity of illness or the nature of discharge outcomes for COVID-19 patients. This suggests that occupational factors, in this context, do not markedly influence clinical outcomes.

These findings highlight the complex interplay between demographic factors and clinical outcomes in COVID-19 patients. Age and civil status were found to have significant associations with disease severity, reflecting their influence on how severely patients experience the disease. However, neither age nor civil status significantly affected discharge outcomes. In contrast, sex and occupation did not show significant associations with either disease severity or discharge disposition, suggesting their limited impact on these clinical outcomes. Overall, this analysis underscores the importance of considering various demographic factors when assessing clinical outcomes for COVID-19 patients. Understanding these associations can help in tailoring healthcare strategies and interventions to better address the needs of different patient groups and improve overall management of the disease.

CONCLUSIONS

The results of this study offer comprehensive insights into the clinical profiles and outcomes of COVID-19 patients at Quirino Province Medical Center, leading to several key conclusions:

1. The analysis of patient demographics revealed a broad age range, with a notable concentration in the 58-67 age group, which is particularly susceptible to severe COVID-19 outcomes. This underscores the need for targeted health interventions for older adults. Additionally, there was a slight predominance of female patients, and most were married, with a significant proportion identifying as Roman Catholic. Many patients were unemployed, indicating they may face specific challenges related to health access and support. These demographic patterns suggest a pressing need for tailored health interventions and support services that address the unique needs of these groups.
2. Respiratory issues emerged as the most common clinical complaint among patients, indicating the primary impact of COVID-19 on the respiratory system. Notably, many patients did not have pre-existing comorbidities, emphasizing that even individuals without underlying health conditions are at risk for severe illness from COVID-19. Among those with comorbidities, cardiovascular conditions were prevalent, which points to the critical need for integrated cardiovascular care alongside COVID-19 treatment. Chest X-ray examinations frequently revealed pneumonia, highlighting the necessity for early and effective respiratory management to address this common complication.
3. The clinical outcomes of COVID-19 patients varied significantly. While most patients experienced moderate disease severity, there were notable cases of severe and critical conditions, reflecting the diverse impact of the virus. The majority of patients were discharged alive, suggesting effective clinical management for many. However, the presence of transfers to higher-level facilities and fatalities

underscores ongoing challenges in treating severe cases and the need for continued refinement of treatment protocols.

4. Significant differences in clinical profiles and outcomes were observed when patients were grouped by demographic factors such as age, sex, civil status, and occupation. Variations in symptom presentation and radiological findings based on these factors highlight the importance of personalized treatment approaches. Tailoring healthcare strategies to account for demographic differences can enhance the effectiveness of care and improve patient outcomes.

This study provides valuable insights into the clinical profiles and outcomes of COVID-19 patients, emphasizing the need for tailored healthcare strategies. Understanding the diverse demographic factors influencing patient experiences and outcomes can aid in developing targeted interventions and improving overall response strategies. By addressing the specific needs of different patient groups, particularly in settings similar to the level 1 hospital studied, healthcare providers can better manage COVID-19 and optimize patient care. In summary, the findings underscore the importance of a nuanced approach to COVID-19 management that incorporates demographic considerations to enhance care delivery and patient outcomes.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed to enhance the management of COVID-19 and similar infectious diseases:

1. Targeted Health Interventions: The Hospital Administration should prioritize developing and implementing health programs tailored for high-risk groups. Specifically, targeted initiatives should be designed for older adults, particularly those in the 58-67 age group, who are at increased risk for severe COVID-19 outcomes. Additionally, the administration should focus on outreach and educational campaigns for unemployed individuals and residents in geographic areas with higher case rates, such as Diffun and Cabarroguis. These targeted efforts can help address the specific needs of these vulnerable populations and improve preventive measures and health outcomes.
2. Enhanced Cardiovascular Care: Health practitioners are encouraged to strengthen cardiovascular care for COVID-19 patients and those with pre-existing cardiovascular conditions. This involves implementing robust cardiovascular monitoring and management protocols to mitigate complications and enhance patient outcomes. Given the high prevalence of cardiovascular issues among patients with comorbidities, regular cardiovascular assessments should be integrated into patient care plans to address potential risks effectively.
3. Holistic and Personalized Patient Care: Health practitioners should adopt a holistic approach to patient care that goes beyond addressing respiratory symptoms. This approach should also consider and manage potential neurological and immunological complications, as indicated by the diversity



of patient complaints and clinical conditions. By providing personalized care that addresses all aspects of a patient's health, practitioners can improve overall treatment efficacy and patient outcomes.

4. **Data-Driven Healthcare Delivery:** Hospital management should utilize data from this study to inform resource allocation and healthcare delivery strategies. This involves ensuring that adequate medical supplies and personnel are available to address the varying levels of severity observed in COVID-19 cases. Additionally, analyzing demographic data can help predict potential hotspots and anticipate resource needs, allowing for more effective planning and response to emerging healthcare challenges.
5. **Training and Continuous Education for Healthcare Providers:** Healthcare providers should participate in

specialized training programs that address the unique challenges of managing COVID-19, including the impact of various demographic factors on disease progression and outcomes. Continuous education on the latest COVID-19 treatments and management strategies is essential to keep healthcare staff updated on best practices. This training should also extend to other infectious diseases, ensuring that healthcare providers are well-prepared to handle a broad range of healthcare scenarios.

These recommendations aim to improve the management and treatment of COVID-19 patients by addressing specific needs, enhancing care practices, and utilizing data-driven strategies. Implementing these suggestions can contribute to more effective healthcare delivery and better patient outcomes.

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SPECIAL EDUCATION IN THE NEW NORMAL: EMBRACING DISTANCE LEARNING

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ABSTRACT

This study explores the adaptation and challenges in special education during distance learning to develop a comprehensive continuity plan. Participants included three administrators and 15 teachers from special education schools in Cabanatuan City, along with 150 parents during the 2021-2022 school year at Cabanatuan East Central School, Lazaro Francisco Integrated School, and Camp Tinio Elementary School.

Using a descriptive research method, the researchers created a questionnaire as the main data collection tool, which was validated for reliability. Data analysis was conducted using Microsoft Excel and the Statistical Package for Social Sciences (SPSS), employing frequency counts and percentages to profile respondents. Weighted mean values were applied to assess adjustments, challenges, and support in special education distance learning.

The findings reveal the effective implementation of modified practices in special education, covering instructional, curricular, and administrative areas. Administrators and teachers rated the challenges of executing the special education learning continuity plan as moderately difficult, while parents found them slightly challenging, emphasizing the significant efforts of teachers and administrators in helping parents and students comply with the plan.

The researchers recommends a continuity plan designed to benefit administrators, special education teachers and parents with the goal of improving the educational experience for this group.

KEYWORDS: Special Education, Distance Learning, Adaptation, Challenges

INTRODUCTION

Special Education (SPED) provides programs and services tailored to meet the needs of students with disabilities, helping them reach their full potential (DepEd Order No. 44, Section 2021). However, the COVID-19 pandemic has significantly disrupted the education system, including SPED. Transitioning from traditional face-to-face instruction to distance learning for safety reasons has posed challenges in achieving the desired learning outcomes for students with special needs.

A key element of SPED is the establishment of routines to maximize student potential. The shift to distance learning has required modifying these routines, originally developed for face-to-face settings, to suit remote learning environments. In response, the Department of Education (DepEd) has developed the Basic Education Learning Continuity Plan (BE-LCP) for SPED to ensure students with special needs continue their education in the "new normal" (Malipot, 2020).

DepEd's "Inclusive Education" policy allocates resources to support special education, including Self-Learning Modules (SLMs) as alternative learning tools (Malipot, 2021). While various learning modalities—such as modular, television, radio-based, blended, and online instruction—are available for mainstream education, delivering these to SPED learners presents unique challenges, especially in maintaining physical interaction, which is vital for socialization (Bautista et al., 2022; Sadia, 2020).

SPED teachers play a crucial role in guiding students through their Individualized Education Programs (IEPs) (Nelson, 2019).

The growing number of special needs learners highlights the need for flexible learning solutions, particularly for immunocompromised students, as face-to-face classes may not be safe (DepEd, 2020; Caballa, ALRES-Phils). Caballa emphasizes that discontinuing education for SPED learners risks academic and behavioral regression, making parent involvement essential in this new setup where teachers act as facilitators, and parents take the lead in the learning process.

Statement of the Problem

The purpose of this study is to describe the modifications and challenges of Special Education and to come up with the program in the learning continuity plan in Distance Learning of Special Education Program, in the New Normal.

The research sought to answer the following:

- How may the profile of the respondents be described in terms of:
 - administrator
 - sex;
 - age; and
 - length of service?
 - SPED teacher
 - sex;
 - age;
 - length of service as SPED Teacher; and
 - number of class handles?
 - Parents
 - age;



- 1.2.2

number of their children with special educational needs;
- 1.2.3

number of hours assisting their children with special educational needs; and
- 1.2.4

occupation?
2.

How may the modifications of practices in Special Education program being adopted in the distance learning education be described in terms of:

2.1

instructions;

2.2

curriculum; and

2.3

administration?
3.

How may the challenges in the implementation of learning continuity plan for Special Education be described as encountered by:

3.1.

administrator;

3.2

SPED teachers : and

3.3

parents

data to facilitate statistical analysis of a representative sample, enabling the identification of patterns, correlations, and trends. This approach commonly employs methods such as surveys, polling, and experimental procedures to achieve these objectives.

Given the study’s aim to explore profiles and modifications associated with distance education, the chosen research design was deemed appropriate. The use of survey questionnaires, often complemented by Likert Scales for response measurement, aligns with the principles of descriptive research methodology.

Moreover, the research design's emphasis on deriving numerical insights over time enhances its suitability for uncovering patterns, relationships, and trends. This study seeks to elucidate the perspectives of some stakeholders— special education (SPED) teachers ,school administrators and parents —regarding the variables outlined in the Statement of the Problem, thereby ensuring a comprehensive understanding of the study.

METHODOLOGY

Research Design

The study employed a descriptive quantitative research design to investigate the integration of distance education for special education in Division of Cabanatuan City schools during the 2021–2022 academic year. According to Johnson and Christensen (2023), descriptive research focuses on collecting quantifiable

Respondents

The respondents in this study were administrators ,SPED teachers and parents in the Division of Cabanatuan City. The researchers used total enumeration to determine the number of administrators , SPED teachers and parents . Total population sampling is a purposive sampling technique that examines the entire population (i.e., the total population) with a particular set of characteristics (Dissertation.laerd.com, 2022).

Table 1

Distribution of Respondents

Schools	School Administrators	SPED Teachers	Parents
Lazaro Francisco Elementary School	1	4	40
Cabanatuan East Central School	1	9	90
Camp Tinio Elementary School	1	15	150
TOTAL	3	15	150

As shown in table, each of the three Elementary Schools offers a Special Education Program consisting of three (3) school administrators, fifteen (15) SPED teachers and one hundred fifty

(150) parents, making a total of one hundred sixty -eight (168) respondents.

Table 2

Verbal Description and Interpretation of the Mean for Modifications of Practices in Special Education Program

Range	Verbal Description	Verbal Interpretation
3.25-4.00	Well implemented	Practices are exceptionally executed, benefiting students significantly.
2.50-3.24	Implemented	Practices are satisfactory, with room for improvement, but they aid students' educational journey.
1.75-2.49	Poorly Implemented	Practices do not meet expectations, requiring substantial improvement to better support students.
1.00-1.74	Not Implemented	Practices are absent or minimal, necessitating urgent action to support students' needs.

Research Instrument

The researchers employed a questionnaire as the primary data collection tool, divided into two sections. Part I gathered demographic information from respondents, while Part II focused on specific aspects of special education in distance learning.

The questionnaire, consisting of 50 items, directly addressed the research questions. These questions were developed based on existing research in the fields of distance education and special education.

Administrators and SPED teachers were surveyed about adaptations made to special education practices and challenges faced in the teaching-learning process. Parents on the other hand, responded to questions related to challenges encountered during the teaching-learning process.

Data Collection

The researchers first obtained permission from the Schools Division Superintendent of DepEd, Division of Cabanatuan City, followed by approvals from the Public Schools District Supervisor (PSDS) of Cabanatuan City District and the principals



of Lazaro Francisco Elementary School, Cabanatuan East Central School, and Camp Tinio Elementary School. The final approval was sought from the SPED teachers. This authorization enabled the researchers to administer the survey questionnaires to the respondents during their free time.

The researchers personally facilitated the survey to ensure the accuracy and reliability of the results. This approach also allowed the teachers to address any questions or concerns about the study. SPED teachers and parents of learners with special educational needs (LSENs) participated by completing the survey, which focused on SPED practices in distance learning. Additionally, the researchers utilized the opportunity to conduct virtual informal interviews and observations involving SPED teachers, parents, and school administrators to enrich the study’s findings.

To gather data from SPED teachers, parents, and school administrators regarding special education in distance learning,

the researchers adhered to systematic procedures: securing the necessary permissions from relevant authorities .

RESULTS AND DISCUSSION

1. Profile

The study involved three groups of respondents: administrators, SPED teachers, and parents of children with special educational needs. Administrators were all female, aged between 41 and 50. Their years of service ranged from 21 to 26 years. SPED Teachers were predominantly female (93.33%). Their ages varied, with a significant portion aged between 31 and 50. Most had 6-10 years of experience as SPED teachers and handled 4 classes. Parents were primarily aged between 31 and 50, with a significant number in the 41-50 age group. Most had one child with special educational needs and spent 1-2 hours daily assisting them. Their occupations were diverse, with self-employment and being a housewife being the most common.

2. Modifications of Practices in Special Education Program Being Adopted in Distance Learning Education

2.1 Instructions

Modification of Instructions of Special Education Teachers in Distance Learning

Items/Statements	Mean	Verbal Description
1. I talk to parents about setting up distance learning modality to families for the development of IEP using available resources.	3.87	Well Implemented
2. I create instructional videos for learners with special educational needs in giving support in different activities.	3.40	Well Implemented
3.I offer alternative activities for learners with special educational needs using available materials at home.	3.73	Well Implemented
4. I offer online consultation with parents in monitoring IEP of their child.	3.20	Well Implemented
5. I explain to the parents the modifications in the modules.	3.67	Well Implemented
General Mean	3.57	Well Implemented

The study highlights the effectiveness of instructional modifications adopted by Special Education (SPED) teachers in distance learning during the pandemic. Item 1, which emphasizes collaboration with parents to set up distance learning for Individualized Education Plans (IEPs), achieved the highest weighted mean of 3.87, described as "well implemented." Conversely, Item 4, involving online consultations with parents to monitor IEPs, received the lowest weighted mean of 3.20 but was still classified as "well implemented." The overall mean score of 3.57 indicates that SPED teachers successfully adapted instructional practices for distance learning.

Hanover Research Group (2020) underscores the importance of close collaboration between teachers and families in determining effective distance learning methods, recognizing families' critical role in supporting students. The Department of Education

(DepEd) introduced alternative learning modalities, such as online and modular approaches, to maintain access to SPED services during the pandemic (Vicente & Revilla, 2022). Technology was instrumental, particularly for learners with autism.

Flexible learning emerged as a solution to address connectivity challenges, offering students options in learning pace, place, and mode (Gordon, 2014). This approach emphasizes learner-centered practices, especially for Learners with Special Educational Needs (LSENs), who require a flexible curriculum that considers technology access, learning styles, and diverse assessments (Ryan & Tilbury, 2013; Gachago et al., 2018). Balancing basic competencies with curriculum outcomes remains a key challenge in distance education for SPED learners.

2.2 Curriculum

SPED Teachers’ Modifications of Practices in Special Education Program in Terms of Curriculum

Items/Statements	Mean	Verbal Description
1. I provide contextualized modules to LSENs based on their needs and abilities.	3.67	Well Implemented
2. I adjust the Individualized Education Plan (IEP) to suit the needs and abilities of LSENs for the distance learning.	3.87	Well Implemented
3.I design daily activities applicable for learners with special educational needs to do at home.	3.87	Well Implemented
4. I use the Most Essential Learning Competencies (MELCs) as guide in developing/basis of the IEPs.	3.87	Well Implemented
5. I evaluate IEP and break learning targets into manageable lesson.	3.87	Well Implemented
General Mean	3.83	Well Implemented

The findings reveal that Special Education (SPED) teachers effectively implemented curriculum modifications for distance learning. Items 2, 3, 4, and 5, which include adjusting Individualized Education Plans (IEPs), designing home-based activities, using the Most Essential Learning Competencies (MELCs) as guides, and breaking down learning targets into



manageable lessons, each achieved the highest weighted mean of 3.87, described as "well implemented." Item 1, involving the provision of contextualized modules for Learners with Special Educational Needs (LSEs), received the lowest weighted mean of 3.67 but was still classified as "well implemented." Overall, the average weighted mean of 3.83 confirms the successful

adaptation of curriculum practices by SPED teachers in distance learning. Kamil Lubiński and Dominik Krzysztof Tama (2021) highlight the advantages of distance learning, such as time and cost savings. However, they note that traditional, in-person education often appears more student-centered, reflecting the challenges of fully replicating such benefits in a remote learning environment.

2.3 Administration

Administrators’ Modifications of Practices Being Adopted in the Distance Learning Education in Terms of Administration

Items/Statements	Mean	Verbal Description
1.I monitor individualized schedules for LSEs prepared by the SPED teachers for distance learning.	4.00	Well Implemented
2.I guide the teacher handling LSEs in distance learning.	3.33	Well Implemented
3.I prepare and implement an Action Plan for SPED teachers in distance learning of LSEs.	3.67	Well Implemented
4.I communicate with teachers to support the execution of the learning continuity of distance learning education.	4.00	Well Implemented
5.I provide webinars for SPED teachers with skills and competencies needed for distance learning.	3.67	Well Implemented
General Mean	3.73	Well Implemented

The findings indicate that administrators effectively implemented modifications to support distance learning. Items 1 and 4, which involve monitoring individualized schedules for LSEs prepared by SPED teachers and maintaining communication with teachers to support learning continuity, both achieved the highest weighted mean of 4.0, described as "well implemented." Meanwhile, item 2, guiding teachers handling LSEs, received the lowest weighted mean of 3.33 but was still classified as "well implemented." Overall, with an average weighted mean of 3.73,

the modifications in administrative practices for distance learning were successfully implemented.

Zincirli (2021) highlights that while distance education during the COVID-19 pandemic had both positive and negative aspects, significant challenges included limited Internet access, inadequate technical infrastructure, and shortages of computers or tablets, which impacted the effectiveness of remote education.

3. Challenges in the Implementation of Learning Continuity Plan for Special Education
Challenges in the Implementation of Learning Continuity Plan for Special Education be Described as Encountered by the Administrators

Items/Statements	Mean	Verbal Description
1.I find it difficult supporting my SPED teachers on how to craft their IEPs.	1.00	Not Challenging
2.It is hard to look for a way in meeting online the SPED team to help children with special needs.	1.00	Not Challenging
3. I am challenge to monitor and evaluate the goals and objectives set by the teachers based on IEP because of distance learning modality.	1.33	Not Challenging
4. I exert effort in making a strategic plan with teachers handling LSEs.	1.67	Not Challenging
5. It is challenging helping those families of learners with special educational needs.	1.00	Not Challenging
General Mean	1.20	Not Challenging

The study found that administrators faced minimal challenges in implementing the learning continuity plan for Special Education. Tasks such as creating strategic plans with teachers and supporting SPED teachers in crafting IEPs were perceived as "not challenging." This suggests that administrators possess the necessary knowledge and skills to effectively address the

challenges associated with distance learning for students with special needs. These findings align with the four strategic thrusts identified by Rabor et al. (2022), which emphasize the importance of focused interventions, ongoing support, and effective communication with stakeholders.

Challenges in the Implementation of Learning Continuity Plan for Special Education as Encountered by the Special Education Teachers

Items/Statements	Mean	Verbal Description
1.I find it difficult in communicating with parents.	2.87	Moderately Challenging
2. It is hard for me to make the IEP more personalized in distance learning.	3.00	Moderately Challenging
3. I exert more efforts in distance learning modality.	3.53	Very challenging
4. It is laborious in assessing the performance tasks of LSEs.	3.13	Moderately Challenging
5. It is tough adjusting lessons for LSEs in distance learning.	3.07	Moderately Challenging
General Mean	3.12	Moderately Challenging

The study revealed that Special Education teachers encountered various challenges in implementing the learning continuity plan. The most significant challenge was the exertion of extra effort in distance learning modalities, rated as "very challenging." Other challenges, such as communication with parents and the overall

implementation of the plan, were considered "moderately challenging." These findings align with the potential benefits of technology in education, as highlighted by Bruno (2021). While technology can offer personalized learning experiences and multiple ways to demonstrate understanding, it is crucial to



consider the specific needs of students with special education and provide appropriate accommodations and support.

Challenges in the Implementation of Learning Continuity Plan for Special Education as Encountered by the Parents

Items/Statements	Mean	Verbal Description
1.I find it hard to communicate with my child’s teachers.	1.27	Not Challenging
2.We have limited resources at home to provide alternative learning materials for distance learning.	1.75	Slightly Challenging
3.It is difficult to balance the demands added to my work and the needed guidance for my child’s learning.	2.18	Slightly Challenging
4. It is hard to use technology or to access the internet in consulting with my child’s teachers about his/her lessons.	1.82	Slightly Challenging
5. I have difficult time teaching my child the necessary skills for him / her to learn.	2.35	Slightly Challenging
General Mean	1.87	Slightly Challenging

The study revealed that parents of children with special educational needs faced moderate challenges in implementing the learning continuity plan. The most significant challenge was teaching their children necessary skills, rated as "slightly challenging." However, communication with their child's teachers was perceived as "not challenging." These findings align with the challenges identified by Agaton and Cueto (2021), such as difficulties in virtual learning, instructional delivery, and financial constraints. While communication between parents and teachers seems to be effective, further support is needed to assist parents in providing effective home-based instruction for their children with special needs.

CONCLUSIONS

Based on the findings, the following are concluded:

1. The profiles of the respondents reveal that the majority of SPED administrators and teachers are female, within the age range of 41-50, and possess significant years of service. Most of the parents fall within the same age group, 41-50.
2. In terms of the Special Education program’s adaptation for distance learning, the modifications were effectively implemented. Notably, improvements were observed in instruction, curriculum adaptation, and administrative support. These changes were supported by strong communication with parents and efficient monitoring of individualized learning schedules.
3. The primary challenges in implementing the learning continuity plan for Special Education included difficulties in crafting Individualized Education Programs (IEPs) for administrators and SPED teachers. Additionally, both groups found distance learning to be particularly demanding. For parents, the most significant challenge was teaching their children necessary skills.

Based on the proceedings of the research, the following are recommended:

1. It is recommended to maintain and strengthen the communication practices with parents and the effective monitoring of individualized schedules, as these strategies have proven successful. Further enhancements should be explored to ensure sustained engagement and continued support.
2. Additionally, targeted training and resources should be provided for administrators and SPED teachers to streamline the process of developing IEPs for distance learning. Creating specialized support programs to ease the burden on parents and offer more effective teaching strategies for essential skills should also be considered.
- 3 Given the significant challenges faced by parents in teaching necessary skills to their children with special needs during distance learning, it is recommended to establish comprehensive support programs. These programs should

provide parents with guidance, training, and resources to enhance their capacity as educators in a remote learning environment.

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DIGITAL VISUAL LEARNING TOOLS TRANSFORMATION: ITS IMPACT ON BINOGAWAN ELEMENTARY SCHOOL'S ORGANIZATIONAL CULTURE

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ABSTRACT

This study examines the impact of digital visual learning tools on the organizational culture at Binogawan Elementary School, focusing on their integration and effects on teaching methodologies, collaboration, and student engagement. In modern classrooms, the use of smart TVs, smartphones, projectors, educational videos, etc. has become increasingly prevalent, contributing to a dynamic and visually engaging learning environment. The findings indicate that these tools significantly enhance student motivation and comprehension by catering to diverse learning styles and improving visual interaction. Furthermore, the implementation of these technologies has cultivated a collaborative culture among teachers, facilitating professional development through the sharing of resources and strategies. Beyond the benefits and opportunities offered by these digital tools, this change also poses risks and challenges make the continued implementation more complicated, not to mention the school's meager or nonexistent funding for the purchase of such digital visual tools. Nevertheless, the faculty makes extensive use of the little digital visual learning resources that are available. For their instructional methods, it would be preferable if a wider range of digital visual learning resources, such as projectors, were accessible. It will benefit not only the school but hopefully extend its influence to the community of Barangay Binogawan if these materials are made more widely available.

KEYWORDS: Digital, Visual, Transformation

INTRODUCTION

In an era where technology is fundamental to every aspect of life, sectors across the board are experiencing continuous change. The education sector is no exception, as it undergoes significant transformation driven by digital tools, systems, platforms, and applications. The integration of digital visual learning tools into the learning process has garnered significant interest and research within the academic community. Studies have consistently shown the profound impact of visual communication can have on students' engagement, memory retention, and overall academic performance (Ruttun & Macredie, 2017)

It is undeniable that educators benefit from using visual learning tools. These tools can make lesson planning and presentation more efficient, resulting in more engaging classrooms. With the emergence of digital visual learning tools, teachers use analytics from these digital platforms to assess student performance and personalize instruction to meet individual needs. However, relying too heavily on the digital visual learning tools can present challenges. Educators must strike a balance between using technology and traditional visual and instructional tools to ensure a well-rounded educational experience. Additionally, both educators and students need training and resources to effectively navigate these digital visual learning tools. Compared to digital visual learning tools, traditional visual and instructional tools, teachers spend hours, shell-out their own money and not to mention the extra efforts to create them. Overall, the use of digital visual learning tools in education has sparked a cultural shift that emphasizes

innovation, inclusivity, and collaboration, preparing students for an increasing digital world.

This study examined the effects of digital visual learning tools on communication, pedagogy, and administration at its core. Additionally, it provided insights into the future trends. Specifically, the study explored how these tools influenced the organizational culture of Binogawan Elementary School. Moreover, the study determined that this small multi-grade public elementary school is keeping up with the fast-paced digital age but slightly falling behind. The researcher used quantitative research methods to investigate how the integration of digital visual learning tools has shaped the school's culture.

Statement of the Problem

This study was conducted to determine the impact of digital visual learning tools transformation and its changes on the organizational culture of Binogawan Elementary School.

This study answers the following specific questions:

1. Determine the level of digital visual learning tools transformation in Binogawan Elementary School in terms of:

1.1 Availability of Digital Visual Learning Tool Infrastructure;

1.2 Frequency of Use;

2. To determine the perception of the teachers on the benefits, opportunities, challenges, and risks of adopting digital visual learning tools in terms of:

2.1 Benefits on lesson presentations;

2.2 Benefits on teaching strategy;

2.3 Opportunity on digital literacy;



skills;

- 2.4 Opportunity on developing 21st-century
- 2.5 Challenges on resistance to change;
- 2.6 Challenges on technical competency;
- 2.7 Risk on security to information;
- 2.8 Risk on student's physical and mental health.

3. To examine the impact of digital visual learning transformation on the organizational culture of Binogawan Elementary School after post-implementation of digital visual learning tools;

Significance of the Study

This study dissected the impact of digital visual learning tools on Binogawan Elementary School's organizational culture, focused on how technological integration influences teaching methodologies and the overall school environment. By analyzing these areas, the study provided insights that help teachers and school staff navigate the complexities of digital change.

1. Educators. This study will help educator significantly enhance their teaching practices, facilitating a more engaging and effective educational environment.

2. School Administration. This study will help school administration in fostering a more collaborative and innovative culture within the school environment. By doing so, it can help build harmonious relationships between students and administrative staff. Additionally, it aims to promote effective integration and utilization of technologies, fostering a sense of teamwork and shared objectives.

3. Students. This study will help in understanding of students' specific needs when it comes to the appropriate digital visual learning tool and make a significant impact on student engagement and participation. Visual learning methods, such as using images, videos, and other visual aids, enhance comprehension and retention by making the learning experience more interactive and enjoyable.

4. Researchers. As a researcher, this study will foster critical thinking and analytical skills, define academic career, and personal interests, expand knowledge and understanding of the chosen field. Further, the study will help develop a one-on-one connection with distinguished faculty in the field. Additionally, this study will aid to build a community of peers, faculty, and organizations both on and off campus.

5. Community. Utilization and application of research outputs will be enhanced by the school, which is a trusted institution for sharing and developing the community.

Definition of Terms

To understand the impact of digital visual aid transformation on Binogawan Elementary School's organizational culture, here are some key terms:

1. Digital Visual Learning Tools. These are learning tools that are specific type of digital resource that aim to enhance learning by incorporating visual elements. This category of tools utilizes graphical representations, animations, images, and interactive content to promote better understanding and engagement during the learning process.

2. Digital Visual Aid Transformation. The integration of digital visual aid into the areas of teaching, administration, and communication.

3. Traditional Visual and Instructional Tools. Tools used in instructional activities include active learning and assessment techniques, as well as structured workbooks and textbooks covering various subjects such as math, spelling, language, and literature. These tools may involve the use of blackboards, posters, globes, charts, textbooks, and more.

4. Organizational Culture. The set of shared beliefs, values, and practices that shape how members of an organization interact and work together. For schools, this includes the attitudes and behaviors of staff, students, and administrators.

5. Technology Integration. The process of incorporating digital tools and systems into the school's daily operations. This can involve using educational software, online resources, and digital communication platforms.

6. Student Engagement. The level of interest and involvement students show in their learning, which can be influenced by digital visual aid that make learning more interactive and personalized.

7. Digital Visual Aid Literacy. The ability of an individual to effectively use digital visual learning tools and understand their role in the learning process.

8. Resistance to Change. Refers to any behavior that support maintaining the status quo, even when there are pressures to change it. This behavior can be shown through passive opposition or active sabotage, depending on how individuals and groups perceive the proposed changes.

9. 21st-century skills. Are a broad set of knowledge, skills, work habits, and character traits believed to be crucial for success in the modern world, particularly in the context of a rapidly changing, technology-driven, and globally interconnected society.

10. Security to Information. The process of safeguarding digital information throughout its entire life cycle is meant to protect it from corruption, theft, or unauthorized access. This process encompasses multiple aspects, including hardware, software, storage devices, and user devices. It also involves implementing access and administrative controls, as well as establishing organizations' policies and procedures.

11. Risk on the use of digital visual learning tools. This dangerous phenomenon refers to human activity or conditions that involve the inappropriate use of digital visual learning tools. It can result in loss of life, injury, health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Understanding these terms can help in assessing how digital vi transformation affects various aspects of a school's culture and operations.

Scope and Delimitation of this Study

This study delimits in evaluating the impact of digital visual learning tools used by the teachers and staff of Binogawan Elementary School. This study was conducted from September to December of 2024 and focused on evaluating the changes that digital visual learning tools brought. Further, this study delimits in evaluating the benefits, challenges, opportunities,



and risks in utilizing digital visual learning tools in digitally integrating to the school's organizational culture.

Review of Related Literature

In this chapter, the researcher presents relevant literature and studies that emphasizes the importance of integrating digital visual learning tools in education. The chapter also synthesizes findings from multiple published sources that explore the implications and effectiveness of these learning tools in an educational setting.

Humans are known to be visual learners. This innate characteristic has profound implications on how we acquire new knowledge. As visual learners, we are able to better comprehend and remember concepts when visual aids accompany them, as these support the brain's natural inclination to make sense of the world through visual stimuli (Hidayah, 2023).

Research has shown that visual learners often excel in tasks that involve spatial reasoning, pattern recognition, and the ability to visualize abstract concepts (Nguyen, 2022) (Norhasanah et al., 2022) (Hidayah, 2023). However, Loftus et al. (2016) explore how cognitive load varies among learners with different spatial abilities when using digital visual learning tools, suggesting that tailored instructional materials could enhance learning for those with lower spatial skills. This indicates that while digital tools can facilitate learning, their integration must be carefully managed to avoid creating suboptimal learning conditions.

Consequently, during the COVID-19 pandemic, it has greatly accelerated the adoption of digital learning tools, particularly in the field of medical education. It is worth noting that active learning strategies, such as microlearning and visual learning tools, have become essential for maintaining educational standard during the transition to online formats (Chen et al., 2022). This viewpoint is supported by Osman and Kuit (2022), who provide evidence of the effectiveness of digital modules enhancing students' understanding of complex scientific concepts, such as chemical bonding. The use of visual tools in various educational settings highlight their versatility and efficacy. Additionally, the role of digital tools in promoting self-directed learning and critical thinking is emphasized by Mays and Levine (2014), who emphasize the significance of this perspective echoed by Abdullateef (2021), who asserts that digital learning tools have a positive impact on success by fostering innovative processes and knowledge creation. However, the successful integration of these tools necessitates careful consideration of learners' needs and the educational context to maximize their benefits.

Likewise, the transformation brought about by visual learning tools also enhances student engagement and encourages teacher to adopt innovative teaching strategies. This, in turn, leads to a more collaborative and collegial atmosphere within the school, as highlighted by Kailani et al. (2021). They further stressed that such environment fosters professional growth and encourages a culture of continuous improvement among educators and found that effective collaboration between teachers and parents is essential for maximizing the benefits of

tools while minimizing potential risks. This reinforces a supportive organizational culture. However, tenured educators and staff find it more challenging to adopt these visual learning tools compared to the less tenured ones, particularly those with limited technological expertise or who are nearing retirement, struggle to effectively incorporate digital visual learning tools into their teaching practices. (Omar et al., 2023)

Likewise, the integration of digital visual learning tools in elementary schools holds substantial influence over organizational culture. It supports collaboration, improves teaching practices, and encourages culture of continuous learning. These tools enable personalized learning experiences and drive a shift towards a more innovative and inclusive educational approach, as noted by Saleh (2023). Consequently, they cultivate a culture of disciplined and creative learning among both students and educators. However, the adoption of these technologies is not without its challenges, particularly in the context of the organizational culture within elementary schools. (Metatla et al., 2018). Schools with limited digital resources may face challenges in promoting innovation and collaboration. Without the necessary tools, teachers and students are unable to effectively communicate, conduct research, solve problems, and make decisions. (Studely et al., 2014). Furthermore, this lack of resources can lead to feeling of exclusion and marginalization among students from disadvantaged backgrounds, further eroding the cohesion and inclusivity of the school community. (Garland & Watton, 2001; Phillips & Shipps, 2022). Additionally, schools in lower-income areas may lack the resources to provide reliable access to these technologies, putting disadvantaged students at a further educational disadvantage (Nottingham et al., 2022).

In fact, as elementary schools increasingly adopt technology, the importance of digital visual learning tools in improving learning outcomes is expected to grow. This calls for more research and development in this area as well as the need to address the challenge of effectively using these tools. One of the common concerns is the underutilization of computers and other technologies in the classroom, which is often attributed to teachers' lack of technical competency. (Prostova et al., 2020). Moreover, the underutilization of digital visual learning tools in the classroom can be attributed to the limited technical competency of teachers (Shabiralyani et al., 2015). Various studies have highlighted the importance of teachers' technology related knowledge and skills, as well as their beliefs about the role of technology in education, in successfully integrating digital tools (Omar et al., 2023; Hixon & Buckenmeyer, 2009; Buza & Mula, 2017; Tan & Subramonyam, 2023). Additionally, Tan & Subramonyam, (2023) states that teacher's lack of technical knowledge and skills can lead to challenges in the classroom and a disconnect between the technology and the learning objectives.

Consequently, while digital visual learning tools like interactive whiteboards and educational software are increasingly becoming common in elementary school classrooms with other schools, there are important risks and challenges that educators and need to consider. One particular concern is the collection and storage of student data by these digital learning platforms.



As students interact with these tools, a wide range of personal information can be gathered, including academic performance, behavioral patterns, and even biometric data. (Nottingham et al., 2022). This data may be shared with third-party providers without the full knowledge or consent of parents, which poses serious privacy and security risks (Nottingham et al., 2022). Furthermore, the long-term implications of this data collection are not yet fully understood. The digital footprints created by students today could potentially follow them into adulthood and influence future opportunities.

Additionally, the excessive dependence on digital visual learning tools can reduce student engagement with traditional learning approaches, such as hands-on activities, peer-to-peer interactions, and face-to-face instruction (Cheshmehzangi et al., 2022). Although digital technologies can improve specific aspects of learning, they should not entirely substitute established pedagogical methods that promote critical thinking, social-emotional growth, and a comprehensive educational experience (Peck et al., 2021).

While there is ample evidence supporting the benefits of incorporating these digital visual learning tools to enhance student learning and engagement, the widespread adoption of these tools in elementary schools is often hindered by resistance to change within the organizational culture (Francon, 2019). Of the main reason for this resistance is the deeply ingrained traditional teaching methods that have been prevalent in many elementary schools for decades. Teachers, in particular, can pose a significant barrier to the successful implementation of digital innovations and the effective use of digital visual learning tools as they may perceive them as a threat to their established practices and expertise (AL-Takhayneh et al., 2022). This resistance is rooted in various factors, such as fear of the unknown, preference of comfort and familiarity of the status quo, or lack of confidence in effectively utilizing new technologies (Souheyla & Benmansour, 2022) (AL-Takhayneh et al., 2022).

Furthermore, the introduction of digital visual learning tools can challenge student's preconceived notions of learning itself. When Educational technology is used to promote greater autonomy and self-directed learning opportunities, it can clash with student's past experiences and require a shift in their understanding of the roles of both students and teachers (Åkerlind & Trevitt, 1999). This can result in resistance from students who are accustomed to a more traditional, teacher-centered approach to instruction (Johnson et al., 2009).

Additionally, utilizing digital visual learning tools like interactive whiteboards, educational software, and multimedia presentations can help develop these essential skills. These resources not only improve the learning experience but also equip students for the technological challenges they will face in the future. Skills for the 21st century, including critical thinking, effective communication, teamwork, and creativity, are crucial for students to succeed in today's world. (Metatla et al., 2018) As the digital landscape continues to evolve, educators must adapt their teaching strategies to effectively leverage the available technology and provide individualized

learning experiences for their students. This requires a deep understanding of the impact of digital visual learning tools on the development of 21st-century skills and a willingness to embrace the challenges and opportunities that come with this technological transformation. (Zimmer et al., 2020) While the advantages of digital visual learning tools are well acknowledged, it's essential to thoughtfully consider how these tools are implemented and integrated in the classroom. However, it is important to recognize that the growing reliance on digital tools can result in a more sedentary lifestyle, which raises the risk of childhood obesity and other health issues. Additionally, prolonged screen time can lead to eye strain, dry eyes, and possibly nearsightedness (Zheng et al., 2022).

With the literature and studies elucidated above, it is clear that digital visual learning tools have a significant impact on and greatly influence the organizational culture of schools. However, there are few, if any, studies on the efficiency and consequences of using these tools compared to the traditional visual instructional tools. Therefore, further in-depth study is needed to integrate them more efficiently. This included providing tailored digital learning tools not only to students, but also, taking into account the technical competency of teachers and staff, who may still use traditional visual aids and instructional tools.

Additionally, the researcher aims to determine whether Binogawan Elementary School is benefiting from the use of digital visual tools in their daily activities, or if they continue to rely on traditional aid without experiencing a significant impact. It is important to acknowledge that these tools also have limitations. Therefore, the researcher intends to explore these areas in order to identify the optimal ways to utilize digital tools in a small, multi-grade public elementary school.

Theoretical Framework

To support the impact of digital visual learning tools and their effect on the organizational culture of Binogawan Elementary School, the Theory of Transformative Learning by Jack Mezirow was utilized. Mezirow's theory posits that transformative learning consist of two main focuses: instrumental learning and communicative learning. The former centers around task-oriented problem-solving and the evaluation of cause and effect, while the latter focuses on how individuals communicated their feelings, needs, and desires.

Mesirow goes on to explain that transformative learning theory suggests that individuals can experience a profound shift in their perspective, beliefs, and assumptions through critical reflection and discourse. This process of transformative learning can have significant implications for how organizations approach the digital visual learning tools transformation. As these digital visual learning tools are utilized, they have holistic impact on the transformation of an organization, including its culture, processes, and collaborative approach (Wagner & Wäger, 2019).

This study understands the transformative effect of utilizing digital visual learning tools in elementary educational settings. The theory helped to comprehend how this integration of digital



technology can shift perspectives, beliefs, practices, strategies, and pedagogy. It also explores the resulting discourse, challenges, and coping strategies.

Conceptual Framework



Figure 1: The Paradigm of the Study

This study developed a user-friendly guide to address the difficulties and challenges that arose from the transformation and integration of digital visual learning tools in an elementary education setting. To do this, as shown on Figure 1 (Input), it is crucial to determine the current digital visual learning tools atmosphere and the status quo regarding the use of these tools by the teachers and staff of Binogawan Elementary School. The study will identify any changes in practices and methods related to these tools and evaluate the impact they on learning. Additionally, the study will gather information on the challenges faced by teachers and staff when using these tools as well as the opportunities the create and the potential risks associated with their use.

Figure 1 (Process), this study utilized and incorporated both quantitative method. The quantitative data will be gathered through surveys and canned questionnaires, and the sets of data gathered, statistical treatment has been applied using advanced Microsoft Excel to manipulate and interpret the information.

Figure 1 (Output), the result of this study will be a user-friendly guide for digital visual learning tools transformation and technology integration tailored for general users with or without technical competency which not only presents the pros and cons but highlights the opportunities and provided tips for improving management and teaching strategies without the fear of digital exploitations and cyber violations.

Methodology

This chapter focuses on several key aspects of the study, including the research design, local of the study, respondents, sampling procedure, data gathering procedure, research instrument, validation of instrument, data analysis, and ethical considerations.

Research Design

The study utilized the descriptive design method and examined the impact of the dependent variable. By employing descriptive analysis, the research ascertained the impact of the dependent variable on the independent one. Additionally, this design facilitated the comprehension of the level of impact on dynamics between the two variables. Hence, the descriptive design method was the most appropriate approach for evaluating the given condition.

Locale of the Study

This study was conducted in Binogawan Elementary School. The locale is the elementary school of Barangay Binogawan located in San Policarpo, Eastern Samar. The school is a multi-grade school and offer levels from kindergarten to Grade VI.

Respondent of the Study

There are a total of 12 faculty members, including the school head, who has been the respondents in this study. Total enumeration sampling was used, including all faculty and staff of the school.

Sampling Procedure

The study utilized a total enumeration sampling procedure, which involved the entire population of the locale as respondents. Therefore, all faculty members, including the school head, have been the target respondents for this study.

Research Instrument

The research questionnaire was adapted from the Learner Use of Technology (Das and Mishra, 2016) research instrument and modified to include considerations for digital visual learning tools. It consisted of three sections. The first section contains questions about the current level and use of digital visual learning tools by the respondents. The second section are questions intended for the perceptions of the respondent on the benefits, opportunities, challenges, and risks on adoption of the digital visual learning tools. The third section are questions focused on the impact and changes resulting from the use of these tools.

Data Gathering Procedure

The researcher obtained permission thru a signed permission to conduct a study from the school head. After approval, the questionnaires were distributed to the faculty and staff of the school. The respondents answered the questionnaire based on their willingness and current knowledge. They were asked to evaluate the current digital visual learning tools being utilized and the status quo on key factors, including the availability and frequency of use of digital visual learning tools, as well as how these tools impact their lesson presentations and teaching strategies. The respondents were then asked on their



perceptions on the use of digital visual learning tools on the context of their benefits, opportunities, challenges, and risks. Lastly, the respondents had answered questions related to the impact of digital visual learning tools transformation on their daily practice and their organization.

Validation of Instrument

The survey questionnaire has undergone validation through a reliability test using Cronbach's Alpha. Additionally, the thesis adviser has been consulted to ensure the questions align with the three objectives of this study and maintain reliability and consistency.

Measurement of Variable

To measure the level of impact and changes caused by Digital Visual Learning Tools to the organizational culture of

Binogawan Elementary School, Likert 5-point (Table A) and 3-point (Table B) frequency scale were utilized: 1) Never, 2) Rarely, 3) Sometimes, 4) Often, 5) Always; 1) Strongly Disagree, 2) Disagree, 3) Neutral, 4) Agree, 5) Strongly Agree; Where range is $5 - 1 = 4$. Interval is $4 / 5 = 0.80$ with lower and upper limit as shown on Table A. To measure the availability of the given digital visual learning tools, the 3-point frequency scale was utilized. 3) Yes, 2) No, but the school plans to buy for the next 12 mos., 1) No, and the school don't have plans to buy for the next 12 mos. Where range is $3 - 1 = 2$. Interval is $2 / 3 = 0.6666$ rounded to 0.67 with upper and lower limit as shown on Table B. Further, the same 5-point frequency scale will be used to determine the level of impact of the use of digital visual learning tools on the organizational culture of Binogawan Elementary School.

Table A: 5-Point Likert Scale

	<Limit	>Limit
5 Strongly Agree/Always	4.20	to 5.00
4 Agree/Often	3.40	to 4.19
3 Neither/Sometimes	2.60	to 3.39
2 Disagree/Rarely	1.80	to 2.59
1 Strongly Disagree/Never	1.00	to 1.79

Table B: 3-Point Likert Scale

	<Limit	>Limit
3 Yes	2.34	to 3.00
2 No, but the school plans to buy for the next 12 mos.	1.67	to 2.33
1 No, and the school don't have plans to buy for the next 12 mos.	1.00	to 1.66

Analysis of Data

The data gathered were tabulated, organized, and analyzed using appropriate descriptive and inferential statistics, such as frequency counts, percentages, and median. These statistical tools were used to analyze and interpret the data from the survey questionnaire. To interpret the responses from respondents in parts 1 and 2 of the research instrument, the weighted mean and overall mean with their corresponding response have been used.

Ethical Considerations

This study has adhered to institutional guidelines when conducting research. Respondents were fully informed about the contents of the questionnaires and interview questions, as well as how their responses will be used and any potential consequences. The researcher has assisted the respondents in

providing their responses, while also explaining their rights to access their information and the right to withdraw from the study at any time.

Results and Discussions

This chapter provides presentation of statistical data relative to the problems posited. The corresponding analysis and interpretation of data are incorporated in this portion of the study.

To study the impact of digital visual learning tools transformation on Binogawan Elementary School's organizational culture, the staffs including the school head were surveyed.

Table 1: Respondents Role

Role	f	Rate
Teacher	11	92%
Admin	0	0%
Principal/head	1	8%
Support Staff	0	0%
Others	0	0%
Total	12	100%

Table 1 shows the distribution of respondents of this study which consists of 92% teachers and one school head.



Table 2: Respondents Tenure

Years	f	Rate
1 to 5	3	25%
6 to 10	6	50%
11 to 15	0	0%
16 to 20	1	8%
20 to 25	1	8%
>25 yrs	1	8%
Total	12	100%

Among these, 75% have tenures of less than 11 years (Table 2). A significant number of teachers are handling Grade 5 students, while an equal percentage of teachers handle Grades 1 to 4 at

17%. There are fewer teachers assigned to kindergarten and Grade 6 (Table 3).

Table 3: Respondents Grade Handled

Grade	f	Rate
Kinder	1	8%
Grade 1	2	17%
Grade 2	2	17%
Grade 3	2	17%
Grade 4	2	17%
Grade 5	3	25%
Grade 6	1	8%

Figure 1.1: Availability of Digital Visual Learning Tools

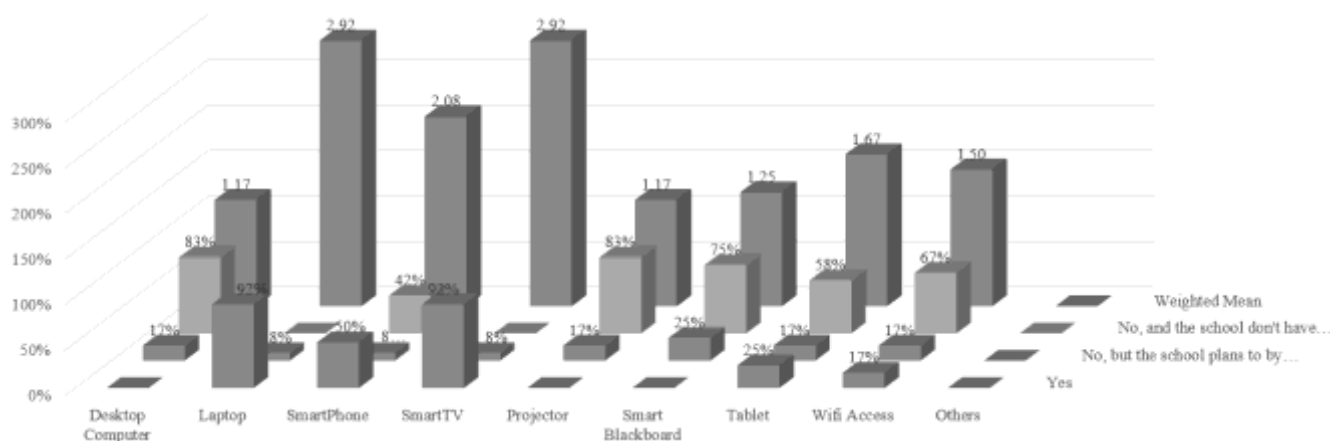


Figure 1.1 presents the data on the availability of digital visual learning tools at Binogawan Elementary School. With the given eight samples of digital visual learning tools available in the market that are used by other schools, the majority (92%) of respondents indicated that laptops and smart TVs are the most available, resulting in a weighted mean of 2.92, as illustrated in Figure 1.1. Followed by the availability of smartphones was reported at 50% of the respondents, with a weighted mean of 2.08 shown in the same figure. It is concerning that projectors and desktop computers, which are commonly found in the market, are reported as unavailable in the school, with 83% of the respondents indicating they are not present, leading both to a weighted mean of 1.17, as depicted in the same figure. With

an overall average of 1.83 across all eight weighted means, it is clear that the school has limited access to the variety of digital visual learning tools available in the market that are being utilized by other schools. This situation is understandable given that Binogawan Elementary School primarily serves low-income families, has a small staff of only 12 members, and operates with a limited to none budget for providing digital visual learning resources. This observation aligns with the findings of Nottingham et al. (2022), which highlight that schools in underprivileged areas often lack the resources to consistently offer such technologies, potentially hindering the educational opportunities for disadvantaged students.



Figure 1.2: Frequency of Use of the Digital Visual Learning Tools

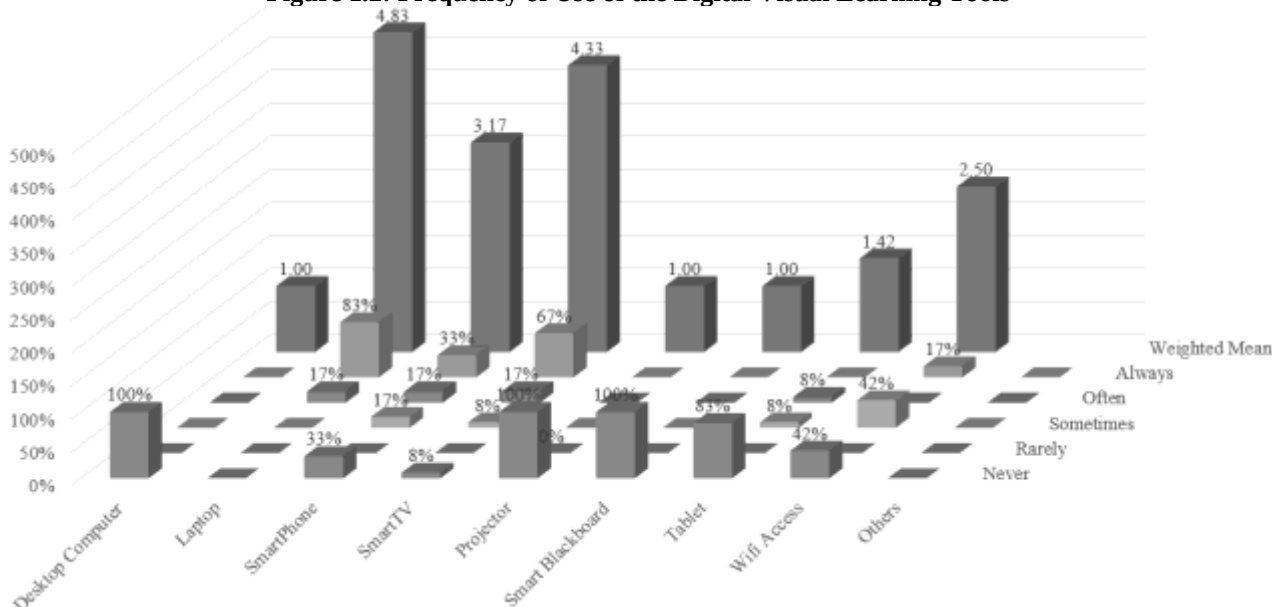
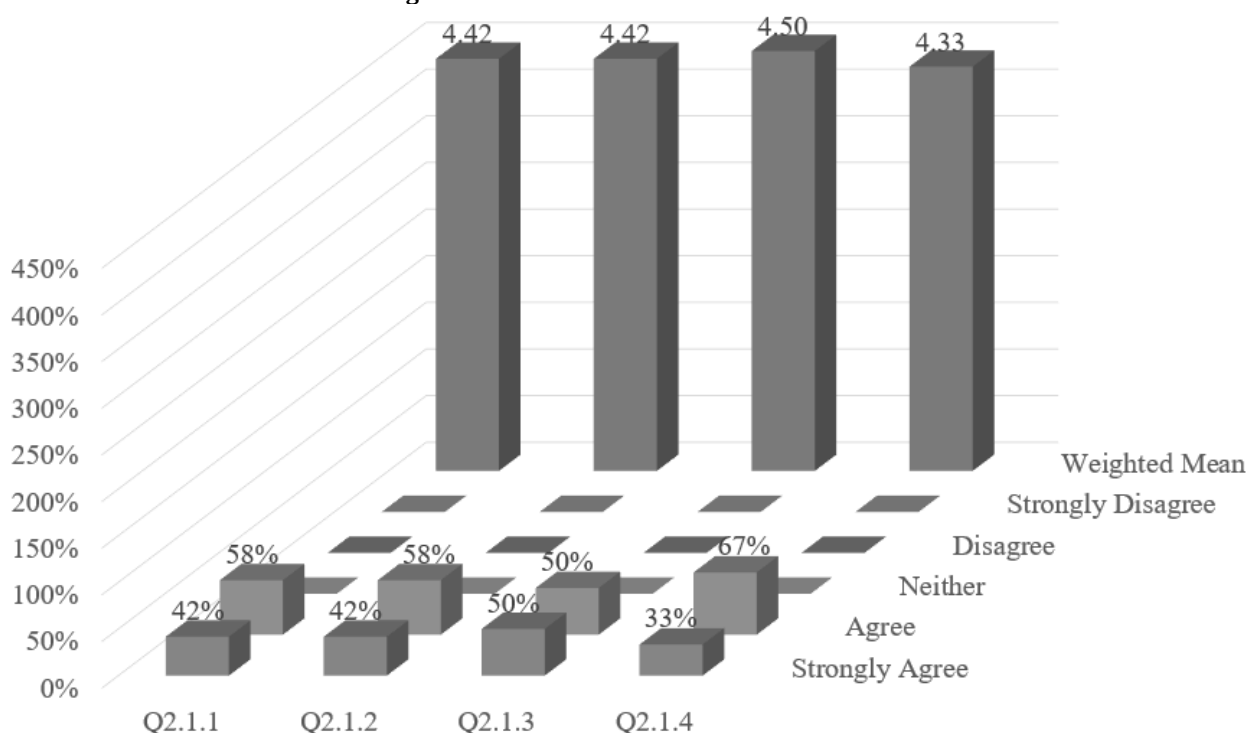


Figure 1.2 demonstrates, as anticipated, a high proportion of use of the available digital visual learning tools, with laptops (83%) and SmartTVs (67%) being used constantly with the remaining tools combined averaging at 84% in frequency of use. Contrary to Prostova et al. (2020), who found that teachers' lack of technical competency is frequently blamed for the underutilization of computers and other technologies in the

classroom, the high frequency is likely to indicate that respondents possess the technical competencies necessary to use the available digital visual learning tools. The unavailable resources, on the other hand, which average 40% combined as anticipated, include those that have never been used, with desktops, projector and smartboard accounting for a higher percentage of 100%.

Figure 2.1: Benefits of Lesson Presentation



Four affirmative questions were posed to assess whether digital visual learning tools provide benefits for teachers to innovate their lesson presentations. When asked if the tool enhances students' comprehension and retention of the material, 42% strongly agreed and 58% agreed, as illustrated in Figure 2.1

under Q2.1.1, resulting in a weighted average of 4.42, indicating strong agreement based on the Likert Scale. A similar response was noted when participants were asked if they had observed changes in student participation or classroom dynamics due to the use of these digital visual learning tools, as

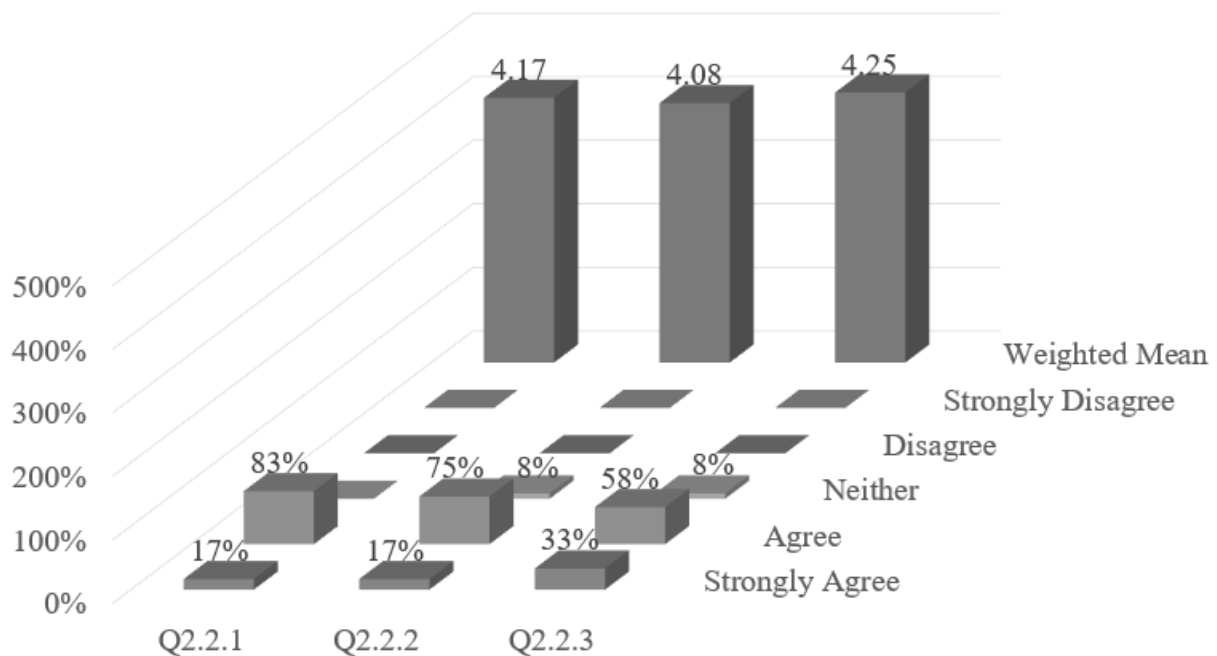


shown in Q2.1.2. When inquired whether they believe that using digital visual tools enables them to present information in more creative and engaging ways, 50% strongly agreed and 50% agreed, yielding a weighted mean of 4.50, which also reflects strong agreement on the Likert Scale, as seen in Q2.1.3 in the same figure. Lastly, when respondents were asked if using digital visual learning aids facilitates differentiated instruction or accommodates various learning styles, 67% agreed and 33% strongly agreed, resulting in a weighted average of 4.33, again indicating strong agreement on the Likert Scale. With an overall average of 4.42 across the four weighted

means, it signifies that respondents strongly believe there are potential benefits for innovative lesson presentations through the use of digital visual learning tools.

The outcome supports Kailani et al.'s (2021) assertion that the transformation brought about by visual learning aids also improves student engagement and motivates educators to use creative teaching techniques in presenting lessons. As a result, the classroom environment becomes more cooperative and friendly.

Figure 2.2: Benefits on Teaching Strategy



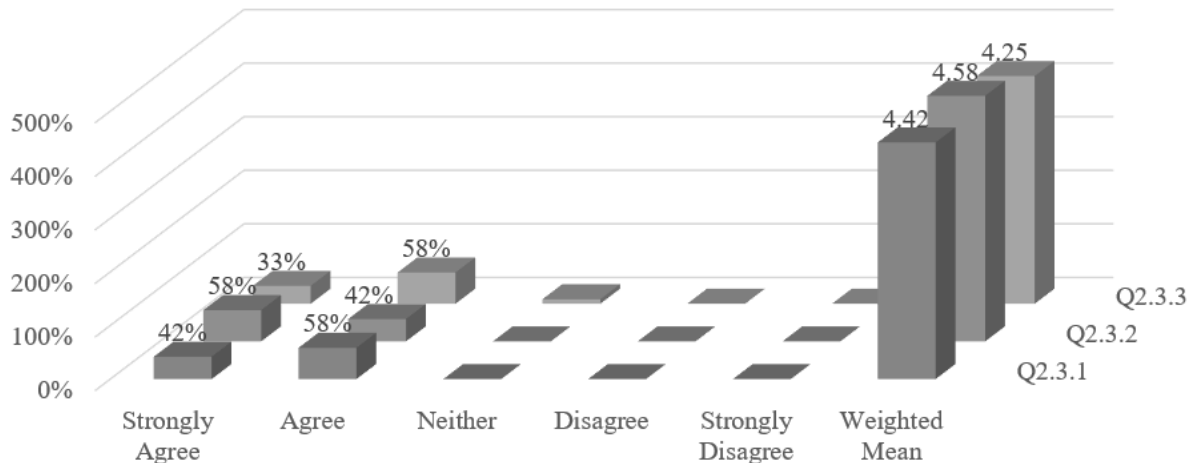
Three questions were posed to evaluate the potential benefits with the use digital visual learning tools on teaching strategies. When asked if these tools enable more flexible and adaptable teaching methods, 83% of respondents agreed, resulting in a weighted mean of 4.17, as illustrated in Figure 2.2 under Q2.2.1. In response to whether they adopted new pedagogical approaches due to the use of digital visual tools, 75% agreed, yielding a weighted mean of 4.08, as shown in Q2.2.2 on the same figure. The final question inquired about the impact of digital visual tools on their overall teaching strategies, with 58% agreeing and a weighted mean of 4.25, as indicated in Q2.2.3 on the same figure. With an overall average of 4.17 across the three weighted means, it is clear that respondents

believe digital visual learning can provide benefits to significantly enhance and transform their teaching strategies.

This finding is consistent with Chen et al., 2022, who found that during the COVID-19 pandemic, the utilization of digital learning tools increased significantly, notably in the sector of medical education. It is worth emphasizing that active learning tactics, such as microlearning and visual learning aids, have become critical for preserving educational standards as they shift to online formats. This clearly demonstrates the effectiveness of these technologies in easing and innovating teaching strategies.



Figure 2.3: Opportunity on Digital Literacy

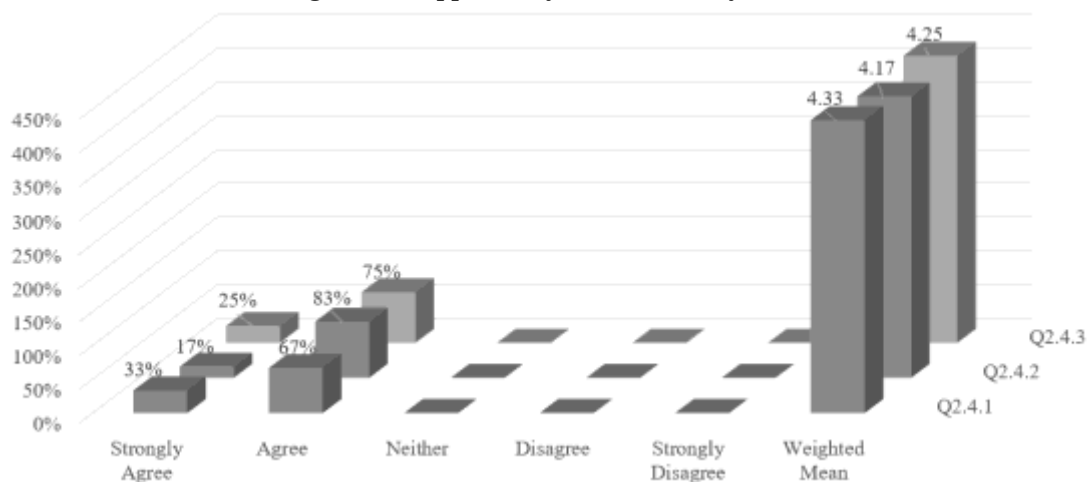


Three questions were posed to analyze the potential impact of digital visual learning tools on digital literacy. When respondents were asked if they believe that using these tools could enhance their own digital literacy skills, 58% agreed, resulting in a weighted mean of 4.42, as shown in Figure 2.3 under Q2.3.1. When asked about the importance of developing strong digital literacy skills in today's world, 58% strongly agreed, yielding a weighted mean of 4.58, as indicated in Q2.3.2 on the same figure. Additionally, when inquired whether incorporating digital visual learning tools could better prepare students for future success in higher education and the

workforce, another 58% agreed, with a weighted mean of 4.25. With an average of 4.42 from the three weighted means, it is clear that respondents strongly believe that the use of digital visual learning tools can significantly enhance one's digital literacy.

This finding is supported by Mays and Levine (2014) and Abdullateef (2021), who argue that the importance of digital tools in supporting self-directed learning and critical thinking improves achievement by encouraging innovative processes and knowledge generation.

Figure 2.4: Opportunity on 21st Century Skills

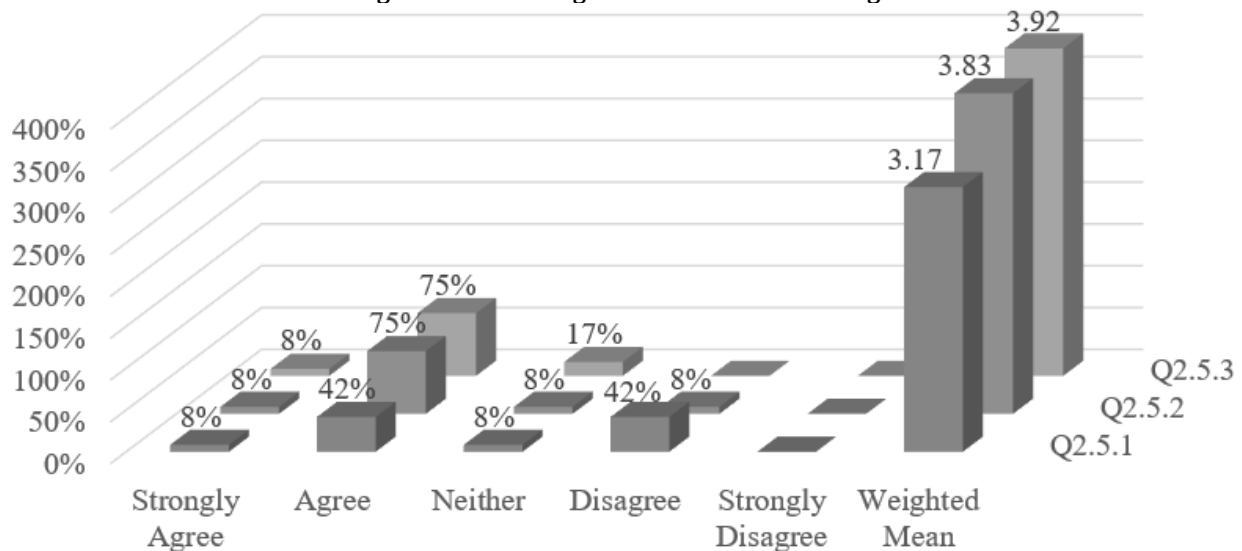


Three questions were posed to explore the potential opportunity with using digital visual learning tools in enhancing 21st Century Skills. When asked if these tools provide unique or effective methods for developing 21st-century skills compared to traditional teaching approaches, 67% of the respondents agreed, with 37% strongly agreeing, resulting in a weighted mean of 4.33, as illustrated in Figure 2.4 under Q2.4.1. In response to whether the use of these tools can foster a more positive attitude towards learning and technology among students, 83% agreed, leading to a weighted mean of 4.17, as shown in Q2.4.1 on the same figure. Lastly, when inquired if incorporating digital visual learning tools could better prepare students for future success in higher education and the workforce, 75% of respondents agreed, yielding a weighted

mean of 4.25. The average of 4.25 from the three weighted means indicates that respondents strongly believe that utilizing digital visual learning tools will significantly aid in developing students' 21st-century skills. Metatla et al. (2018) highlight that using digital visual learning tools such as interactive whiteboards, educational software, and multimedia presentations can significantly enhance the development of essential skills. These resources not only enrich the learning experience but also prepare students for the technological challenges ahead. In today's world, skills for the 21st century—like critical thinking, effective communication, teamwork, and creativity—are vital for students' success.



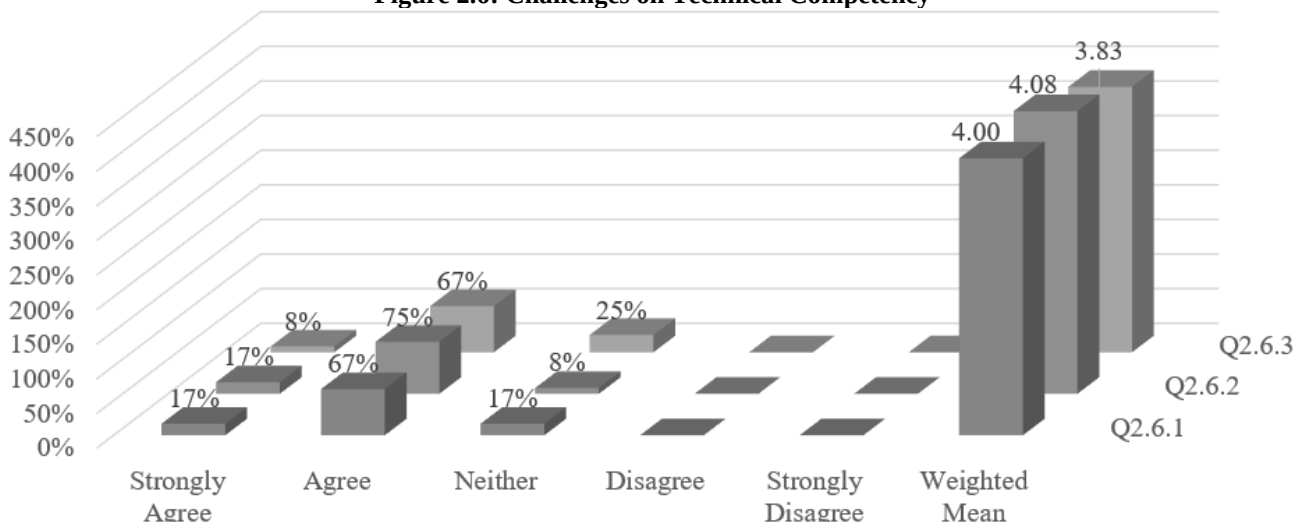
Figure 2.5: Challenges on Resistance to Change



Three questions were posed to explore the potential challenges of digital visual learning tools in relation to resistance to change. The respondents were asked if they had concerns or hesitations about incorporating these tools into their teaching, resulting in a split where 42% agreed and disagreed, leading to a weighted mean of 3.17 as shown in Figure 2.5 under Q2.5.1. When asked if using digital visual tools necessitates a significant change in their established teaching practices, 75% agreed, yielding a weighted mean of 3.83, as indicated in Q2.5.2 on the same figure. Additionally, another 75% agreed when questioned about whether factors such as school culture, access to resources, and time constraints might contribute to their resistance in adopting digital visual tools, resulting in a weighted average of 3.92, as reflected in Q2.5.3 on the same figure. With an average of 3.64 from the three weighted means, it is evident that the respondents are experiencing resistance to change.

This finding is supported by AL-Takhayneh et al., 2022, who state that teachers, in particular, can be a significant barrier to the successful implementation of digital innovations and the effective use of digital visual learning tools because they may see them as a threat to their established practices and expertise. Furthermore, this reluctance stems from a variety of variables, including fear of the unknown, a preference for comfort and familiarity with the status quo, or a lack of confidence in efficiently employing new technology (Souheyla & Benmansour, 2022) (AL-Takhayneh et al., 2022). This is for the fact that 75% of respondents shown in Table 1 had been in service for ten years or fewer and simply means that tenured individuals are not the only one's susceptible to resistance to change.

Figure 2.6: Challenges on Technical Competency



Three questions were asked to investigate the potential challenges that digital visual learning tools pose to respondents' technical competency. When asked if they had concerns about their own know-how, 67% agreed, resulting in a weighted mean of 4.00, as illustrated in Figure 2.6 under Q2.6.1. Similarly,

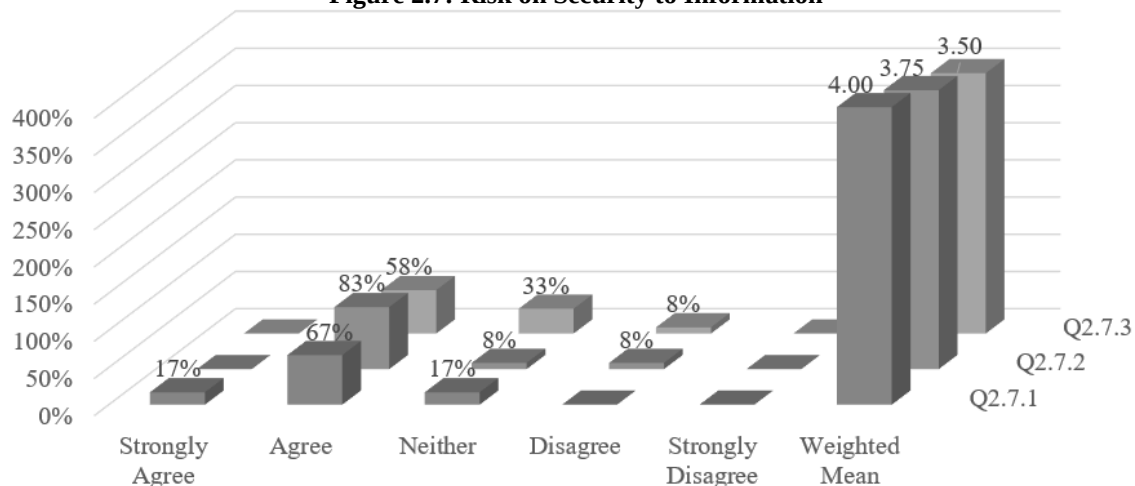
67% agreed that their school sufficiently invests in providing teachers with the necessary resources and support to effectively utilize these digital visual learning tools, although 25% were uncertain, leading to a weighted mean of 3.83, as shown in Q2.6.3 on the same figure. A notable 75% of respondents



agreed that mastering digital visual learning tools would require a significant amount of time and effort, with an additional 17% strongly agreeing, culminating in a weighted mean of 4.08, as indicated in Q2.6.2 on the same figure. With an average weighted mean of 3.97 across the three questions, it is clear that respondents face challenges related to technical competency when implementing these digital visual learning tools.

This result is emphasized by Prostova et al. (2020) on a prevalent issue: the underutilization of computers and other technologies in classrooms, often due to teachers' insufficient technical skills. Furthermore, Tan and Subramanyam (2023) point out that a teacher's lack of technical knowledge and skills can create challenges in the classroom and result in a disconnect between technology and learning objectives.

Figure 2.7: Risk on Security to Information

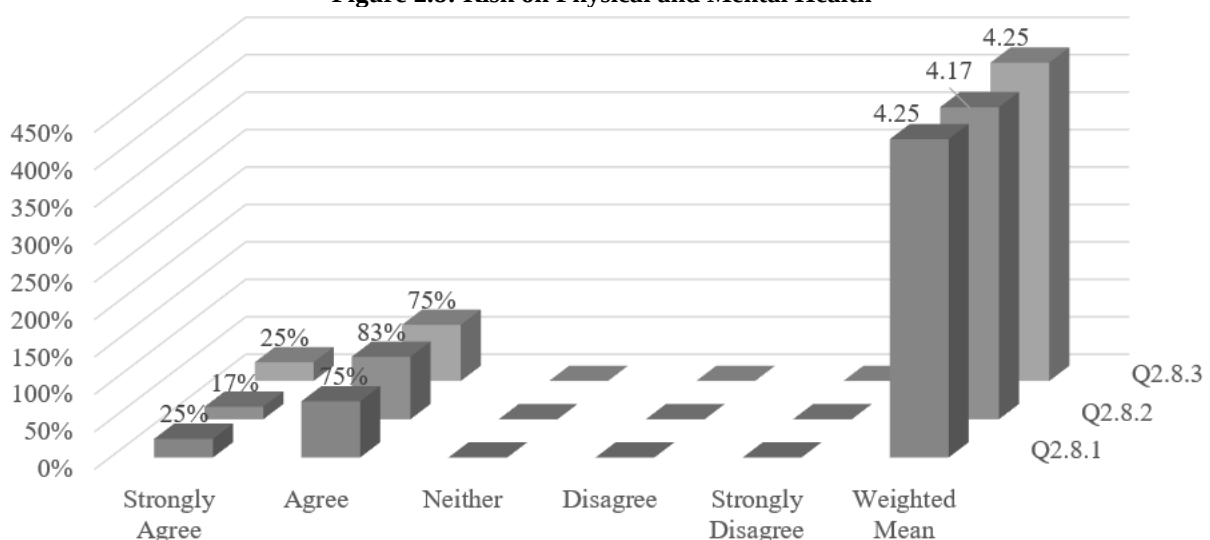


Three questions were posed to explore the potential risks associated with the use of digital visual learning tools and their impact on respondents' information. When asked about their concerns regarding the privacy and security of student data while using these tools, 67% expressed agreement, and an additional 17% strongly agreed, leading to a weighted mean of 4.00, as shown in Figure 2.7 under Q2.7.1. Furthermore, 83% of respondents felt that their school offers clear guidelines and support for addressing information security issues related to digital visual learning tools; however, 8% were uncertain, and another 8% disagreed, resulting in a weighted mean of 3.75, as indicated in Q2.7.2 on the same figure. When inquired about whether they believe they have received sufficient training on protecting their devices and data from cybersecurity threats, 58% agreed, while 33% were uncertain, yielding a weighted

mean of 3.5, as illustrated in Q2.7.3 on the same figure. The overall average of 3.75 from the three weighted means suggests that respondents are aware of cybersecurity risks and recognize the importance of securing information when utilizing digital visual learning tools.

The concerns regarding information security risks highlighted by Nottingham et al. (2022) indicate that as students use these tools, a variety of personal information can be collected, such as academic performance, behavioral patterns, and even biometric data. They further emphasized that this information might be shared with third-party providers without the complete knowledge or consent of parents, creating significant privacy and security risks.

Figure 2.8: Risk on Physical and Mental Health



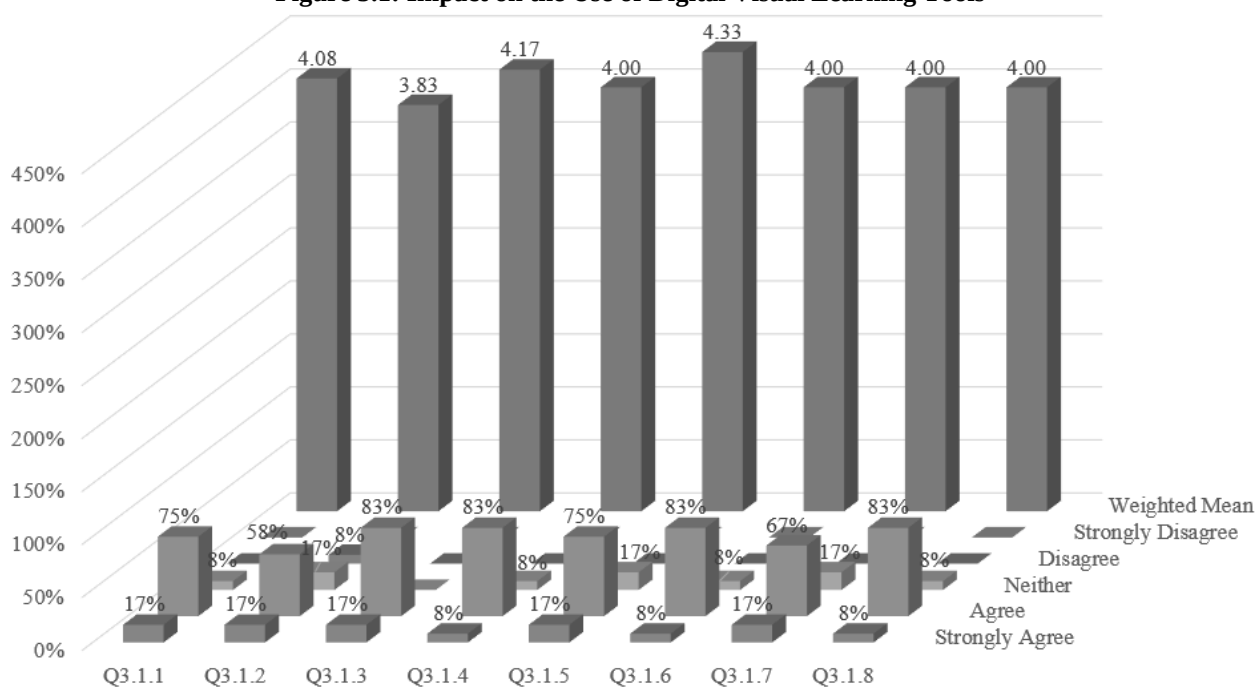


Three questions were posed to explore the potential risks associated with the use of digital visual learning tools on physical and mental health. When asked if they were concerned about the potential physical effects of prolonged screen time on students, such as eye strain, headaches, or sleep disturbances, 75% agreed and another 25% strongly agreed, resulting in a weighted mean of 4.25, as shown in Figure 2.8 under Q2.8.1. The same results emerged when respondents were asked about their concerns regarding the impact of digital visual learning tools on students' mental and emotional well-being, including increased stress, anxiety, or social isolation, as indicated in Q2.8.3. Additionally, 83% agreed when asked if they were aware of any specific physical health conditions (e.g., vision

defects) among their students that might be worsened by the use of digital visual learning tools, as reflected in Q2.8.2. The high weighted mean of 4.22 strongly suggests that respondents are highly aware of the physical and mental risks associated with the overuse of these digital visual tools.

Zheng et al., 2022 highlighted the importance to acknowledge that increased use of digital tools can lead to a more sedentary lifestyle, increasing the risk of childhood obesity and other health problems and further extended screen time can contribute to eye strain, dry eyes, and potentially nearsightedness.

Figure 3.1: Impact on the Use of Digital Visual Learning Tools



To assess the impact of digital visual learning tools on the organizational culture of Binogawan Elementary School, eight questions were posed to the respondents. When inquired about the consistent use of digital visual learning tools across various

classrooms and subjects, 75% agreed, with an additional 17% strongly agreeing, leading to a weighted mean of 4.08, as illustrated in Figure 3.1 under Q3.1.1.

Table 4: Respondents Subject/s Handled

Subjects	f	Rate
Araling Panlipunan	5	42%
ESP	7	58%
Language	3	25%
Mathematics	7	58%
Science	3	25%
English	4	33%
Filipino	6	50%
Makabansa	3	25%
MTB-MLE	1	8%
None/Admin	1	8%
EPP	4	33%
GMRC	5	42%
MAPEH	6	50%
Reading & Literacy	2	17%
Others	0	0%



This indicates that among the fourteen subjects taught, as detailed in Table 4, the use of digital visual learning tools is particularly beneficial in ESP and Mathematics, which have the highest number of teachers involved. When respondents were asked if they feel supported in effectively implementing these tools, 58% agreed, and another 17% strongly agreed; however, 17% remained uncertain, resulting in a weighted mean of 3.83, as shown in Q3.1.2 of the same figure. This suggests that the school administration is supportive of the implementation of digital visual learning tools. Furthermore, when respondents were asked if their students are more engaged and motivated during lessons that utilize these tools, 83% agreed, with an additional 17% strongly agreeing, leading to a weighted mean of 4.17, as indicated in Q3.1.3 on the same figure. This clearly demonstrates that digital visual learning tools significantly enhance engagement in lesson presentations and discussions. When asked whether digital learning tools have improved students' learning outcomes, 83% agreed, and an additional 8% strongly agreed; however, 8% were uncertain about the impact of these tools on students' outcomes. This resulted in a weighted mean of 4.0, as shown in Q3.1.4 in the same figure. This suggests that students experience improved learning outcomes when these tools are used to present lessons. When respondents were asked if these tools have enhanced collaboration among teachers, 75% agreed, with 17% strongly agreeing, while another 17% were uncertain, leading to a weighted mean of 4.33, as indicated in Q3.1.5 in the same figure. This indicates that despite the 17% of uncertain respondents, there is still an improvement in collaboration among teachers facilitated by these digital visual learning tools. When asked whether digital visual learning tools have created a more positive and engaging learning environment, 83% of respondents agreed, with an additional 8% strongly agreeing, while another 8% were uncertain. This led to a weighted mean of 4.0, as indicated in Q3.1.6 of the same figure. This suggests that digital visual learning tools contribute to a more positive and engaging atmosphere. Regarding the question of whether these tools enhance communication between teachers, administrators, and parents, 67% agreed, with an additional 17% strongly agreeing. However, 17% of respondents remained uncertain. This also resulted in a weighted mean of 4.0, as shown in Q3.1.7 of the same figure, indicating that digital visual learning tools help improve communication among stakeholders. When asked about the professional development opportunities provided by digital visual learning tools, 83% of respondents agreed, with an additional 8% strongly agreeing. However, 8% of the respondents were uncertain. This led to a weighted mean of 4.0, indicating that respondents believe there are professional opportunities available through the use of digital visual learning tools.

The weighted mean of the eight questions resulted in an average of 4.05, indicating that there is an impact of digital visual learning tools on the organizational culture at Binogawan Elementary School. As noted by Kailani et al. (2021), the changes introduced by these visual learning tools boost student engagement and motivate teachers to embrace innovative teaching methods. This, in turn, creates a more collaborative and collegial environment within the school. They also emphasized that such an atmosphere promotes professional

development and nurtures a culture of ongoing improvement among educators. Additionally, they found that strong collaboration between teachers and parents is crucial for maximizing the advantages of these tools while reducing potential risks. This underscores the importance of a supportive organizational culture.

Summary of Findings, Conclusions and Recommendations

This chapter provides a summary of the findings, conclusions, and recommendations presented.

Summary of Findings

Based on a comprehensive analysis of the collected data and the results obtained, the following key findings are summarized.

1. The Level of Digital Visual Learning Tools Transformation in Binogawan Elementary School with respect to its Availability and Frequency of Use.

1.1 With respect to the digital visual learning tools availability at the school, the overall mean was 1.83 interpreted as No, but the school plans to buy for the next 12 mos.

1.2 With respect to the frequency of use, the overall mean was 2.41 interpreted as Rarely used.

2. The Level Perception of Teachers in Adopting Digital Visual Learning Tools in respect to Benefits, Opportunities, Challenges and Risks.

2.1 With respect to benefits on lesson presentation with the use of digital visual and learning tools, the overall mean is 4.42 interpreted as Strongly Agree.

2.2 With respect to the benefits on teaching strategy, the overall mean is 4.17 interpreted as Agree.

2.3 With respect to the opportunity on digital literacy, the overall mean is 4.42 interpreted as Strongly Agree.

2.4 With respect to the opportunity on developing 21st century skills, the overall mean is 4.25 interpreted as Strongly Agree.

2.5 With respect to the challenges on resistance to change, the overall mean is 3.64 interpreted as Agree.

2.6 With respect to the challenges on technical competency, the overall mean is 3.97 interpreted as Agree.

2.7 With respect to the risk on security to information, the overall mean is 3.75 interpreted as agree.

2.8 With respect to the risk on student's physical and mental health, the overall mean is 4.22 interpreted as Strongly Agree.

3. The Level of Impact of Digital Visual Learning Tools Transformation on the Organizational Culture of Binogawan in respect to Post Implementation.

3.1 With respect to the impact on post implementation of digital visual learning tools, the overall mean is 4.05 interpreted as Agree.

Conclusions

Based on the finding of this study, the following conclusions are drawn.

1. The transformation of digital visual tools at Binogawan Elementary School is noticeable, but it is primarily restricted to the tools that are frequently utilized.



2. The teachers fully understand the benefits, opportunities, challenges, and risks associated with implementing digital visual and learning tools.

3. The organizational culture at Binogawan Elementary School has clearly benefited from the implementation of digital visual learning tools.

Recommendations

Based on the results and conclusions of the study, the following recommendations are offered.

1. It is hoped that Binogawan Elementary School will diversify its range of digital visual learning tools and make them more accessible.

2. The school is encouraged to enhance and diversify digital visual learning tools, as teachers understand the implications of using these resources.

3. The schools are encouraged to extend the influence of these tools to the community of Barangay Binogawan and into the homes of their students.

4. For future researchers to conduct parallel studies using the same variables and contexts that address a broader range of respondents.

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Authors' Biography

Rodito A. Bianes serves as a Technology Consultant and a member of Centrify Privilege Access Management Team at SGV & Co. He holds IT industry certifications such as Identity and Access Manager (CIAM) and in ITIL Foundation Best Practices, along with Civil Service Professional Eligibility. With over 13 years of experience in the IT-BPO sector, he is well-versed in field of Identity and Access Management (IAM), Information Security and Audit Compliance, Data Analytics, and Corporate Metrics Reporting using Advanced Excel. A native of Borongan, Eastern Samar, Philippines where he also finished his primary and secondary education. He completed a 2-Year Computer Technician Course at AMA Computer Learning Center (ACLC) located in Cubao, Quezon City, Philippines. He obtained his Bachelor of Science degree in Business Administration (BSBA), majoring in Management Accounting, from the National College of Business and Arts (NCBA) in Fairview, Quezon City, Philippines. Additionally, he has accumulated 40 units toward a Master in Business Administration (MBA) from Pamantasan ng Lungsod ng Muntinlupa (PLMUN), Muntinlupa City, Philippines and has started his first semester with Master in Information Technology (MIT) at Technological University of the Philippines (TUP), in Taft Avenue, Manila, Philippines. Unfortunately, due to the circumstances of the COVID19 pandemic, he was not able to proceed both. Currently, he is in his 3rd semester pursuing Master of Arts in Management (MAM) at Eastern Samar State University (ESSU) Can-avid campus.

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UNRAVELING LIVES: THE FAR-REACHING CONSEQUENCES OF BROKEN FAMILIES

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ABSTRACT

This research study explores the far-reaching consequences of broken families, emphasizing their impact on children's emotional, social, and psychological development. The study aims to identify the contributing factors to family breakdowns, assess their social repercussions, and evaluate the effects on children's well-being. Employing a mixed-methods approach, the study incorporates both qualitative and quantitative data gathered from surveys and interviews with affected individuals.

Key findings reveal that children from broken families are more prone to mental health issues, lower academic performance, and difficulties in social relationships. The analysis highlights that the challenges faced by these children often stem from factors such as marital conflicts, economic strain, and domestic violence. The research underscores the need for comprehensive support mechanisms to mitigate these adverse effects.

In conclusion, this study contributes to the understanding of the complex dynamics surrounding broken families and their implications for child welfare. By shedding light on the specific challenges faced by children in these situations, the research provides valuable insights for policymakers, educators, and social workers, ultimately fostering the development of effective intervention strategies

KEYWORDS: Broken Families, Consequences, Children's Well-Being, Social Repercussions, Support Mechanisms

INTRODUCTION

The increasing prevalence of blended families and broken families is a growing issue in today's complex cultural landscape. Broken families are households that have experienced separation, divorce, or major disruptions in the parent-child connection. Understanding the contributing elements, social repercussions, and subsequent effects on children's well-being is critical for designing successful methods and support mechanisms.

The social consequences of broken families are far-reaching, affecting not only immediate family members but also the wider community. Children from broken families are more likely to experience mental health issues, and understanding the root causes of broken families can enable policymakers, social workers, and organizations to implement targeted interventions.

Broken families can have adverse effects on children's well-being and development, including increased poverty rates, compromised educational attainment, higher rates of delinquency, and mental health issues among children. The societal burden resulting from the breakdown of family units emphasizes the need for comprehensive support systems to mitigate these consequences.

In the Philippines, the legal frameworks governing broken families are primarily enshrined in the Family Code of the Philippines, which outlines various aspects of family relations, including marriage, legal separation, annulment, and the rights and responsibilities of spouses. Other laws, such as Republic Act No. 9262 and Republic Act No. 8552, address specific issues within broken families.

By addressing the contributing factors, social consequences, and implications for children's well-being, this research seeks to contribute to the development of effective policies, programs, and support mechanisms that promote healthy family dynamics and improve the overall welfare of children in broken families.

STATEMENT OF THE PROBLEM

This study explored the complexities and consequences of fractured families and sought to find answers to the following questions:

1. What are the contributing factors of broken families?
2. What are the social consequences of broken families?
3. How do broken families affect children's well-being?
4. What strategies for family reconciliation and support for children at risk are provided by the BCPC?



5. What action plan can be proposed to the BCPC to assist children coming from broken families?

METHODOLOGY

The study used qualitative research design to understand broken families and their impact on children's well-being in the criminal justice system. It provided insights into lived experiences, stakeholder perceptions, contributing factors, intervention strategies, and structural barriers, aiding in policy development and better family outcomes.

The study involves qualitative interviews and focus groups with individuals from broken families, parents, children, and BCPC representatives to explore factors, social consequences, and child well-being.

Qualitative research uses non-probability sampling techniques like purposive, convenience, snowball, and maximum variation to select participants based on relevant characteristics, experiences, or demographics, such as in the thesis on broken families.

- Barangay Council for the Protection of Children (BCPC): The BCPC representative is a social worker specializing in family issues and assists broken families by facilitating communication, providing resources, and advising on legal matters
- Parents: Parents experiencing broken families share their perspectives, experiences, and concerns during interviews. They discuss reasons, feelings, and efforts to navigate the situation.
- Child: The child's involvement in a broken family interview is crucial for understanding their perspective and expressing their feelings about the situation and their desire for resolution

This study excludes parents undergoing separation or divorce, unwilling or unable to share experiences, those not separated long enough, those unable to communicate, and children outside the age range. Exclusion criteria ensure well-being and avoid potential distress or bias.

The study utilized web browsers for literature reviews and interviews to gather information on family dynamics and their effects on children. Audio recordings ensured accurate documentation and representation of participants' experiences, thereby enhancing the study's theoretical framework.

The researcher conducted an investigation through thorough interviews, obtaining permission and participant consent, recording their perspectives and experiences, using sources such as audio recordings and subject guides.

This study used an informed consent form to inform participants about the study's purpose, procedures, risks, benefits, rights, and voluntary participation. Participants were respected for their decision not to participate. Data was collected using a questionnaire, and ethical considerations were taken into account.

If included, research ethics would be considered to ensure protection and well-being for minors and disabled individuals.

RESULTS AND DISCUSSION

Theme: "Shattered Foundations: The Multifaceted Causes of Family Breakdown"

This thesis explores the complex causes of broken families, including financial strain, communication failures, infidelity, and external interference, to understand their lasting effects on individuals and society.

Theme 1 - "Torn by Debt: The Cost of Financial Strain"

Financial strain can significantly impact family stability, leading to tension and eventual breakdown. Problems with money, such as debt or insufficient income, exacerbate tensions and erode trust, contributing to the fragility of family structures. Addressing financial strain can help families cope with these challenges and improve their overall well-being.

Theme 2 - "Silent Walls: The Breakdown of Communication"

Effective communication is crucial for maintaining family unity and resolving conflicts. However, when it breaks down, it can lead to unresolved issues and family separation. Research by Raley and Sweeney highlights the importance of good communication in preventing problems and preserving family bonds.

Theme 3: "Betrayed: The Shadows of Infidelity"

Infidelity, a breach of trust, can lead to deep emotional wounds and family breakdown. It diminishes trust and contributes to the disintegration of family bonds. Research by Raley and Sweeney (2020) confirms that infidelity erodes trust, causing emotional harm and affecting family stability.

Theme 4: "Family Feuds: The Interference Effect"

Parental interference in family conflicts can escalate disputes and create stress, leading to further breakdowns in relationships. Research by Reeta and Singh (2020) shows that such interference can lead to juvenile delinquency and further breakdowns in family dynamics.

Theme 5: "Unprepared Hearts: The Youth and Family Conflict"

Youth and family conflicts intensify when young individuals are not ready for family responsibilities, leading to social stigma, judgment, and isolation, further exacerbated by their youth.

The social consequences of broken families

Theme: "The Social Ripple Effect: Consequences of Broken Families"

Broken families cause strained relationships, financial difficulties, and social stigma, impacting individuals and society as a whole.

Theme 6 - "Chaos Within: The Struggles of Rebellious Youth"

Broken families can lead to children's rebellion and disobedience, exacerbated by lack of support from friends, family, or community resources. Chaotic home environments, characterized



by disorganization, noise, and frequent changes, impair children's executive functions and decision-making abilities. Addressing household chaos is crucial to mitigate its negative impact on children and family dynamics.

Theme 7: "Shattered Dreams: The Impact of Financial Strain"
Financial strain in broken families significantly impacts children's lives and future prospects. Single-parent households or separated families face reduced access to resources, education, and overall quality of life. Severe financial stress leads to poorer academic performance and social skills, perpetuating a vicious cycle of disadvantage.

Theme 8: "Isolation Blues: The Social Stigma of Broken Families"
Broken families face social stigma and judgment, leading to isolation and exacerbated challenges. Internalized stigma can cause feelings of shame, disappointment, and alienation, affecting family dynamics and children's ability to form supportive peer relationships. This highlights the social stigma of broken families.

Theme 9: "Lost Futures: The Educational Fallout of Family Disruption"
Family disruptions, such as divorce, can significantly impact a child's education and future prospects. Financial strain, lack of access to resources, and emotional turmoil can lead to underperformance and missed learning milestones, affecting children's educational outcomes.

The effects of broken families to children's well-being
Theme: "The Impact of Broken Families on Children's Well-Being"
The theme 'The Impact of Broken Families on Children's Well-Being' examines how family disruptions impact children's lives, including education, emotional struggles, and overall development.

Theme 10: "Unfinished Dreams: The Education Struggle"
Breakdowns in families, such as separation or divorce, can lead to financial and emotional stress, hindering children's ability to complete their studies. This theme highlights the need for support to help affected children succeed academically.

Theme 11: "Fractured Foundations: The Impact of Family Breakdown"
Family breakdowns significantly impact children's stability and well-being, disrupting their emotional stability, security, and overall development. Breakups, such as separation and divorce, in the United Kingdom, lead to emotional problems like worry and uncertainty, necessitating assistance.

Theme 12: "Focus Lost: The Price of Family Instability"
Family instability can significantly impact a child's ability to concentrate on their studies, especially in school environments. Disruptions within the family environment, such as separation

and divorce, can lead to mental turmoil, depressive feelings, and difficulty adjusting to new situations and expectations.

Theme 13: "Grown Too Soon: Resilience and Risk in Young Lives"
Children from broken families often grow up faster due to difficulties, leading to early maturity and resilience. This can lead to positive and negative outcomes, such as regaining social interactions and age-appropriate activities. Walsh emphasizes the importance of providing support systems and promoting healthy coping strategies to mitigate these negative effects.

Theme 14: "The Green-Eyed Kids: Envy and Displacement"
Children from broken families often experience feelings of envy and displacement due to frequent changes in their living situation. This affects their emotional well-being and sense of belonging, potentially causing stress in family dynamics and exacerbated behavioral problems.

Strategies for family reconciliation and support for children at risk are provided by the BCPC Theme: "Healing Together: BCPC's Strategies for Family Reconciliation and Child Support"

The BCPC supports families and children at risk through strategies and interventions, including the Divorce Process and Child Adoption Trajectory Typology (DPCATT) model. Techniques include communication, support systems, cooperative co-parenting, educational interventions, and continuous observation to build resilience and adaptability.

Theme 15: "Counseling for Peace: Bridging Family Gaps"
The BCPC offers counseling services to help families resolve conflicts and improve communication. Mediation facilitates discussions and understanding among family members, promoting peace and reconciliation. Balvin and Christie (2020) emphasize counseling's role in addressing emotional issues, rebuilding trust, and fostering trust among children from broken families.

Theme 16: "Guardians of Childhood: Advocating for Safety and Rights"
The BCPC is instrumental in protecting children's rights and well-being by raising awareness about child abuse, neglect, and exploitation. They work to create a safer environment and uphold children's rights. Advocates play a crucial role in navigating child welfare and judicial systems, especially during family upheavals.

Theme 17: "Community Shields: Mobilizing Support for Child Protection"
The BCPC emphasizes the importance of community involvement in child protection efforts, organizing meetings, workshops, and activities to raise awareness and mobilize support. Rajewska de Mezer (2020) highlights the role of family mediation, community support networks, and advocacy for children's rights in helping children from broken families navigate challenges. Neighborhood associations and support



systems offer both practical and emotional support, creating a nurturing environment for children.

Outcome of the Study

The project aims to reduce social stigma surrounding broken families by educating the public about their challenges and creating a supportive community environment. Strategies include public seminars, social media, community events, educational initiatives, and resource development, focusing on the Barangay Council for the Protection of Children.

CONCLUSION

The study highlights the significant factors contributing to broken families, including financial strain, communication failures, infidelity, and external interference, and emphasizes the importance of targeted interventions and support systems in addressing these issues.

RECOMMENDATIONS

Considering the summary and conclusions provided, the researcher humbly recommends the following:

1. Combat social stigma by providing awareness campaigns to reduce the social stigma associated with broken families. Educating the public about the challenges faced by these families can help foster a more supportive and less judgmental community environment.
2. Strengthen financial support systems by implementing programs to provide financial assistance and debt management resources for families experiencing economic hardship. This could help reduce financial strain and its impact on family stability.
3. Enhance Communication Skills Training to develop and offer workshops and resources focused on improving communication skills within families. Effective communication can prevent misunderstandings and conflicts that contribute to family breakdown.
4. Expand access to counseling and therapy services for families dealing with infidelity and other relational issues. Professional support can help families address and resolve deep-seated issues and rebuild trust.
5. Address external interference by creating guidelines and support systems to manage the involvement of external parties, such as extended family members, in conflicts. Mediation and counseling can help manage and mitigate the impact of external interference.
6. Develop targeted educational programs and support services for children from broken families. This includes tutoring, mentorship programs, and financial aid to ensure they can complete their education despite family disruptions.
7. Implement programs focused on building resilience in children from broken families. Early intervention can help these children cope with their circumstances and develop positive life skills.
8. Support and expand advocacy efforts to protect the rights of children from broken families. This includes raising

awareness about child abuse, neglect, and exploitation to ensure a safer environment for all children.

9. Foster community involvement in supporting families and children at risk. Organize community meetings, workshops, and activities that promote child welfare and gather support from local residents.
10. Establish mechanisms to regularly monitor and evaluate the effectiveness of support programs and interventions provided by organizations like the BCPC. This will help identify areas for improvement and ensure that the support is meeting the needs of families and children effectively

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AN EXPLORATION OF TRIBAL STUDENTS' PERCEPTION TOWARDS HIGHER EDUCATION

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ABSTRACT

This study aims to explore the perceptions of tribal students towards higher education, focusing on their experiences, aspirations, and challenges. By examining these perceptions, the study seeks to provide insights into the factors that influence tribal students' engagement with higher education and identify strategies to enhance their participation and success. The findings of this study will contribute to the existing body of knowledge on educational equity and inform the development of culturally responsive policies and practices that address the unique needs of tribal students. The exploration of tribal students' perceptions towards higher education is a critical step toward promoting educational equity and inclusion. By understanding their perspectives, we can identify the barriers they face, recognize their strengths and aspirations, and create supportive environments that enable them to thrive in higher education. This study underscores the importance of addressing the educational needs of tribal communities as a fundamental aspect of social justice and sustainable development.

KEYWORDS: Tribal Students, Perception, Higher Education

1.1 INTRODUCTION

Education is a powerful tool for individual empowerment and societal transformation. It provides individuals with the knowledge, skills, and competencies necessary to participate fully in economic, social, and political life. Despite its critical role, access to and participation in higher education remains uneven across various socio-economic and cultural groups. Among the most marginalized and underrepresented groups in many countries are tribal communities. The exploration of tribal students' perceptions towards higher education is essential to understanding the barriers they face, the aspirations they hold, and the support systems necessary to improve their educational outcomes. Tribal communities often experience a distinct socio-economic and cultural reality that differs significantly from the mainstream population. These communities have historically been marginalized and have faced systemic exclusion from educational opportunities. This exclusion can be attributed to various factors such as geographic isolation, socio-economic disadvantages, language barriers, and cultural differences. As a result, tribal students often have limited access to quality primary and secondary education, which subsequently affects their transition to and success in higher education. Higher education plays a pivotal role in breaking the cycle of poverty and social exclusion that many tribal communities face. It provides individuals with opportunities for personal and professional growth, enhances their socio-economic status, and enables them to contribute meaningfully to their communities. However, despite the potential benefits, many tribal students face significant challenges in accessing and succeeding in higher education. These challenges can include financial constraints, lack of role models, limited awareness of educational opportunities, and a

sense of alienation in academic institutions that may not be culturally inclusive. Understanding the perceptions of tribal students towards higher education is crucial for developing effective policies and interventions aimed at improving their educational outcomes. Perceptions influence students' motivation, aspirations, and decision-making processes regarding higher education. If tribal students perceive higher education as inaccessible, irrelevant, or incompatible with their cultural identity, they are less likely to pursue it. Conversely, if they perceive higher education as an opportunity for personal growth and community development, they are more likely to overcome the barriers and succeed.

This study aims to explore the perceptions of tribal students towards higher education, focusing on their experiences, aspirations, and challenges. By examining these perceptions, the study seeks to provide insights into the factors that influence tribal students' engagement with higher education and identify strategies to enhance their participation and success. The findings of this study will contribute to the existing body of knowledge on educational equity and inform the development of culturally responsive policies and practices that address the unique needs of tribal students. The exploration of tribal students' perceptions towards higher education is a critical step towards promoting educational equity and inclusion. By understanding their perspectives, we can identify the barriers they face, recognize their strengths and aspirations, and create supportive environments that enable them to thrive in higher education. This study underscores the importance of addressing the educational needs of tribal communities as a fundamental aspect of social justice and sustainable development.



1.2 Needs and significance of the Study: Education is a cornerstone of societal progress and individual empowerment, but the extent to which it reaches all sections of society, particularly marginalized and tribal communities, remains a pertinent issue. Tribal communities, which often live on the periphery of mainstream society, experience unique challenges and opportunities when it comes to accessing higher education. Understanding their perceptions, aspirations, and barriers is crucial to addressing systemic inequalities and fostering inclusive development.

One of the key aspects that make this research necessary is the historical marginalization of tribal populations in education. Tribes across various regions have faced social, economic, and cultural barriers that restrict their participation in higher education. Despite numerous policies and programs initiated by governments and non-governmental organizations, tribal students often remain underrepresented in higher educational institutions. This study seeks to explore how tribal students perceive higher education—whether they see it as an opportunity, a challenge, or something unattainable—and why. Understanding their perceptions provides insights into their motivations, struggles, and the factors influencing their educational decisions.

Further, this research is significant in shedding light on the socio-economic and cultural dimensions that shape tribal students' attitudes toward higher education. Many tribal communities are rooted in their cultural traditions and indigenous knowledge systems, which sometimes differ significantly from mainstream educational frameworks. As a result, tribal students may encounter difficulties in adjusting to the demands and expectations of formal education. By exploring their perceptions, the study can uncover how cultural identity, family background, economic conditions, and community support shape their educational experiences. It highlights the need for culturally sensitive policies and approaches that align higher education with the lived realities of tribal students.

The study also plays a critical role in addressing systemic gaps in policy implementation. While there have been initiatives such as scholarships, reserved seats, and special educational programs aimed at uplifting tribal communities, their effectiveness often remains limited. This research can identify whether these initiatives are reaching tribal students effectively, as well as uncover the underlying reasons for their success or failure. It can provide evidence-based recommendations for policymakers, educators, and stakeholders to design interventions that are more responsive to the needs and aspirations of tribal students.

Moreover, the findings of this research are important for creating awareness and fostering societal change. By understanding how tribal students view higher education, this study contributes to breaking stereotypes and misconceptions about tribal communities. It brings their voices, perspectives, and experiences into academic and policy discussions, paving the way for a more inclusive and equitable education system. For educators and institutions, the research offers valuable

insights into how they can create a supportive environment that encourages tribal students to pursue and complete higher education.

In addition, the study holds long-term implications for social mobility and empowerment. Higher education has the potential to transform the lives of tribal students by equipping them with knowledge, skills, and opportunities for meaningful employment and leadership roles. When tribal youth gain access to quality education, they not only uplift their families but also contribute to the development of their communities. Therefore, understanding their perceptions toward higher education becomes a crucial step toward addressing disparities and fostering holistic development.

In conclusion, this research is not just a scholarly inquiry but a necessary exploration into the lived realities of tribal students navigating higher education. It aims to bridge gaps, promote equity, and inspire actionable change to ensure that education serves as a tool for empowerment rather than exclusion. By bringing attention to the perspectives of tribal students, the study emphasizes the urgency of creating an education system that is accessible, inclusive, and empowering for all.

2.1 REVIEW OF RELATED RESEARCH LITERATURE

Chakraborty (2018). Conducted a study on '*Aspirations and career choices of tribal students: A qualitative study*'. This qualitative study explores the career aspirations and choices of tribal students and highlights the importance of career counseling and vocational training in guiding them toward higher education and meaningful careers.

Verma (2019). Has investigated a study entitled 'Government Policies and their impact on tribal students' access to higher education.' Researcher evaluates the effectiveness of affirmative action policies, such as reservation quotas and financial aid programs, in improving the enrollment and academic success of tribal students in higher education institutions.

Xie (2020). Conducted a study on '*Addressing systemic barriers to higher education for indigenous and tribal students*'. This article examines systemic barriers such as discrimination, lack of representation, and inadequate financial support, and proposes policy recommendations for creating a more inclusive higher education environment for tribal students.

Kumar (2020). Conducted a study on '*The role of institutional support in improving academic outcomes for tribal students*'. This study focuses on the significance of institutional support systems, such as mentoring, counselling, and academic advising, in improving the academic performance and retention rates of tribal students in higher education.

Gupta (2020). Conducted a study on '*Gender disparities in higher education: The case of female tribal students*'. This paper explores the gender-specific barriers faced by female tribal students in accessing higher education, including societal



norms, early marriage, and domestic responsibilities, and suggests strategies to promote gender equity.

Sharma (2021). Conducted a study on 'Socio-economic barriers affecting tribal students' access to higher education in India.' This study investigates how socio-economic challenges, such as poverty and lack of financial resources, affect the educational aspirations of tribal students. The authors emphasize the need for government interventions, such as scholarships and financial aid, to improve access to higher education.

Singh (2021). Conducted this study on 'Perceptions of higher education among tribal youth in rural India'. This article examines the perceptions of tribal youth towards higher education, identifying factors such as social mobility, economic independence, and personal growth as key motivators for pursuing higher education.

3.1 OBJECTIVE OF THE STUDY

- To know the attitude towards higher education among the tribal students in respect to their gender means male and female.
- To know perception towards higher education among the art, science and commerce, Students.

4.1 HYPOTHESIS OF THE STUDY

- There is no significant difference among the tribal students in respect to their gender.
- There is no significant difference of attitude towards higher education among the tribal students in respect to their streams

5.1 METHODOLOGY OF THE STUDY

5.1.1 Population of the Study

All the tribal Students those who Undergraduate Course in Purulia district of west Bengal.

5.1.2 Sample & Sampling of the study: From the entire population Researcher selected only fifty tribal students who studies in Undergraduate course in M.G College, Lalpur, Purulia.

The sample was Selected through the Stratified Random Sampling Technique Sample were Classify base on the various strata Such as male female and their stream Art, Science, Commerce and Language discipline.

5.1.3 Sampling Design of the Study

Tools for the data collection A self-made perception (Attitude) Scale Were develop by Researcher and estimating reliability Validity of the tool. 25 Item for Accessing the perception among the tribal students towards higher education.

5.1.4 Tools for data collection: Self made questionnaire for assessing the perception of higher education among the tribal students. This perception scale constitute with the five-point scale i.e. Strongly Agree ,Agree and Neutral and Disagree and Strongly Disagree.

6.1 ANALYSIS OF THE STUDY

The Purpose of this study was To know the attitude towards higher education among the tribal students in respect to their gender means male and female.

H_0 There is no significant difference among the tribal students in respect to their gender

The sample consisted of 50 students divided equally into two groups Male or female. Group A(male) had a mean score of 89.28 with a standard deviation of 9.66, and Group B had a mean score of 94.00 with a standard deviation of 10.06"

"An independent samples t- test was used to compare the means of two groups because the samples were unrelated." The relationship between these two values determines whether your observed data significantly differ from expectations.

Table -1

Group	N	Mean	Σ	df	Calculated t value	Critical t value	Ns/S	Remark
Male	32	89.2813	9.66615	48	-1.633	0.05 level =2.0111	NS	Accepted or fail to Rejected
Female	18	94.0000	10.06450			0.01 level=2.6827	NS	Accepted or fail to Rejected

The calculated value was -1.633

The degrees of freedom were 48

The Critical t-value at $\alpha = 0.05$ and $df = 48$ is 2.01 Since $-1.63 > 2.01$, the null hypothesis is rejected.

The results suggests that the no significant difference male female students impact test score. So, the Researcher find that's male and female students of M.G. College in Purulia District is no significant difference in Higher Education Attitude.

To know perception towards higher education among the art and science Students.

H1 There is no significant difference of attitude towards higher education among the tribal students in respect to their streams. The sample consisted of 50 students divided equally into two groups Arts and Science. Group A(arts) had a mean score of 91.36 with a standard deviation of 9.74, and Group B (Science)had a mean score of 85.00 with a standard deviation of 14.00"



Table -2

Group	N	Mean	Σ	df	Calculated t value	Critical t value	Ns/S	Remark
Arts	47	91.3617	9.66615	48	1.073	0.05 level =2.0111	NS	Accepted or fail to Rejected
Science	3	85.000	10.06450			0.01 level=2.6827	NS	Accepted or fail to Rejected

The calculated value was 1.073

The degrees of freedom were 48

The Critical t-value at $\alpha = 0.05$ and $df = 48$ is 2.01. Since $1.073 < 2.01$, the null hypothesis is rejected.

The results suggest that there is no significant difference in male and female students' impact test scores. So, the researcher finds that Arts and Science students of M.G. College in Purulia District show no significant difference in Higher Education Attitude.

7.1 FINDINGS

Researcher showing that tribal students generally perceive higher education as a significant opportunity for personal growth, economic upliftment, and social mobility. Many students see it as a pathway to improved employment opportunities and a means to break the cycle of poverty that has persisted for generations. However, their aspirations are often hampered by various barriers, including financial constraints, limited access to quality educational infrastructure, and a lack of awareness about higher education opportunities, scholarships, and government schemes. Language and cultural challenges further complicate their educational journey. Many tribal students struggle to adapt to mainstream educational systems where teaching occurs in non-native languages, creating an additional layer of difficulty, especially for first-generation learners. Additionally, some students experience a cultural disconnect, as they feel higher education distances them from their indigenous identity and traditional livelihoods. The role of family and community is found to be significant in shaping perceptions. Supportive families encourage students to pursue higher education, while others, bound by traditional beliefs and the need for family labor, may view education as secondary or irrelevant. Gender-based challenges also emerge prominently, with female students facing societal restrictions, early marriage pressures, and limited mobility, which restrict their ability to access higher education. Successful individuals from tribal communities who have pursued higher education serve as role models, inspiring students and instilling confidence in their ability to succeed. At the same time, tribal students express a desire for education systems that are culturally sensitive and inclusive, integrating indigenous knowledge, history, and traditions. While some fear the loss of cultural identity, others envision education as a tool to preserve and promote their heritage while blending it with modern advancements.

Overall, the study highlights a complex interplay of aspiration, challenges, and cultural identity in shaping tribal students' perceptions of higher education. There is a clear need for targeted reforms, including better infrastructural facilities, financial support, and culturally relevant curricula, to bridge the

existing gaps and create a more inclusive educational environment for tribal students.

8.1 CONCLUSION

The findings underscore that while higher education is often perceived as a pathway to social and economic mobility, various socio-cultural, financial, and infrastructural barriers hinder access and participation. Many students express a strong desire to pursue higher education despite limited resources and systemic challenges, indicating a significant aspiration for self-improvement and community upliftment. Cultural influences, parental attitudes, and a lack of adequate support mechanisms often create a dichotomy between tradition and modern educational pursuits. To bridge these gaps, it is imperative for policymakers, educators, and community stakeholders to implement inclusive strategies that address affordability, accessibility, and cultural sensitivity. Tailoring support systems—such as scholarships, mentorship programs, and tribal-friendly curriculums—can empower these students to overcome barriers and thrive in higher education.

Ultimately, fostering an environment that values both indigenous knowledge and formal education can create a harmonious blend of tradition and progress. This will not only improve the educational outcomes for tribal students but also contribute to broader societal development by unlocking their potential as future leaders, innovators, and custodians of cultural heritage.

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ANALYZING THE IMPACT OF ASSESSMENT PRACTICES ON STUDENT MOTIVATION AND ENGAGEMENT IN PHYSICAL EDUCATION

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ABSTRACT

Increase refers basically to progressive transformation of quantitative nature that occur in human frame dimensions, at the same time as development involves each quantitative and qualitative modifications, due to factors related to method itself of physical increase, maturation and, specially inside the case of physical schooling and recreation, motor performance. expert bodily training and recreation are uniquely located to screen signs of growth and improvement, thinking about its involvement with educational aspects and fitness advertising amongst younger people. The objective of this review take a look at changed into gift basic standards and present day country of the artwork related to increase and development implemented to research and professional practice inside the location of physical training and game. In fitness professions training (HPE), the impact of exams on student motivation for studying and its outcomes have been largely not noted. this is elaborate because checks can bog down motivation and mental properly-being. The studies questions guiding this assessment were: How do tests affect scholar motivation for mastering in HPE? What consequences does this lead to in which contexts?

KEYWORDS: P-Progressive, Q-Quantitative, E-Educational, P-Professional, M-Motivation

INTRODUCTION

In October 2020, the authors searched Pub Med, Embase, APA PsycInfo, ERIC, CINAHL, and net of technological know-how middle collection for “tests” AND “motivation” AND “health professions education/college students.” Empirical papers or literature evaluations investigating the effect of tests on pupil motivation for gaining knowledge of in HPE using quantitative, qualitative, or mixed methods from January 1, 2010, to October 29, 2022, were included. The authors selected the realist synthesis technique for data analysis to have a look at the intended and unintentional outcomes of this complex topic. exams were identified as stimulating independent or controlled motivation the use of sensitizing ideas from self-determination theory and information on context–mechanism–outcome have been extracted.

The relationship among bodily hobby and physical fitness is complicated and bidirectional. severa research have shown a widespread courting between physical activity and cardiorespiratory health, which may additionally imply that physical interest improves health or that physically match people choose to interact in bodily hobby more than their less in shape peers, or both. Experimental studies have proven that workout schooling improves fitness, despite the fact that the reaction is variable and in reality motivated by way of genetics , and bodily interest and health are independently related to health and academic performance. Conceptual framework illustrating relationships among bodily pastime, physical health, fitness, and educational performance.



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Country wide Academies of Sciences, Engineering, and medicine. 2013. educating the student frame: Taking physical pastime and physical training to school. Together with supplying summative critiques of students' knowledge and talents, educators often intend for tests to supply mastering. college students, on the opposite, frequently attention on "giving a performance" rather than on learning.^{9,10} This represents a major hole between the purpose and effect of tests. The "2018 consensus framework for proper evaluation" recommends 7 criteria for tests, together with that they have instructional and catalytic consequences which can be involved with scholar motivation.^{eleven} educational results seek advice from assessments motivating students to prepare for and bring educational advantage, while catalytic effects talk to tests presenting results and remarks that motivate stakeholders in creating, enhancing, and supporting training.^{eleven} on this framework, the concept of motivation is instead constrained, because it makes a speciality of the educational gain, while ignoring the aspect of motivation suggesting training ought to encourage and stimulate scholar curiosity.^{12,thirteen} Lineberry places forward the concept of "assessment affecting getting to know," which considers student motivation and recommends

the use of evaluation because the number one manner of encouraging mastering and performance in training.⁹ but, this approach does not differentiate among using student studying via controlled and self sustaining motivation or address the trouble of how using controlled motivation has a dangerous effect on self sufficient motivation. Self-willpower concept (SDT) of motivation—which classifies motivation as self sustaining (out of proper interest and/or in my opinion endorsed importance) and controlled (out of internal or outside strain or contingent on rewards or sanctions)—can provide guidance on how exams have to be conceptualized to foster autonomous instead of managed motivation. self sustaining motivation in comparison with managed motivation is related to deep studying, better educational overall performance, better creativity, and mental properly-being. Stimulating self reliant motivation is contingent at the pride of three primary psychological desires: autonomy (experience of preference in learning), competence (sense of capability for gaining knowledge of), and relatedness (experience of belonging to the peer group). In evaluation, managed motivation is inspired through the frustration of those needs.



SDT posits that excessive-stakes exams have deleterious results on students' self sufficient motivation for mastering and might corrupt academic practices. Even after educators distinguish among formative and summative tests in HPE, college students regularly perceive formative moments as summative ones. they are trying to govern their grades by way of deciding on their first-class overall performance moments for his or her formative assessments. this could be rooted within the belief that checks frequently assist to decide future instructional possibilities. this will, consequently, happen even in sophisticated evaluation structures or programs, like programmatic assessment, that is often designed as an evaluation for getting to know opportunity. In scientific

colleges which have followed programmatic assessment, students had been discovered to deal with formative checks like summative exams once they do now not experience a experience of manage over the assessment final results. that is in particular real for expertise-primarily based assessments with based answers, whilst there's a loss of a trusting dating with teachers and whilst tests cannot be used for improving performance. moreover, instructors may additionally put in force checks differently than meant by curriculum builders (e.g., specific medical supervisors were found to use requirements for scoring capabilities differently). This is a further aspect which could widen the gap between the intention and effect of checks. consequently, even a nicely-intentioned



evaluation gadget or program may match towards pupil motivation if applied incorrectly.

The High-Quality Outcomes of Physical Activity on the Mind

Physical pastime has a right away impact on the behaviour and development of the mind. An essay through Charles Basch of Columbia college summarised how bodily hobby can improve brain function:

- ❖ The drift of oxygen to the brain is increased
- ❖ The wide variety of mind neurotransmitters is accelerated, which assists your ability to recognition, pay attention, study, consider and manage pressure
- ❖ The wide variety of brain-derived neurotrophins is expanded, which assures the survival of neurons in areas of the brain that are chargeable for getting to know, memory and better thinking.



Bodily Activity Related to Better Grades

In keeping with America Centre for Sickness Control and Prevention (CDC), bodily hobby has an effect on cognitive abilities consisting of concentration and interest, and it additionally complements study room attitudes and behaviours, all of which can be essential components of progressed

academic overall performance. A observe from the college of Illinois confirmed that children who are bodily in shape are much more likely to perform better in college and attain higher grades.



Youngsters taking part within the study had been given electroencephalograms (EEGs) to measure mind waves and how fast the mind responds to positive stimuli. Researchers observed that the mind synapses of physically match youngsters

fired quicker and stronger, and as a result those kids had higher language talents. The extra bodily fit youngsters have been now not handiest higher at reading, but they were additionally higher at reading passages with several grammatical mistakes. The



researchers looked at the brainwave styles that deal with language and the potential to spot errors in grammar. The in shape youngsters had robust results with both brain wave organizations and a higher expertise of nonsensical or errors-crammed sentences.

Some other examine additionally found advantageous institutions between bodily interest, health, cognitive feature and academic fulfillment. The proof indicated that physical hobby has a relationship to parts of the brain that help complex cognitive approaches at some point of laboratory responsibilities. It additionally confirmed that bodily activity is crucial for increase, development and general health.



On the Copenhagen Consensus conference 2016, which amassed 24 researchers from 8 international locations and from diverse educational strength of wills, bodily pastime become additionally found to enhance mind electricity and educational performance, amongst different advantages.

The consensus declaration, which turned into published within the British journal of sports medicine, lists the motives why bodily pastime is useful for children and youngsters aged 6-18.

Constructing their Cognitive Functioning

- ❖ Just one consultation of slight bodily activity instantly boosts kids' mind characteristic, cognition and educational performance.
- ❖ Gaining knowledge of essential movement talents boosts mind strength and educational performance.
- ❖ Time faraway from training in favour of physical hobby doesn't come on the price of suitable grades.

Nurturing their Engagement, Motivation and Mental Nicely-Being

- ❖ physical activity boosts kids's
- ❖ It nurtures relationships with peers, parents and instructors.
- ❖ A worrying environment that supports autonomy complements children's motivation, their behaviour referring to physical hobby and their wellknown properly-being.

Regular and organised bodily hobby training promotes existence skills (interpersonal, self-regulation) and center values like recognize and social duty.

we've got often heard from education experts that kids who are physically active are much more likely to carry out better in teachers. however do you know the way it works.

In line with centers for disease manage and Prevention (CDC), bodily lively students usually perform higher in terms of grades, attendance, memory, and study room behaviour. students who engage in greater physical activity and are greater physically suit have higher cognitive overall performance which include cognizance and memory.

A Few Interesting Records

- ❖ The research by means of NIH (national Library of drugs) indicates that the academic topics which are maximum inspired by way of physical pastime are reading and arithmetic. executive function, which has been linked to bodily exercising and bodily health, is essential to those subjects.
- ❖ The foundation of academic overall performance is govt function and brain fitness. gaining knowledge of is facilitated by way of primary cognitive procedures such as interest, reminiscence, and processing velocity, all of which are improved with the aid of exercising and increased cardiovascular fitness.
- ❖ Bodily activity both in brief periods and over time complements mental feature and brain fitness, in particular from energetic or slight-depth physical activity.

Bodily pastime as a ruin from instructional have a look at has been found to be greater useful for enhancing on-venture behaviours, better recognition, and advanced educational



achievement. college students need to receive common, developmentally suitable breaks for bodily interest given the significance of right time that outcomes studying.

Beyond higher marks, exercising has other blessings. bodily exercising has direct reference to absenteeism, drop-out charges, and social connectedness as it now not most effective impacts brain however additionally fitness. in line with Columbia university's Charles Basch, it's far probably that the consequences of physical pastime on cognition would be especially vital in the especially plastic growing brains of kids, this means that modifications in neural connections at some point of development.

This indicates that children who interact in bodily hobby have an impact on their government functioning. additionally, it reasons the mind to acquire greater oxygen and produces extra neurotransmitters, which might be the chemical messengers that the frame wishes to function. most importantly, the neurotrophins ensure that neurons inside the parts of the mind that manage studying, memory, and better reasoning flourish.

At the same time as the hyperlink between bodily pastime and faculty overall performance is quite technical however is inevitable and realistic. whilst the kids are glad and wholesome, they may be more likely to recognition and interact in getting to know as a result they're performing properly in teachers.

As one of the pinnacle worldwide schools in India, Oakridge locations a robust emphasis on striking a balance among sports and lecturers, giving students the threat to excel academically whilst also honing their competencies in a selection of sports activities. A huge variety of wearing facilities are available on Oakridge campuses ranging from skating rinks to rock-hiking wall, allowing college students to teach and excel in the sport of their choice guided via expert coaches. those academic possibilities will enhance educational success and getting to know talents some distance past the PE study room, further to encouraging a more healthy way of life.

Key Factors of Our Bodily Schooling Program Encompass

- ❖ Every day physical training: All number one college grades participate in day by day bodily schooling instructions, making sure that they are energetic and engaged throughout the college week.
- ❖ Specialized sports activities education: center and senior faculty college students have at least hours of physical education in line with week, that specialize in specialized sports activities education.
- ❖ Movement-first method: Our application emphasizes fundamental motion abilities before introducing sports activities, making sure a solid foundation for athletic development.
- ❖ "First pass nicely, then move often." – grey cook of the function motion systems
- ❖ After-school sports packages: We provide a spread of after-college sports activities packages for college kids who wish to in addition discover their athletic pastimes.

The Benefits of Physical Training at Inventure

The advantages of bodily education at Inventure Academy are a ways-attaining. Our software helps students:

- ❖ Broaden bodily fitness: ordinary bodily interest improves cardiovascular health, strengthens bones, and enhances muscle development.
- ❖ Improve intellectual properly-being: bodily schooling has been shown to reduce strain, anxiety, and melancholy, while boosting temper and 6ba8f6984f70c7ac4038c462a50eeca3.
- ❖ Beautify cognitive feature: exercise has a effective impact on cognitive capabilities, which include consciousness, attention, reminiscence, and problem-fixing skills.
- ❖ Foster social abilities: participating in crew sports activities and institution activities helps students increase teamwork, cooperation, and leadership talents.
- ❖ Construct man or woman: physical training instills values such as area, perseverance, and sportsmanship.

The Effect of Physical Schooling on Educational Performance

Studies have proven a robust correlation among physical interest and academic performance. normal physical pastime can enhance cognitive characteristic, attention span, and awareness, leading to higher grades and average educational achievement. additionally, physical education can help college students increase, time management competencies, and a tremendous attitude towards learning.

Physical Training and Social-Emotional Development

Physical training performs a critical position in social-emotional improvement. accomplishing physical sports can help college students build confidence, and a experience of belonging. participating in team sports and organization activities can also foster teamwork, cooperation, and management abilities. those social-emotional capabilities are critical for fulfillment in each non-public and expert lifestyles.

Bodily Education and Lifetime Health

The advantages of bodily training expand far beyond early life and adolescence. normal physical pastime for the duration of life is vital for maintaining right fitness and stopping chronic diseases inclusive of coronary heart disease, stroke, type 2 diabetes, and obesity. by using developing a love for motion and a dedication to physical pastime at a young age, college students are more likely to continue to be active at some point of their lives.

Incorporating Physical Interest into Day by Day Lifestyles

Beyond the structured bodily training applications in schools, it's miles essential to inspire students to comprise bodily interest into their day by day lives. this will consist of sports including walking, cycling, swimming, dancing, or gambling sports. colleges can play a role in promoting physical interest by means of growing safe and on hand spaces for students to exercise, organizing after-school sports activities packages, and inspiring energetic transportation alternatives.



Addressing the demanding situations of providing a quality physical schooling program in faculties

Despite the several benefits of physical schooling, it's miles disheartening to peer that many schools are lowering bodily training time. This fashion is specifically regarding in center and excessive schools. The decline of physical training may be attributed to different factors, which include elevated academic pressure, budgetary constraints, and a lack of information of its importance.

- ❖ **Budgetary Constraints:** Faculties can also want to allocate extra resources to bodily training packages, consisting of hiring qualified physical education instructors and imparting good enough equipment.
- ❖ **Academic Stress:** Schools can prioritize physical schooling by way of ensuring that it's far a obligatory a part of the curriculum and scheduling it during foremost instances of the day.
- ❖ **Lack of Expertise:** Educators and administrators want to be educated approximately the importance of bodily education and its advantages for students.

Conclusion

Bodily schooling is a vital element of a nicely-rounded education. It gives numerous benefits for college students, consisting of improved bodily and mental fitness, improved cognitive development, and strengthened social competencies. by prioritizing bodily training at Inventure Academy, we're making an investment in the holistic improvement of our students and making ready them for a a success destiny. it is vital that colleges international apprehend the importance of bodily training and take steps to make sure that every one college students have get admission to to satisfactory applications.

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THE CURRENT STATUS AND FUTURE OF ENGLISH MAJOR DEVELOPMENT IN LOCAL UNIVERSITIES AGAINST THE BACKDROP OF THE DISCIPLINE OF AREA STUDIES FROM THE PERSPECTIVE OF MATERIALIST HISTORY

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ABSTRACT

From the perspective of historical materialism, the emergence and development of area studies in China have their unique historical roots and practical value. In this context, local English majors in universities face both opportunities and challenges in transforming and upgrading in the new era of socialism with Chinese characteristics. The article first introduces the decline of the United States, the rise of a new discipline, and the background and rationale of the emergence of Chinese area studies. Secondly, it proposes a discipline of "area studies with Chinese characteristics" that differs from Western area studies. Finally, the development status and prospects of English majors in local universities in serving the local social and economic growth and supporting national development strategies are interpreted in terms of talent cultivation, curriculum design, faculty, and international exchange and cooperation.

KEYWORDS: Area Studies; Chinese Characteristics; English Major; Materialist History

I. THE DECLINE OF AMERICA

Dialectical materialism holds that the material world is in the process of eternal change and development. Development is the result of both internal and external causes. In 2010, China developed into the world's second largest economy. This is thanks to China's internal and more than 30 years of reform and opening-up policy. China's overall national strength in the fields of economy, military, science and technology is growing, and China's international status is constantly rising. China put forward the "Belt and Road" initiative and in response to climate change, China took the lead in greenhouse gas emission reduction target. China plays a constructive mediating role in helping Iran and Saudi Arabia to restore diplomatic relations, and China's diplomatic mediation in the Russia-conflict and other international events prove China's expanding international influence in economic, cultural, ecological, diplomatic and other fields. From the perspective of the United States, especially during the first Trump administration, a series of unconventional actions of the US government have stunned its traditional allies. Under the guidance of the "America First" concept and in the face of the fact of global warming, the United States is unwilling to set the greenhouse gas emission reduction targets and assume the responsibility of a major country, and withdraw from the Paris Climate Agreement and the Kyoto Protocol. Subsequently, it withdrew from international organizations with important influence in international education, science and technology, culture and health, such as withdrawal from TPP, UNESCO, and WHO. These "withdrawal" anti-globalization actions have attracted wide attention and criticism from the international community,

greatly reducing the international reputation of the United States. During the COVID-19 pandemic, the Trump administration downplayed the threat of the virus, of which it lost control, leading to huge losses of life; partisan disputes contributed to the severity of quarantine measures, and inadequate public health infrastructure. In addition, the frequent school shootings, racial problems and social inequality have seriously torn the American society apart, and the international community has begun to reflect on the feasibility of the "beacon of democracy". Can it continue to "shine" on all countries in the world? Democracy is part of the American political DNA, and America is seen as the leader of the democratic world. A series of destructive speeches and deeds by the Former President of the United States Trump during his first term and after—in addition to denying the election, attacking the media, threatening retaliation and advocating political violence—render American observers concerned about American democracy "regression", and some scholars have begun to worry about American democracy "death" ^[1]. The riots on Capitol Hill on January 6, 2021, plummeted the international image of the United States as a leader in the democratic world. A tweet by the chairman of the world-renowned Council on Foreign Relations (Council on Foreign Affairs) (Peter Haas), reflects the thoughts of the vast majority of the American elite: "What we see at this moment, I never thought that — in the United States might happen in other capitals, but not in the United States. People elsewhere in the world will never see, respect, fear or rely on the United States as before." ^[2]. Xie Changan ^[3] interprets the failure of western democracy from the perspective of historical materialism: the biggest characteristic of western capitalist society is to replace power with wealth.



The West has created a lot of wealth through the process of industrialization and built modern global order through global expansion. The West can dominate the vast majority of global wealth. When the economic foundation of the West changes, and the state as a political community lacks the ability to extract sufficient wealth from society, the economic costs required to sustain a liberal democratic regime cannot be guaranteed, leading to political opposition among different groups, thus resulting in what is known as political decay. Everything is subject to development and change, and the essence of development is that new things replace old ones. The inherent flaws of the American capitalist system are the fundamental cause of America's decline. China's development will not replace America's hegemonic status, but China's rise is inevitable, which is determined by the objective laws of development.

II. THE ADVENT OF A NEW DISCIPLINE

Against the backdrop of the waning international influence of the United States, China needs to steadily advance in various domestic fields and gain a deeper and broader understanding of other countries and regions in foreign relations. This will help the country formulate effective foreign strategic policies, thereby powerfully promoting the high-quality development of foreign affairs. Social existence determines social consciousness, and social consciousness is a reflection of social existence. China's further development requires research on other countries and regions in both breadth and depth, and the regional and country-specific studies with Chinese characteristics are called for. In 2011, the Ministry of Education launched the "National and Regional Studies Cultivation Base" project, and in 2012, 12 national studies cultivation bases were officially approved. In 2015, the Ministry of Education issued the "Interim Measures for the Cultivation and Construction of National and Regional Studies Bases" notice, calling on localities to deeply understand the importance of national and regional studies, actively leverage the advantages of the relevant regions and universities, and strive to provide intellectual support and talent guarantees for the country's reform and development. In 2017, the Ministry of Education issued the "Notice on the Work of National and Regional Studies in 2017", which required higher education institutions to integrate internal resources according to their own development needs and the strategic planning for the internationalization of education, leverage talent advantages, establish national and regional research centers, and focus on strengthening research on countries and regions that are under-researched and urgently needed for national strategy. In recent years, regional and national research centers, as well as various annual meetings, competitions, forums, and other collaborative developments, have sprung up like mushrooms after rain in various universities. In December 2018, the Institute of Regional and National Studies at Peking University was inaugurated. In December 2019, 42 national and regional research cultivation bases approved by the Ministry of Education, and 395 unofficially registered centers, totaling 437 national and regional research institutions, have preliminarily achieved the goal of fully covering every country and region in

the world. In 2019, the "University Regional and National Studies Talent Training and Discipline Construction Alliance", initiated by Sun Yat-sen University, has now become the earliest, largest, most influential, and most brand activity in the field of regional and national studies. The alliance has formed 15 sub-projects, including the alliance annual meeting, the China Regional and National Studies 50 Forum, the China Regional and National Studies Youth 50 Forum, the National College Students Regional and National Speech Competition, the National Regional and National Studies Institutes Directors Forum, and the National Regional and National Studies Journals Chief Editors' High-Level Forum, etc., promoting the development of regional and national studies, facilitating exchanges between China and abroad, and international communication. In September 2022, the Academic Degrees Committee of the State Council and the Ministry of Education issued the "Graduate Education Discipline and Specialty Catalogue (2022)", which determined to include regional and national studies in the first-level discipline directory of the 14th interdisciplinary category. This has a landmark significance in the construction of disciplines in the field of social sciences. The inclusion of regional and national studies as a first-level discipline is not only a necessary measure in response to the needs of national strategic development but also provides a good opportunity for higher education to achieve interdisciplinary development and cultivate comprehensive talents to meet the needs of local economic and social development. In the same year, Zhaoqing University officially established the Regional and National Studies Research Center, contributing to the promotion of regional and national studies. Although there will be twists and turns on the path to development, the vigorous development of Chinese regional and national studies demonstrates it is the right step in the right direction. So long as we are full of confidence, Chinese regional and national studies will continue to develop better.

III. THE EXPLORATION OF THE NEW DISCIPLINE

As the saying goes, "lagging behind means getting beaten, and being poor means going hungry." The economic base determines the superstructure, which in turn reacts on the economic base. China has caught up in various fields including the economy, but an international discourse system has not yet been established, and international public opinion remains heavily Western-dominated. As General Secretary Xi Jinping¹ has said, "After the relentless efforts of several generations, the first two problems (getting beaten and going hungry) have been basically resolved, but the problem of 'getting criticized' has not yet been fundamentally solved." The construction of the discipline of regional and national studies cannot be separated from the construction of a discourse system, and the first step in building an international discourse system is to "take the Chinese path", "adopt the Chinese solution" and "go global," gaining more understanding, recognition, and support from the international community. This requires reshaping China's image in the international community, spreading the voice of China's confidence, self-reliance, and self-strengthening, and telling the true vision of China together with people from

¹ Citation from page 328 of Xi Jinping Thought on Socialism with

Chinese Characteristics for a New Era: Questions and Answers



around the world to build a "community with a shared future for mankind." Objectively speaking, compared to the regional and national studies of Western countries (especially the United States), China's regional and national studies are relatively behind and cannot meet the needs of China, which is experiencing a great change unseen in a century. Of course, the current state of China's regional and national studies is determined by China's national conditions and historical factors. In fact, throughout the century of China's humiliation (1840-1949), there were never a shortage of people with the mission to save and strengthen the nation, represented by the "Reform Movement of 1898" led by Kang Youwei and Liang Qichao, Sun Yat-sen's "Xinhai Revolution," and Lu Xun's abandonment of medicine for literature to awaken national consciousness with his writing. The Communist Party of China brought dawn and hope to the Chinese nation. In the 1980s, China began to implement the reform and opening-up policy, attracting foreign investment, technology, and talent, and subsequently joining the World Trade Organization and other international organizations. These measures were all necessary steps for China to actively move towards the international community and integrate into the world. However, this integration was lopsided and unequal. Fu Ying, the chief expert of the National Global Strategy Think Tank of the Chinese Academy of Social Sciences, believes that the world order dominated by the United States includes three pillars: first, American or Western values; second, military alliances led by the United States; and third, the United Nations and its subsidiary organizations. This world order has never fully accepted China. Due to differences in political systems, although China has achieved economic success, it has long been excluded politically by the United States. The military alliance led by the United States even poses security pressure on China in the Asia Pacific region². China's achievements have not enhanced its rightful international discourse power. Western countries, led by the United States, often use the pretext of "upholding democracy and freedom" to act as "world police" and interfere in the internal affairs of other countries at will. The slowdown of the Chinese economy has created headlines of 'Chinese economic collapse'; China has lawfully arrested individual "rioters" in Hong Kong, and Western media have reported against the facts and slandered China as a "dictatorship" government under the pretext of "destroying democracy, freedom, and violating human rights". All of this stems from the global hegemonic policy of the United States. China needs to stand on its own and strengthen itself among the nations of the world, and it is even more necessary to accelerate the construction of regional and national studies with Chinese characteristics. There should be innovation in theory and methods, and the content and essence should be different from Western regional studies. The West takes "self" as the center and "others" as the research object. Through political intervention, economic assistance, cultural infiltration, military alliances and other means, it exerts influence on other countries or regions in multiple fields and all directions to maintain and consolidate its world hegemony. The guiding ideology behind it is a zero-sum game formula of $1+(-1)=0$. By contrast, China's regional and country studies aim for mutual benefit and a win-

win result through reciprocal respect and cooperation, realizing $1+1>2$. China's regional national studies should follow a path with Chinese characteristics, which requires the Chinese to follow their own path. Neither should they copy the western regional national studies with colonial rule and the maintenance of hegemony as the core, nor should they deviate from the main path, stay away from the core and lose Chinese characteristics. Building a community with a shared future for mankind, driving the development of Asia, Africa, and Latin America, promoting North-South and South-South cooperation, deepening and accelerating South South cooperation, and achieving global common development and well-being are the original intention and destination of China's regional and country studies.

IV. ENGLISH MAJOR AND THE DISCIPLINE OF AREA STUDIES

The cultivation of English language professionals should closely revolve around the purpose of "serving the strategic national needs" and "benefiting the local economy and society." How does the English language discipline relate to regional and national studies? In fact, the English language discipline has maintained a close connection with regional and national studies for a long time. Regional and national studies are not English literature, not history, not philosophy, and certainly not communication studies; rather, they are an interdisciplinary field that spans industries, professions, and disciplines. For example, regional and national studies involve a Cambodian language teacher collaborating with a life sciences professor who understands biotechnology to research the cultivation techniques of Cambodian fragrant rice. Similarly, a German language expert assisting a Chinese domestic automobile group in penetrating the German market, engaging in activities such as factory establishment, marketing, and sales, is also regional and national studies. The English language discipline involves various fields of English-speaking countries or regions, including politics, economy, culture, history, and society. As a tool, a foreign language can promote researchers' in-depth understanding of the natural, cultural, and historical aspects of the target countries and regions, which in turn can foster the development of regional and national studies. On the other hand, regional and national studies focus on the knowledge of the climate, geography, and society of the target countries or regions, providing a rich content knowledge system for the study of foreign language disciplines, making the development of foreign language disciplines more substantial and vivid. In recent years, many scholars have conducted effective research and exploration on the alignment of English language professional development with national and regional studies. Wang Ying^[4] believes that the issue of faculty is the biggest obstacle to cultivating regional and national talents in English language programs. Wang Zhanpeng^[5] suggests that the English language and literature of English language programs can work together with traditional humanities and social sciences disciplines such as political science, economics, and history to promote the construction of the regional and national studies discipline system, and the development of regional and

² Citation from Fu Ying's speech at the Royal Institute of International

Studies (RIIA) in the UK titled *Disorder and Reconstruction of Order*



national studies will, in turn, nourish the English language discipline. Chang Junyue and Feng Guangwu^[6] have analyzed the current state of English language education and regional and national education in China's universities and pointed out the prominent problems in the curriculum settings of English language programs in Chinese universities: overemphasis on language skills and neglect of knowledge acquisition; overemphasis on major countries like the UK and the US and neglect of other smaller countries. Yin Yue^[7] based on the actual situation in Henan Province, proposes the concept and feasibility of a diversified foreign language education policy, providing intellectual support and talent guarantees for the "Belt and Road" initiative. Based on this, this thesis focuses on the dilemmas faced by English language professionals in the construction of English language programs at universities in Zhaoqing City in the new era under the background of regional and national studies being upgraded to a first-level discipline, and attempts to explore effective paths for the cultivation of foreign language professionals.

V. THE CURRENT STATUS AND FUTURE DEVELOPMENT OF ENGLISH MAJOR IN LOCAL UNIVERSITIES

The professional development prospects of local colleges and universities serving as powerful engines for promoting national development and social progress are directly related to the development of the local economy and social stability. Against the backdrop of the "Belt and Road" initiative and the national construction of the "Guangdong-Hong Kong-Macao Greater Bay Area," how to develop English majors in ordinary universities is an urgent issue to be addressed. The universality and particularity of contradictions are important contents of dialectical materialism. Each university faces the issue of how to match and adapt the development of English majors with the national development direction and the local socio-economic development, which is the universality of contradictions. However, each specific university's English major has its own actual situation, and when analyzing and solving problems, it is necessary to analyze specific issues specifically, without a one-size-fits-all approach, which is the particularity of contradictions.

1. Talent Cultivation Goal Plan Lagging behind the Reality of Social Development

The English teacher education major in Zhaoqing local universities aims to cultivate English education talents. It still focuses on training teachers with noble teacher ethics, a solid grasp of English subject knowledge, familiarity with Chinese and foreign cultural knowledge, good English proficiency, strong English teaching ability, and certain research and teaching abilities. They should have cross-cultural competence, independent learning ability, critical thinking, and innovative consciousness, and be able to perform English education teaching and educational management in middle schools, educational institutions, and other basic education fields. In recent years, the supply of English major talents has exceeded

demand. On the one hand, with the decline in birth rates and marriage rates, the population base will inevitably further shrink, leading to a gradual decrease in the demand for teachers in kindergartens, primary schools, and junior high schools. On the other hand, with the rapid development and popularization of artificial intelligence, translation as a profession faces huge challenges and impacts. Faced with the increasingly severe reality of employment difficulties, English majors should reflect in a timely manner, plan for the long term, base themselves on reality, update and upgrade the existing English major talent cultivation plan, and formulate medium and long-term talent cultivation goals to provide theoretical support for graduates to find employment through multiple channels and in multiple directions. This can meet the current economic development and social stability needs while avoiding a situation where resources are stretched thin when future challenges arise.

2. Curriculum Prioritizing Language Skills Training but Neglecting Knowledge and Cultural Absorption

The core competencies³ of the English discipline include four dimensions: language ability, cultural awareness, thinking quality, and learning ability. Language ability is the foundation of the English discipline. Cultural awareness helps students enhance national consciousness and cultural confidence. Thinking quality helps cultivate students' creative thinking and critical thinking, improving problem-solving abilities and enabling cross-cultural thinking and judgment. Learning ability helps students manage their learning, develop good study habits, and improve learning efficiency. Currently, due to the need to improve the passing rate of TEM4 (Test for English Majors Band 4) and TEM8 (Test for English Majors Band 8), the curriculum teaching system of local university English majors tends to emphasize language skills training in listening, speaking, reading, writing, and translation, and teachers also focus on improving students' English language skills. However, knowledge-based courses for English majors (solving English problems in English), such as linguistics, British and American literature, and intercultural communication, are all offered in the third year. Since the fourth year faces the tasks of graduation internship and thesis writing, only one year of professional knowledge courses in the third year is far from meeting the learning tasks and graduation requirements of the English major. Secondly, there are fewer Chinese courses set for English majors. While learning foreign languages and cultures, students also need to strengthen their in-depth understanding of Chinese culture. Spreading the Chinese voice requires "telling the Chinese story well." Only by telling the Chinese story well, can the voice of China be better spread, and regional and national studies can be better conducted. Therefore, the curriculum system urgently needs to be restructured, teaching resources optimized, and the hours of English and Chinese knowledge courses increased, achieving simultaneous progress in language skills, knowledge skills, and cross-cultural abilities. Solid language skills can promote the absorption of language knowledge, and the study of professional knowledge can

³ Citation from *Opinions of the Ministry of Education on Fully Deepening Curriculum Reform and Implementing the Fundamental Task of Moral Education* issued by The Ministry of Education of the

People's Republic of China



consolidate language skills. English majors should integrate the language ability, cultural awareness, thinking quality, and learning ability in the goal of cultivating compound foreign language talents, laying a solid foundation in language and knowledge, and preparing thoroughly for regional and national studies and other disciplines.

3. Insufficient Bilingual Teaching Staff

The future demand for versatile talents will inevitably be the direction of social development. Proficiently mastering multiple languages is a necessary ability for English major students, and "second foreign language" or even "third foreign language" learning plays a crucial role in English major courses. From the perspective of regional and national studies with Chinese characteristics, promoting the "Belt and Road" construction will inevitably require foreign language talents who understand the humanities, geography, customs, and other general situations of the countries and regions along the route. The official languages of the five regions covered by the "Belt and Road," including West Asia and Southeast Asia, exceed 40 in number. However, from 2010 to the end of 2018, the languages offered by Chinese university foreign language majors only covered more than 20 of them^[8]. In addition to foreign language universities offering various minor languages, many local universities have very limited second foreign language teaching staff for English majors. Except for Japanese teachers, other second foreign languages, such as French and Russian, are also official languages of the United Nations, and there are few teachers of small languages that meet the actual development needs of the local area. With a shortage of teachers, students have no other choices or room for development. This is related to China's language policy. Li Lisheng^[11] believes that in the formulation of foreign language education policies, there is a lack of long-term comprehensive planning, a lack of authoritative management and guidance institutions, a single and centralized language setting, and uncoordinated development. More prominent is that the formulation of China's foreign language education policies is often a top-down model, rarely combining the actual different needs of regional economic and social development for talents, and localities have little autonomy in the formulation and implementation of foreign language education policy planning^[9]. Because China's language policy is top-down, it is recommended that the state draft and formulate language policies that meet the development requirements of the "Belt and Road," allowing local universities to adjust and optimize talent cultivation plans according to actual conditions, and cultivate versatile talents who are proficient in multiple fields, majors, and regions. It is worth affirming that some local universities have adopted full English teaching in some courses of individual disciplines, but both in terms of quantity and proportion, they are relatively limited. According to the "Data Survey and Statistical Analysis of the Internationalization Development Status of Chinese Key Universities," the number of courses taught entirely in foreign languages accounts for only 2.5%^[10] of the total number of courses offered. Local universities need to vigorously introduce bilingual talents that align with the overall national strategic development and meet the needs of local economic and social development. In recent years, various local universities have introduced a large number

of highly educated and highly titled talents for the long-term development goals of the school, and the number of teachers has increased, but the number of teachers who can teach entirely in English or in bilingual has not increased. Therefore, we need to address the root cause of the issue rather than the symptoms. The lack of bilingual teaching staff has become a bottleneck for the healthy development of English majors and does not meet the requirements of regional and national studies for foreign language talents. The solution to this problem requires mutual coordination between the central and local governments, pooling wisdom, and finding countermeasures.

4. Weak Awareness of the Complementarity Between English Majors and Other Majors

Regional and national studies are an interdisciplinary field that covers multiple areas such as points, lines, and surfaces. Teachers of various majors need to construct a scientific understanding of regional and national studies. General Secretary Xi Jinping emphasizes that accelerating the construction of a philosophy and social science with Chinese characteristics ultimately means constructing a knowledge system that is independent and owned by China. The construction of regional and national studies involves three major systems: the construction of the discipline system, the construction of the discourse system, and the construction of the academic research system^[11]. In the process of constructing these three systems, interdisciplinary approaches should be embodied, breaking down the barriers between disciplines, and first of all, adopting an open, inclusive, and cooperative attitude, from "non-cooperation" to "initiating cooperation," from "little contact" to "more contact" and "frequent contact." Disciplines under the humanities and social sciences, such as philosophy, economics, education, etc., should be connected, and social sciences should also be connected with natural sciences. Of course, this "connection" should be in the true sense to make each discipline complement each other and rely on each other, rather than for the sake of "connection." The scope of the countries and regions under study should be diversified. China has long focused its learning and research on a few major countries such as the United States, Europe, the UK, France, and Australia, neglecting research on small and weak countries in Asia, Africa, Latin America, and the Pacific Islands. With China's continuous expansion of opening up, especially the development of the "Belt and Road," the drawbacks of this "knowledge deficit" for the countries and regions along the route have become increasingly apparent. The "Belt and Road" involves more than 60 countries worldwide. Although English, as a common language, can solve communication problems, English is not the native language of many countries along the route. Being proficient in local languages is always better for in-depth understanding of local customs and taboos. Hu Wenzhong^[12] attributes some of the reasons for this issue to the deficiencies in the formulation of policies and the setting of language subjects in foreign language education in our country. Specifically, this is manifested in the lack of planning and the singularity of language subjects. Therefore, in terms of research subjects, efforts should be made to cultivate "generalists" in multiple languages, and even more so to cultivate "specialists" in "comprehensive countries," "comprehensive regions," and "comprehensive fields."



5. Insufficient International Exchange Programs

For English majors to develop well, it is essential to provide teachers and students with platforms to "go global," such as studying and further education abroad, allowing the theoretical knowledge learned in domestic classrooms to be honed and forged. Zhaoqing University has previously engaged in years of faculty and student exchange visits with the University of Bolton in the UK, Anoka-Ramsey Community College, and Edgewood College in the USA, reaping significant benefits. However, due to special reasons, these projects were unfortunately terminated. It is commendable that Zhaoqing University has indeed established a good platform for students to "go global." To expand students' international perspectives and provide more opportunities to study at world-renowned universities, Zhaoqing University recommends the 2025 winter World Renowned Universities Study Abroad Program, including prestigious institutions in the USA and Japan. University has signed an exchange student exchange program agreement with the University of Kuala Lumpur in Malaysia for the fall of 2024. International exchanges are part of regional and national studies, and during these exchanges, faculty and students must not only engage in necessary academic exchanges but also go deep into the local communities of "Belt and Road" countries for field research. A significant advantage of foreign language majors is the ability to communicate in the local language, which not only closes the gap and shortens the psychological distance but also provides a personal experience and true understanding of local humanistic information. A good paradigm for how to specifically conduct field research is *FERDINAND VON RICHTHOFEN TAGEBUCHER AUS CHINA*, which is worth reflecting on and learning from. Additionally, when conducting regional and national studies, one should not forget to tell the story of China well. Telling the story of China is to better conduct regional and national studies. Of course, the story of China can be told not only by Chinese people but also by foreigners. Sometimes, when foreigners tell the story of China well, truthfully, it can achieve twice the result with half the effort. Therefore, in the process of regional and national studies, it is also important to fully utilize the resources of foreign teachers and international students, allowing them to share their genuine experiences of China with the world. Most foreign teachers sign short-term contracts with schools, and they change jobs after working for a year. The author's most profound impression is of the longest-serving Scottish doctorate Paul at Zhaoqing University (due to age reasons, Paul has retired and returned to his home country). Paul enjoys Chinese Tai Chi and could be seen practicing Tai Chi on the sports field every afternoon during his work at Zhaoqing University. The author has also had many conversations with Paul on various topics related to politics, economy, culture, and so on. The overall impression is that Dr. Paul deeply loves Chinese culture, approves of China's economic development model, and feels disappointed and helpless about the stereotypes and prejudices that Westerners hold towards China. To let the world feel the beautiful, harmonious, friendly, and vibrant China, we need more knowledgeable people from abroad like Dr. Paul, to delve deeply into China and convey the most powerful voice of China through personal experiences.

VI. SUMMARY

The development of English majors at local universities in Zhaoqing should start with regional and national studies, integrating with the actual needs of the local economic and social sustainable development. Focusing on students, we should gradually improve the talent cultivation programs, transform teaching concepts, integrate teaching resources, and research interdisciplinary talent cultivation programs that integrate English majors with other disciplines. This will provide a large number of international foreign language talents who are proficient in other languages, possess an international perspective, are capable of practical international exchanges and cooperation, and are able to conduct field research.

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STRUGGLE OF WOMEN FOR EQUALITY AND EMANCIPATION, IN *BRICK LANE*

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ABSTRACT

This paper explores the challenges faced by Bangladeshi women based on gender. The aim of this study to explore those points and revisit all types of discrimination and inequality deeply rooted in Bangladeshi culture. Bangladesh is an orthodox and conservative country, where women are treated as a means of entertainment. Women are counted as house cat, whose only work is to give birth to babies and suffer for family. Women always grow up with feelings of insecurity for various reasons. They feel embarrassed when speaking in public, while purchasing something, or in a social setting. If a woman dares to question male authority, she may face punishment in some or the other way. She could be slapped, or if not physically punished, she might impose self-punishment in some way. Traditional beliefs dictate that women should not raise their voices against male supremacy. As a result of this oppression, a protagonist character, Nazneen, fights against male dominance and to free herself from social boundaries. Monica Ali, portrays the picture of Bangladesh in the light of Nazneen. How a common Bangladeshi woman rebels against male supremacy and becomes an independent woman.

KEYWORDS: Struggle, Rebel, discrimination, culture, emancipation

INTRODUCTION

Monica Ali was born in Dhaka, East Pakistan, on October 20, 1967. She is a British writer and novelist of Bangladeshi and English heritage. Ali currently lives in South London with her husband and two children. In 2003, she was selected as one of the "Best of Young British Novelists" by Granta magazine, based on her unpublished manuscript. Her debut novel, *Brick Lane*, was published later that year and was shortlisted for the Man Booker Prize. It was adapted into a 2007 film of the same name. Bangladesh is a traditional and conservative country, where most people belong to the Muslim community. Whereas Nazneen has also followed the same tradition since her birth. When she learns that men and women are equal by birth, she discovers that society treats only women as subordinate to men. Women are forced to marry an old man, while they don't even understand the meaning of marriage and family. In the 1980s, when the protagonist Nazneen is forced to marry a double-aged man named Chanu, it marks a time when she has to get ready for her fate and struggle with a new culture and a new land. She faced all types of oppression in Bangladesh, and now even in London. After arriving in London, her fate never changed. She is never allowed to go outside without the permission of her husband, and she must wear purdah, which is one of the most important prescriptions of Islam. To regular women's behaviours. These kinds of discrimination are faced by women in Bangladesh. Women can't escape from old ideas, moral values, and societal facilities. Freedom is a natural right through which anyone can acquire peace and live with dignity. Bangladeshi male society throws this freedom in the garbage, giving birth to several difficulties in the lives of ordinary Bangladeshi women. These kinds of personal and social obstacles are faced by women in Bangladesh. Like the Muslim characters in *Brick Lane*, the characters in each of these novels are confronted with racism and bigotry as they figure out where

they fit in cultures that are ignorant of Muslim communities. London's East End has housed immigrant populations for centuries, but in the latter half of the 20th century, the Brick Lane neighbourhood experienced an influx of immigrants from Bangladesh.

OBJECTIVES OF THE STUDY

1. To identify and analyze the primary barriers to women's growth in Bangladesh.
2. To evaluate the specific struggles faced by Muslim women in the name of religion.
3. To explore multiple opportunities and strategies for improving equal rights and providing social and cultural equality for all.

METHODOLOGY OF THE STUDY

The present paper has gone through various approaches, mainly descriptive and analytical approaches. Authentic primary and secondary data has been collected from multiple sources including books, novels, academic journals, research works and publications related to the present issue.

1) Discussion

This study identifies some important reasons why women face discrimination in various societies. The process of oppression starts after a baby is born and depends upon his or her sex. If the baby is male, he gets special treatment and is taught from birth that he is born to rule over women. On the other hand, if the baby is female, she is taught after birth to take care of her family. She threw in the kitchen to learn cooking. Because the male-dominant society never allowed women to work like men. A woman's area is fixed and decided by her family members' cooking and nurturing. As the American philosopher,



Judith Butler argues between sex as a biological concept and gender is a social construct. (Gender Trouble: Feminism and the subversion of identity: Routledge:1990.)

Gender is a secondary construct which is imposed over the top. This natural distinction, sex itself, became a social category. This means the difference between male and female is a social distinction created by society. Much research in sociology assumes that each person has one sex, one sexuality and only one gender.

2) Discrimination on the basis of sex

The concept of gender in feminist writings and other sociological discourses became popular in the early 1970s. In simple terms, gender explains the differences between men and women in social terms. Therefore, gender is an analytical category that is socially constructed by society between men and women in the material world. Anna Oakley, in her book *Sex, Gender and Society-1972*, explores the term gender. In western culture, it is believed that, any effort to change the traditional roles of men and women in society could change the fabric of society. The protagonists, Nazneen fights against her husband and Bangladeshi orthodox society. She has dream of becoming an independent woman, without controlling anyone.

Ones upon a time she went out of house, she asked her husband for a new sari. They looked in the shop windows on Bethnal Green Road, the pink with yellow is very nice. she asked for, do you think so? Let me think, said Chanu. (Ali, Brick Lane: p.43)

As a sign of male dominance, Chanu never allowed his wife to choose the color of her sari. She needed to get permission from her husband. In the Bangladesh Muslim Community, males have a supreme power to control women. Because in society seductive power is attributed to women, they are a protentional danger for men. The practice of purdah reinforces popular practical norms. Because purdah is connected with women's and her entire family's honor.

3) Male Dominance

This study identifies how women are double oppressed in modern society. Women are always trapped in their houses by their family members and at work places by strangers. That means women should perform double roles, as a housewife in her family and at work as an employee.

She did not often go out, why should you go out?' said Chanu. 'If you go out, ten people will say, "I saw her walking on the street." And I will look like a fool. Personally, I don't mind if you go out but these people are so ignorant. What can you do?' Besides, I get everything for you that you need from the shops. Anything you want, you only have to ask. (Ali, Brick Lane, p.45)

Although Chanu has lived in the western country for sixteen years, he hasn't forgotten his cultural roots. He is the typical patriarchal figure, and doesn't allow Nazneen to step out of the house if there is no vital reason. He especially argued with the taunts "It is lucky for you that you married an educated man. That was a stroke of luck". Nazneen experienced a year

exploring the Western world. She was taught by her mother to never argue or raise questions about male decisions. If you want to ask questions, God (Allah) should give you birth as a male. Males are superior by birth. It is up to God's hand we do not raise our voice against God. Nazneen's principle in her life was "what can not be changed must be born." Her mother told said when she was a child. The novel repeats her mother's voice again in her mind. Just bear and endure. These sentences clearly explain the difference in roles between men and women in Bangladeshi society. While women characters in the novel are familiar with some of these expectations due to their upbringing, others are acquired after their marriage. Yet, these come naturally to them. Nazneen never talks back to her husband, except when he asks her a question. All their conversations are single ended.

4) Nazneen trapped in her own house

Monica Ali carefully portraits Nazneen's character in a way that touches every woman's social and family life. Every Bangladeshi woman is trapped between two cultures. One is her own and the second is where she comes to earn money for a better future.

She looked and she saw that trapped inside this body, inside this room, inside this flat, inside this concrete slab of entombed humanity. They had nothing to do with her. For a couple beats, she closed her eyes and smelled the jasmine that grew close to the well, heard the chickens scratching in the earth, felt the sunlight that warmed her cheeks and made dancing patterns on her eyelids. (Ali, Brick Lane, p.76)

Through the quotes, Nazneen represents her mindhood, how she is trapped between two cultures. As a homemaker, she has to work for her family and husband. But after observing the western culture, she observed in London, men and women were treated equally. Women also work the same as men do in the various offices, factories, day and night, all together, without any prohibition. London is the land which gives equal opportunities to men and women. But she was caught in the room by her husband. She understood that she was trapped in the body, she couldn't move out of the house. Her daily routine starts from making food for Chanu and taking care of her daughters and sometimes watching the world through the window. Her soul, mind, heart and goals are trapped in her own body, which is waiting to do something useful for her life.

'One woman, I believe it was Reba, a seamstress said, "Sisters, it is obvious. We must make the men suffer so that they will come to our aid and dig a new well. all we have to do is withdraw our labour. We go on strike if they want water, let them fetch it for themselves." Was it possible for the women to bring only their own ration of water and not share it with the men? Would the children be the ones to suffer most? Would the men see reason and begin to dig, or would they resort to violence? (Ali, Brick Lane, p.65)

Nazneen remembers the incident, she is inspired and starts to lead her life along with her daughters. She knew how an



uneducated woman in her village, Gauripur, fought against male dominance and gained freedom from labor work. If that uneducated woman can fight for freedom, then why me not? Therefore, she started rebelling against her husband and started on London's streets wondering along with her son. There she realized life is beautiful if there is no one for her to control. The day she did not remain an innocent Bengali woman. She became an independent woman as most western women have been doing since their birth. Now, the journey starts from an innocent Bengali woman to a rebellious modern Westernized woman. From that day, she has never asked her husband to do anything. It is the inspiration for all those migrant Bengali women who are suffering the same problems in the host land.

CONCLUSION

The title of the study represents the sorrow of all Bengali women. Who is ever allowed to enjoy freedom? On the other hand, male members always discriminated against them. If God has given you the gender of woman, it means you are only born to suffer. Through the portrayal of Nazneen, Monica Ali carefully depicts the world of oppressed women in Bangladesh and how a common Bangladeshi woman adopted western culture and changed her life. Nazneen is the symbol of struggle, and her story represents emancipation from an old orthodox male-dominated society. The only way to live life with self-respect and independence is to raise one's voice against injustice. Every woman must become financially and mentally independent. That is the only means of true emancipation. The way Nazneen transformed herself from an oppressed woman into a modern Westernized woman. Her journey was full of struggle, but she dared to face them and set an example for all oppressed Bangladesh women.

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THE ALTERNATIVE LEARNING SYSTEM BENEFICIARIES IN THEIR ENGLISH LANGUAGE JOURNEY WITHIN THE CONFINES OF A JAIL FACILITY: A MULTIPLE CASE STUDY

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ABSTRACT

This qualitative multiple-case study unveiled the English language learning experiences, and coping strategies across all five cases of ALS beneficiaries through in-depth interviews who were chosen through maximum variation sampling, and the data triangulation was done by interviewing individuals closely related to the participants. Thematic analysis resulted from seven emergent themes on the English language learning experiences: strong desire for education, supportive teachers and peers, practical pedagogical methods, progressive English proficiency, inadequate learning resources, poor English background, and English learning barriers. The emergent themes for the coping strategies include workable resource utilization, socialized learning activities, obtaining teacher's guidance, and active and regular self-learning methods. The five cases had similarities in terms of practical pedagogical methods and inadequate learning resources, while the cases had differences in all other themes. Moreover, coping strategies of all cases had similarities in terms of workable resource utilization, and active and regular self-learning methods and had differences in terms of socialized learning activities and obtaining teacher's guidance. These findings showed the importance of the educational program in the context of jail facilities and how these ALS beneficiaries develop their English language skills despite limitations and inadequacy of resources. These insights could enhance understanding that may lead to more effective teaching approaches and implementations of the ALS program within the context of jail facilities.

KEYWORDS: Education, ALS program, English language learning, language skills, ALS beneficiaries, jail facility, multiple case study, Philippines

INTRODUCTION

The Alternative Learning System (ALS) Beneficiaries in the context of jail facilities focusing on their English language journey are aiming to gain education and improve language skills despite encountering obstacles that impede their learning journey. According to Sala (2024), limited resources and constrained spaces in jail facilities affect the ALS Beneficiaries' English language journey. Additionally, Faa (2020) underscores the shortage of ALS English language instructors qualified and equipped for the jail environment which consequently affects the educational journey of beneficiaries. Akin (2023) highlights how the stress caused by imprisonment hampers learning abilities whereas Cortez's (2023) research, from the year points out the challenges, in organizing ALS sessions within prison schedules. These issues together hinder the progress of ALS inmates in their English language journey.

From a global perspective, according to the National Immigration Law Center (2021), the lack of English language education and support programs in jails poses a major problem, especially in the United States. This problematic situation impacts individuals in

prison who are foreign in the country with diverse linguistic backgrounds and face significant barriers making it harder for them to learn the English language effectively. These shortcomings hinder the development of their English language skills hindering communication, between prisoners and prison personnel.

In the context of Asian countries, incarcerated Japanese learners face many challenges in their English language journey in jail facilities. These challenges are the results of a lack of sufficient educational programs, and educational resources, and issues with the instructions for English language communication. Additionally, according to UNESCO (2006), psychosocial aspects such as stress or being cut off from contact also limit their ability to learn, alongside difficulties in interacting with necessary educational activities due to the restrictions of prison orders. As a result, there is a serious deficit in the amount of knowledge acquired by the incarcerated population, and the perception of such problems is a clear indication that there is an urgent need for changes in the approach.



The lack of English language support and educational programs in jails in the Philippines is a serious problem that affects the least fortunate and most marginalized learners like indigenous peoples and people with disabilities. Alcantara and Quisumbing (2022) said that such vulnerable groups experience great difficulties in accessing English language education and other language-related support because of poverty, discrimination, and the unavailability of high-quality English language education. Hence, the lack of proper English language services, among beneficiaries, is a big barrier to their rehabilitation, which includes their ability to interact with prison staff and prepare themselves before being released back into society.

PURPOSE OF THE STUDY

With the case studies of alternative learning system (ALS) beneficiaries, this study examines their English language learning experience. It attempts to delve into the backgrounds, problems, and expansion of such learners providing insights on how they manage their quests for education behind prison walls. The research emphasizes good practice rehabilitation and reintegration work grounded in English language learning through a focus on these experiences. The present study aims to provide essential information needed for creating more successful L2 teaching programs and policies in the criminal justice system that could lead to further improvement or change.

RESEARCH QUESTION

1. What are the unique and diverse English language learning experiences of Alternative Learning System beneficiaries within the confines of jail facilities?
2. How do beneficiaries cope with language-related challenges in a jail facility?
3. What explains the similarities and differences of each case?

REVIEW OF RELATED LITERATURE

Alternative Learning System (ALS)

The Alternative Learning System is a tuition-free educational initiative administered by the Department of Education through the Alternative Learning System. It serves individuals who lack the means to enroll in formal schooling and accommodates their existing schedules. This program serves as a practical substitute for traditional formal education, incorporating both non-formal and informal channels for acquiring knowledge and skills (Sumang, 2014).

In a study, ALS is a parallel learning system that provides a viable alternative to the existing formal education instruction. Hence, it encompasses both the non-formal and informal sources of knowledge and skills based on RA No. 9155, 2011. The system is supervised by the Department of Education (DepEd) in which, ALS is a program that intends to provide basic education to the deprived, depressed, and underserved (DDUs) Filipinos. Therefore, this educational system has been Access to quality basic and tertiary education has been the primary concern of the Philippine government. The World Bank has reported that a high

percentage of Filipino Alternative Learning System (ALS) graduates are enrolled in tertiary education (Mamba et al., 2021).

English Language Learning of Alternative Learning System

A Case Study" by Tarhata S. Guiamalon et al. (2022) underscores the effectiveness of the Alternative Learning System (ALS) in enhancing English language learning among marginalized groups in the Philippines. In this qualitative study, the author focuses on the role of ALS in teaching literacy and communication skills to, out-of-school children, youths, and illiterate adults, thus filling gaps in education.

The study "ALS Program Graduates and Level of Readiness towards Tertiary Education" by Marcelo (2023) transforms the role of ALS towards aiding the English learning of its graduates for tertiary education preparedness. As a program designed for out-of-school youths and adults, the ALS program assists the learner to gain relevant literacy skills as well as communication skills which are essential for academic achievement.

Educational Programs within Jail Facilities

In the article "Learning to Escape: In Understanding the Impetus of Prisoner Participation in Prison Education, Rehabilitation and the Possibility of Change, Behan (2014) examines the reasons that prisoners have to participate in learning programs in Irish prisons. The results stress the connection between education and rehabilitation as, with prisons becoming more authoritarian globally, it is vital in the process.

Thus, Kouritzin (2019) argues in the literature review that they are struggling with language and literacy learning in jail facilities and the role of language education in the reintegration process. To this end, the study endeavors to establish patterns and themes of prison-based language learning while paying particular attention to the redemptive aspects of the endeavor and the potential as a tool for the facilitation of desistance.

Challenges Faced by Alternative Learning System Beneficiaries in Jail Facilities

These include the study with the title "Conquering the Experiences of Pain, Boredom, and Despair Among Selected Incarcerated Mothers Through Alternative Learning System Activities" conducted in the International Journal of Public Health Sciences Isidro et al. 2022 that researches different difficulties of ALS beneficiaries in prisons. The findings of the study establish that incarcerated mothers experience different forms of pain and boredom which inhibits their performance in educational programs.

According to the inmates participating in the study by Addae (2020), the selected jail facility in Ghana has different barriers that affect inmates' education. These were inadequate support from institutions, teacher supply and shortages, and low motivation among teachers.



Alternative Learning System Implementation in Jail Facility

This paper by Abad et al. (2020) presents the implementation landscape of an ALS program of a division in the Philippines with a focus on its importance in providing education to inmate learners. According to the research, it is pointed that the ALS program is an important form of education for inmates, which can help them gain the necessary skills for their qualitative changes and to become society members again.

Qualitative research done by Capiz State University in 2022 is to ensure that ALS in the Jail Facility displays how it follows the national standards set by DepEd with the help of analyzing & reviewing the implementation of ALS in the ALS Center. Moreover, this is a valuable case study because it reflects some practical considerations of ALS implementation within the prison environment.

Socio-Rehabilitative Benefits of Alternative Learning System Beneficiaries in Jail Settings

In the study "Rising Scholars: On How the socio rehabilitation processes and Impacts of the ALS for Incarcerated Clients and Those Who Have Been Released from Correctional Institutions, Abeyta et al. (2021) used two community colleges in their study. This is the reason why the research focuses on the fact that, providing educational opportunities through ALS these institutions contribute greatly to successful reintegration in society. Raising consciousness of the value of engagement in an ALS program within and outside a classroom cannot but recommend the current education programs that do not only promote skills and knowledge but also the spiritual dimension of students.

Specifically in the study titled: The Social–Rehabilitative Roles of The ALS Students in the Correctional Facilities: Examining the Students’ Troubles in Writing Good Material for Decoding by Antipuesto et al. (2023), the focus was placed on the learning

process served through ALS program and its positive impact on reading comprehension of the beneficiaries in jail facilities. The work reveals problems that ALS learners encounter such as poor word repertoires, time, and the call for the development of word stocks that slows learning processes. At the same time, this research shows that there are significant barriers to the ability of incarcerated learners to engage with the ALS program; however, there are essential occasions and learning experiences that promote an individual’s agency and culture in the program to develop skills for a better future.

METHODS

This research used a qualitative research method whereby a multiple-case study research design was used to investigate a contemporary phenomenon in its natural setting. Qualitative research is important for investigating the details of people's lives since it establishes how individuals function and why they do so. Similarly, Cleland (2017) uses arguments to assert that, ‘Qualitative research is important in educational settings because it offers a richness of understanding of phenomena, experiences, and their settings’. This is the best approach when it comes to capturing the social relations and individual experiences of the participants. The quality of qualitative research is in the diversity of the way it embraces the human experience data through interviews, focus group discussions, and observation (Taylor & Francis, 2013).

RESEARCH PARTICIPANTS

The participants included in the research were the five (5) enrolled students of the program of Alternative Learning System (ALS) within the confines of a jail facility, 1 participant in each unique case who was coming from different jail facilities in the Davao Region who are incarcerated in the jail facility for not less than 1 year and has enrolled in the Alternative Learning System program inside the facility.

Table 2

English Language Learning Experiences of Alternative Learning System Beneficiaries within the Confines of Jail Facilities

Essential Themes	Core Ideas
Strong Desire for Education	-Reflecting on missed opportunities for advancement -Realizing the importance of education for a better future -Being serious about learning reading and learning a high school diploma -Aiming not to repeat the father’s limitations -Joining ALS with the hope of self-improvement and future opportunities -Desiring to further education and secure better jobs -Being motivated by financial struggles and desire for educational attainment
Supportive Teachers and Peers	-Appreciating individualized instruction and teacher guidance -Being driven by the family-influenced desire to gain basic literacy -Finding unexpected flexibility and support from the community -Being influenced to take small steps, peer learning, and group support
	-Having practical exercises and group activities for English learning -Being educated with learning materials, modular format, and self-study requirements



Practical Pedagogical Methods	-Being introduced to varied teaching methods and group discussions for building confidence -Being provided with a focused study space free from external distractions -Being introduced to translation techniques and repetitive practice to reinforce vocabulary and sentence structure
Progressive English Proficiency	-Developing greater self-confidence, a stronger sense of self-worth, and better communication skills -Gaining improvements in oral and writing abilities -Achieving English language growth through confidence -Having a greater willingness to engage in classroom activities -Gaining a newfound interest in reading
Inadequate Learning Resources	- Having a shortage of dictionaries, reference books, and other learning aids -Having a non-ideal learning environment -Encountering interruptions and disruptions which made learning English difficult -Lacking sufficient resources such as reading materials and internet access
Poor English Background	-Having challenges in grammar, sentence construction, and vocabulary development -Having initial thoughts that English is easy but experienced otherwise -Having struggles with English pronunciation -Having limited formal education in the past -Being out of school multiple times due to financial challenges
English Learning Barriers	-Being affected by the restrictive nature of class schedules and available support -Having less face-to-face learning which limits interactions -Being exposed to modular learning -Having dual roles as parent and student -Being exposed to environmental disturbances

Strong Desire for Education

This issue is represented in all the cases and highlights the reasons, challenges, and goals that compel people to acquire education. The responses of each participant also reveal specific reasons and concerns that correspond well with each participant's passion and commitment to learning while in prison.

Supportive Teachers and Peers.

The second theme comes out clearly from the responses of the participants in the study and how individualized instruction, teacher guidance as well as peer support and family influences affected the participants' learning experiences in the Alternative Learning System (ALS) program. In all the described cases, the participants proved that motivation plays a critical role in education and that a favorable learning environment – be it with the assistance of teachers or fellow inmates – helps minimize the challenges experienced by learners.

Practical Pedagogical Methods.

This is evident from the responses presented in this theme, showing how different instructional approaches and learning arrangements supported the participants' English learning. Some of these worked from practical exercises and Group activities to the learning aids, modality, and study environment issues though they experienced some personal difficulties in their learning process. Following this, the use of the translation

technique along with the exposure and practice that was offered to them sustained the development of more English vocabulary and structures gradually.

Progressive English Proficiency.

The theme is generated by the intention to grow despite obstacles, and as the participants' English gradually becomes better, they progress as well. In a variety of contexts, such as writing, speaking, reading, and listening the fundamental concepts can further illustrate participants' incremental enhancement of their English proficiency –building more self-confidence, enhancing oral and written communication skills, and participating more actively in their classroom settings.

Inadequate Learning Resources. The theme is extracted from participants' difficulties in having access to some materials, learning in unfavorable conditions environment, and external influences that make them unable to reach their optimum learning in English. In all the studies, participants pointed out that they had difficulties in borrowing dictionaries, reference books, and proper study places. These limitations not only slowed them down but also contributed to the frustration of learning in an environment characterized by lots of interferences and structural inadequacies.



Poor English Background.

This theme appears considerably in the reactions of the respondents, who had several difficulties in achieving language proficiency caused by the lack of practice, illiteracy, and poverty. The participants, on average, view the process of attaining crucial language features like grammar, construction of a sentence, the choice of words, and the accent, as a challenging task. While developing proficiency in English they were enamored that it might have been an easy task to achieve, but through their experiences and grey zones in education including limited resources and interrupted schooling, they realized that it was a very difficult thing to do.

English Learning Barriers.

The theme was deduced from the different difficulties experienced by the participants as they learn English, especially regarding the ALS program, and other difficulties which may include set-up constraints such as a rigid timetable, ability to learn in only one way, role confusion, and environmental interferences. These barriers would either limit or partially prevent them from embracing their programs fully, in terms of motivation or progress.

Table 3
Coping Strategies of Beneficiaries with Language-related Challenges in a Jail Facility

Essential Themes	Core Ideas on Coping	Challenges
Active Self-Learning	-Engaging in self-study and peer support to make up for the lack of advanced tools or interactive materials -Making a habit of reading English materials -Maintaining a journal written in English -Practice writing even using simple language -Incorporating new words into sentence formation to enhance both understanding and usage -Revising and revisiting work based on corrections -Completing worksheets	Struggles with pronunciation and using correct grammar
Socialized Learning Activities	-Interacting with peers to seek understanding -Finding time to apply correct usage by conversing with more knowledgeable peers -Continuously participating in discussions and group work -Establishing social bonds to gain self-confidence -Engaging in conversations with both inmates and staff to practice speaking and listening -Becoming comfortable by having a shared experience of overcoming language barriers -Developing a sense of community	-Low self-confidence -Lack of substantial exposure to English in past and present situations
Workable Resource Utilization	-Engaging with any available books -Using available simple reading modules and the mini-library -Borrowing books even if not English-related to be engaged with the reading material -Asking for alternatives from teachers to compensate for the lack of formal materials -Utilizing flashcards and writing simple sentences to internalize new words -Practicing by answering ALS modules	-Limited access to educational resources and materials -Interruptions to study time
Securing Teacher's Guidance	-Participating actively during teacher-directed discussions -Asking the teacher for further explanation on some English lessons -Seeking teacher's feedback on one's learning performance	-Need for more teacher-student engagement -More on modular learning compared with face-to-face



Active Self-Learning

This theme arises from the participants' relentless measures to deal with the barriers in language including the problems pronouncing and warping sentences. Participants used strategies that showed them creativity and endurance in the attainment of English in restricted situations and contexts.

Socialized Learning Activities

This theme focuses on how participants employed conversations and group actions to mitigate difficulties including passive self-esteem and socialization, as well as minimal interaction with the English language. Using this, they got to develop their language skills in a friendly and communal manner.

Workable Resource Utilization.

This theme focuses on how the participants managed the difficulties of long periods of limited access to learning resources and multiple interruptions to their lessons. In

constructing new knowledge and meaning the action and engagement of the participants showed adaptation due to constrained environment and contexts as well as creativity.

Securing Teacher's Guidance.

This theme focuses on how participants were able to deal with constraints such as limited textbooks and frequent interruptions to their study. Pragmatically, by trying to achieve as much as possible within the limitations imposed on them, most participants navigated their learning environment in a remarkably hopeful and innovative manner.

Table 4

Similarities and Differences of the English Language Learning Experiences and Coping Strategies on Language-related Challenges of ALS Beneficiaries Within the Confines of Jail Facility.

Themes on Experiences and Coping Strategies	Case Unit		Remarks
	Similar	Different	
Experiences:			
Strong Desire for Education	A, C, D		All the 3 cases expressed that their goals are tied to furthering their education and securing better jobs. They saw English as a tool that would be instrumental in achieving those ambitions, whether it be completing formal education or finding employment.
		B	Case 2 had difficulties in all language skills due to his background causing him to have a strong desire to learn the English language. He is the only case with utmost difficulty in reading.
		E	Case 5 has a strong desire to learn due to his disability, and previously he was neglected in formal education unlike when he entered ALS in the facility.
Supportive Teachers and Peers	A, C, D		All three cases valued the encouragement and flexible teaching methods of ALS compared to rigid past schooling experiences. They found that ALS is more accommodating compared to formal education, with the teachers offering more understanding and support.
		E	Case 5 received a one-on-one session from the teacher for extra guidance to facilitate understanding and comprehension.
		B	Case 2 receives an extra lesson from the teacher to master his reading skills.
Practical Pedagogical Methods	A, B, C, D, E		All participants echoed a preference for the supportive, flexible, and practical methods of ALS compared to traditional schooling.
	A, C		The two cases appreciated the emotional support of ALS teachers in their teaching methods.
	C, B		Participants C & B used flashcards for vocabulary improvement.
		A	Used newspaper to improve vocabulary and create groups for speaking improvement.



		C	Resourceful, maximizing available materials in the facility, and using extra material like printed lyrics
		B	Used story books for children and practice reading aloud. Valued practical learning the most
		D	Viewed translation techniques and repetition as particularly effective in bridging educational gaps
		E	Asked permission to utilize a computer for improving listening comprehension.
Progressive English Proficiency	A, B, C, D		The 4 cases reported an increase in confidence as they progressed in learning English, indicating that acquiring new language skills boosted their self-esteem and communication abilities.
		A	Case 1 already has a little background because of prior exposure to English.
		E	Case 5 expressed frustration that his listening disability hinders him from developing proficiency.
Inadequate Learning Resources	A, B, C, D, E		All cases agreed on the constraints posed by the prison setting, emphasizing the scarcity of resources like books and other reading materials. Limited access to educational materials is a recurring obstacle.
Poor English Background	B, C, D, E		The 4 cases only reached certain grade levels which resulted in a greater struggle with basic literacy and foundational learning.
		A	Case 1 had an advantage in understanding English conversation due to prior exposure.
English Learning Barriers	A, B, C, D		All 4 cases shared learning difficulties and limited access to resources.
		E	Case 5 strongly emphasized foundational gaps due to his auditory processing disorder.
Coping Strategies			
Workable Resource Utilization	A, B, D, E		All 4 cases maximized available resources to have meaningful English language learning.
		C	Case 3 possessed resourcefulness and creativity compared to the 4 cases.
Socialized Learning Activities	A, B, C, D		The 4 cases acknowledged the value of group discussions for building confidence and its positive impact on self-esteem, communication, and engagement with others.
		E	Case 5 preferred recordings and the use of pictures to aid understanding due to his listening disability.
Obtaining Teacher's Guidance	A, B, C, D		All 4 cases recognized support from teachers in overcoming language barriers and the shared experience with peers builds a sense of community and learning direction.
		E	Received slow-paced instruction to cater to his special needs
Active and Regular Self-Learning Methods	A, B, C, D, E		All five cases consistently practiced writing, vocabulary, and grammar through class exercises and used these on their own, back to their respective stations. They repeatedly reviewed basic English concepts to reinforce their learning of the language.

English Language Learning Experiences.

In terms of a *strong desire for education*, 3 cases (A, C, and D) saw education as the key to transforming their lives. Their attitude presupposed a shared opinion about English that it is not only a subject, that is studied in classes but a skill that could help

them achieve their dreams. As for all three cases, education was viewed as an opportunity to have a secure financial status and improve one's life. Although the 2 cases are different, the experience of learning English in Case B is more remarkable within the framework of the present study due to extremely low



levels of education that significantly defined his path to literacy. While learning English was a unique experience for Case E because he has an auditory processing disorder that affected formal education dramatically.

In the context of *supportive teachers and peers*, the three cases: A, C, and D had one similar impression of their learning of English. All three participants stressed that ALS encouraged them more and was less rigid than the traditional education that they faced in school. Although the two cases are quite different, studying Case E will be useful because the respondent enjoys targeted individualized treatment. Unlike other participants to whom group learning-based learning and peer collaboration were sufficient to address their learning difficulties, Case E needed direct one-on-one teaching from his teachers. Moreover, one could also see that Case B's performance is different from the other students as he also gets additional service focused on his considerable difficulties with reading skills.

In terms of *practical pedagogical methods*, there were similarities and differences revealed. First, all five cases: A, B, C, D, and E are similar in the way that ALS methodology, which is available, practical, and focused on learners, was effective with different learners. The second similarity can be seen in cases (A & C) where both participants claimed that emotional support from the ALS teachers was important in the learning experience. Thirdly, both Cases (C and D) applied practical application of such methods as flashcards that proved their flexibility within the ALS program and their needs. On the other hand, difference occurs where all the five cases; A, B, C, D as well as E all receive their unique method of how they are to learn English effectively.

In terms of *progressive English proficiency* four cases (A, B, C, and D) are similar in their experiences, while it was revealed in the analysis that the two cases (A and E) differ. Four cases showed a growth in the level of English, which, in turn, had a positive impact on their self-esteem. All participants included pointed out that there are achievements in gaining an improved understanding of the English language and that such improvements enabled them to effectively express themselves. On the other hand, Case A had a competitive edge over the others in experience in English due to his prior exposure before moving to his current facility and Case E feels very uneasy about his progress due to his listening impairment, which causes him not to reach great heights in English proficiency.

In the context of *inadequate learning resources*, all five cases (A, B, C, D, and E) identified worries with the English learning process because of the limited learning materials owing to the nature of the prison environment. The common complaints were the lack of proper books and other reading materials as well as other assistive learning resources they needed to improve their language proficiency. The restrictions that came with learning in

a prison intensively arose and all the participants disclosed that resource restrictions affected their progress.

In terms of *poor English background*, in the analysis, it was evident that four cases (B, C, D, and E) have relatively low literacy skills as they have had very minimal formal education to enable them to learn basic English. All the participants encountered difficulties that arose from the lack of proper education, which made them have improper literacy and the ability to read, write, and comprehend. Due to this poor English background, they encountered more challenges while in the ALS program in that they had to struggle to grasp or even learn fundamentals that were encoded in the English language. However, in Case A the English language learning perception is much more distinct from the rest in the sense that he already had some background in English that enabled him to grasp what someone is saying in conversational English. Unlike the other participants, who could not even understand some of the basic English terms due to interrupted or no schooling at all, Case A already had prior English literal understanding.

In the context of *English learning barriers*, the analysis brought out more similarities of Cases (A, B, C, and D), these four participants present similar patterns of their learning English as well as the barriers they faced because of restricted access to resources. Regardless of the participants' backgrounds, it was possible to establish that all of them named obstacles that seemed to prevent them from making progress, such as limited resources, and there were problems in understanding the basic elements of learning the language. In comparison, Case E describes how the learning difficulties are caused by an internal condition – the Auditory Processing Disorder, as opposed to other cases that put forward an idea of disability and Education. Of course, all the participants reported having at least such difficulties as limited resources and difficult learning; however, Case E was additionally accompanied by physiological restrictions.

Coping Strategies on Language-related Challenges.

In terms of *workable resource utilization*, the four cases (A, B, D, and E) are as similar in their coping strategies given their distinct background—All made efforts to overcome language barriers despite having very limited resources accessible to them. Their ability to find ways of applying what seems to be readily available materials can be attributed, perhaps, to the fact that everyone was eager to learn English no matter the setting. In contrast, Case C is remarkable among the participants in the way she met the language-related difficulties with relatively more resourcefulness and innovation. Case C went further than all the other cases by proactively attempting to use what can only be termed as creativity in their learning by going the extra mile to use materials that did not even constitute part of the learning materials usually incorporated in learner practices such as flashcards, newspapers, or computers.



In the context of *socialized learning activities*, the analysis showed that four Cases (A, B, C, and D) yielded almost similar findings based on the coping strategy employed by the learners – the group discussions with related intensive activities such as ‘Group discussions,’ which helped the participants to overcome their language difficulties. In contrast, Case E established significantly different coping patterns from what has been observed in other cases. As in the other cases, the extent of peer dialogue and interaction was high, and wherein the other cases peer interactions were mainly through group discussions, case E required audio recordings and illustrations because of the difficulties in his auditory processing disorder.

In terms of *obtaining teachers' guidance*, four cases (A, B, C, and D) have similar response patterns to language difficulties. These participants depended on directions and the support of teachers. This goes a long way to demonstrate how the one-on-one lessons worked to influence their self-confidence as well as contribute to their development direction in learning English. Conversely, the coping strategies of case E are unique from the other cases in dealing with language barriers because of the special and slow teaching that his teachers imparted to him. Unlike the other participants, who received the standard procedures for motivation and interaction within the learning group, Case E necessitated correct timing, as well as specific methods of teaching due to his disability.

In the context of *active and regular self-learning methods*, all five Cases (A, B, C, D, and E) have identical strategies regardless of background and problems. All of them complied with regular and additional independent learning and practice to enhance their English skills. As for this practice, the first was to read materials, the second was to practice what was taught in class and the third one focused on the permanent recall of basic concepts.

DISCUSSION

English Language Learning Experiences of ALS Beneficiaries Within the Confines of Jail Facility

The English language learning experiences of beneficiaries of the Alternative Learning System (ALS) within jail facilities reveal profound themes. The first theme is a *strong desire for education*, as Rico (2023) has pointed out, this can be attributed to considerations of the missed opportunities for advancement, as many of the participants are aware of the constraints resulting from their past experiences. For example, some of the inmates regret having dropped out of school due to various reasons such as lack of financial support and other necessary needs to stay in school pointing out the pillars of education importance in case they are given the chance to correct this mistake.

The second theme is *supportive teachers and peers*. Individualized learning and the specific roles that teachers play

are most important in these contexts because some inmates mention how grateful they are to have specific help for themselves. Cartoneros (2023) points out that teachers in ALS settings are most useful for modifying their instructive approaches to suit students' learning needs, which leads to their active participation and improved performance. This is especially important because most of the inmates studied in different schools before being incarcerated and for different years, so their learning needs are quite distinct from one another's (Smith & Johnson, 2019).

The third theme is *practical pedagogical methods*, involving such practices as the use of practical activities and group work to help achieve participation of the inmates learning English. According to Brown (2014), interaction also plays a crucial role in the learning process pointing out that communicative activities bring about the most appropriate effects on language performance. This is a way not only to practice language in groups or to do role-plays but also to provide support and produce a kind of community within the learners, which is essential for learners who often study in correctional facilities.

The fourth theme is *progressive English proficiency*. Hence the major benefit of participating in English language programs is the improvement of self-confidence and fluency in this area. Wei (2022) lays out how through translanguaging, the learner is then given a voice within the classroom because their multiple linguistic selves are recognized, which is an essential factor to consider when learners are in jail – they are likely to feel invisible. This kind of empowerment results in improving inmates' self-esteem so that they can easily speak and write English fluently as they want.

The fifth theme is *inadequate learning resources*, this theme is made up of a shortage of learning materials, unfavorable learning conditions, disruption while studying, inadequate reading materials, and inadequate technology. All these aspects enhance the challenges of the inmates to master the English language. One major problem is the scarcity of performance and development dictionaries, references, and learning-related items. In a lot of prisons, there are no provisions for language development, making it difficult for inmates to get some of the most basic materials that can be used in building new words and in comprehension generally. A report from HMIP and Ofsted (2022) reported that there are no sufficient reading resources available in prisoner learning and teaching environments, and most educators possess no adequate learning resources to teach the learners. This lack of resources helps to restrict inmate learning and development of language and communication in the curriculum as suggested by the (GOV.UK, 2022).

The sixth theme is *poor English background*. This is typical in ALS learners who despite the improvement exhibited in their compositions invariably performed poorly in grammar and



vocabulary, or for that matter frequently employed cohesive devices incorrectly (Santiago & Neri, 2024). This suggests that the low investment in the development of the writing skills that support the construction of intelligent sentences is the reason the students have poor skills in writing coherent sentences that can capture and convey ideas.

Lastly, the seventh theme is *English learning barriers*. These barriers include class timetable restrictions, reduced face-to-face contact, reliance on modular teaching, parenting and student roles, and disturbances. Another control that has been observed in correctional institution classrooms is the compact school calendar which restricts the hours in a day that a language learning activity can take. Trained instructors are often neglected, resulting in ineffective educational interaction which does not exist for the SEALs (Gunn, 2019).

Coping Strategies on Language-related Challenges of ALS Beneficiaries Within the Confines of Jail Facility

The first theme *active self-learning activities*, emerges as a vital approach, enabling individuals to navigate the limitations of their environment effectively. As has already been mentioned, one of the main ways of dealing with the effects of social support in ALS beneficiaries is continuing self-education and turning to peers. Anduyan (2021) also remarks that adopting and integrating the use of blended learning modules can improve the self-efficacy of students, especially in settings where access to complex technologies is inconceivable. They work together to study by coming up with study groups common among the inmates they work with. Besides, it assists in the compensation of the lack of interactive stuff and such a procedure fortifies a feeling of people's togetherness, which is invariably precious in isolation situations such as imprisonment.

The second theme is *socialized learning activities*. One of the major techniques is to get in touch with peers with the possibility of gaining an explanation. Students in jail have group study as a means through which they can learn concepts in language and seek clarification from fellow members. Such peer interaction is very vital with a view to promoting a cooperative environment in learning that is enhanced by reciprocity (Winterowd, Morgan & Ferrell, 2001). Other studies show that such interactions improve the learnability of structures of language while also improving the inmate's fellowship which is extremely important for their welfare (Schweikert-Cattin & Taylor 2000).

The Third theme is *workable resource utilization*, which primarily includes several methods used by the inmates to counter the language barriers they face. Such options are picking available books, simple reading modules, getting non-English-based materials, asking teachers for other options, flashcards, and ALS. ALS beneficiaries who are in jail are known to be strong and very resilient in society. They choose and use resources within their disposal the improve their language

proficiency. One of them is to relate to any books available to the survivor. When reading, people get acquainted with new words, and enhance their literacy and analytical abilities (Smith and Jones, 2023).

Finally, the fourth theme *securing the teacher's guidance* emphasizes the role of a teacher in managing the aspects of language that are a concern of inmates. As analytical strategies, the intention to engage in teacher-led discussions, the intention to ask the teacher for additional explanations concerning English lessons, and the intention to ask the teacher for some comments concerning learning activities and accomplishments can be viewed as essential for boosting learning achievements. Another strategy practiced by the beneficiaries of ALS is asking the teachers to assess their learning performance. Evaluation feedback represents a critical activity in the process of self-organization and improvement, which helps inmates determine their accomplishments and deficits (Nguyen & Tran, 2022).

Similarities and Differences in English Language Learning Experiences and Coping Strategies on Language-related Challenges of ALS Beneficiaries Within the Confines of Jail Facility

English language learning experiences. The theme of a *strong desire for education* is evident as all three cases (A, C, and D) highlighted their ambition to further their education and secure better jobs. Something as basic as the ability to speak English was seen as one way of accomplishing these objectives, and those could range from finishing school to getting a job. This discovery accords with another study, which underscores the role of language in determining social mobility as well as access to existing and emerging economic opportunities (Crystal, 2003).

The theme of *supportive teachers and peers* was further supported by the findings that all three cases (A, C, and D) opined that they had received encouragement and less rigid teaching from ALS than in the earlier school system. They perceived that ALS was more flexible and flexible, and teachers were more compassionate to students. As with any learning system, one of the main strengths of ALS is its highly adaptable teaching methodology. The beneficiaries stated that their teachers had become more approachable in terms of using instructional or facilitation methods that would address individual needs, and thus uncompromising as far as formal schooling was concerned. Kamrath and Gregg (2018) support the opinion that correctional educators who address each learner individually promote better learning and achievement of goals among prisoners despite all the difficulties they may encounter. This flexibility is important because inmates may come from different schooling levels and have different ways of learning, as Smith and Johnson (2019) pointed out learning should be individualized for participants.



The theme of *practical pedagogical methods* is well illustrated in that all five participants (A, B, C, D, and E) revealed their clear preference for the ALS teaching method over traditional conscious and rigid education systems. This corresponds with Kendall & Hopkins (2018) whereby pointed out that in prison education, peer grouping is more receptive, and as such students are encouraged to learn. This flexibility makes it possible for teachers to deliver the curriculum and learning activities according to every student's requirement, which is very essential in correctional education because learners encounter multiple barriers (Lockard and Rankins-Robertson, 2018).

The theme of *progressive English proficiency* is relevant as in all the four cases (A, B, C, and D) interviewed, there was an increased confidence while learning English as they continued with their training. This result supports other studies that have affirmed the psychological benefits of learning languages. Every language practice can improve a person's self-esteem, develop communication, and create opportunities (Gardner, 2006). This is also in concordance with the study by Montoya (2024) which reported that correctional education strengthens self-image and interpersonal communication among prisoners. The acquisition of new language knowledge is generally accompanied by positive changes in learners' perceptions of the self, letting them communicate better with their equals and teachers (Evans, 2024). The theme of *progressive English proficiency* is relevant as in all the four cases (A, B, C, and D) interviewed, there was an increased confidence while learning English as they continued with their training. This result supports other studies that have affirmed the psychological benefits of learning languages. Every language practice can improve a person's self-esteem, develop communication, and create opportunities (Gardner, 2006). This is also in concordance with the study by Montoya (2024) which reported that correctional education strengthens self-image and interpersonal communication among prisoners. The acquisition of new language knowledge is generally accompanied by positive changes in learners' perceptions of the self, letting them communicate better with their equals and teachers (Evans, 2024).

The theme of *inadequate learning resources* has shown that all participants acknowledged the limitations resulting from the prison setting, where there is frequently an inadequate number of educational materials. Santiago and Neri's (2024) study calls for better attention to applying cohesive devices in writing assignments stating that ALS learners face challenges applying them because they lack enough instructional material.

The theme of *poor English background* is valid as presented in the four cases (B, C, D, and E) — all claimed that their low level of education led to more difficulty in coping with literacy and foundational learning. Studies show that anyone who has achieved only certain grade levels will experience serious difficulties in building literacy capabilities. This aligns with the

study of Labarrete (2019) stated that reading comprehension achievement as well as the study skills competencies of ALS clientele determined that the participants favored the Literal Comprehension aspect but deferred on the Inferential and Evaluative duty. This finding emphasizes the need for special efforts to enhance literacy skills among prisoners.

The theme of *English learning barriers* described how all four cases demonstrated learning challenges resulting from the lack of education. Cabalfin, et al. (2024) found in their research that ALS learners in correctional facilities have poor literacy levels owing to poor primary education before being incarcerated. Such failures result in a huge difficulty in learning because before an inmate can grapple with enhanced language content s/he has to overcome these fundamental deficits.

Coping strategies on Language-related challenges. The theme of *workable resource utilization* is especially significant, as all four of the discussed cases (B, C, D, and E) used any available resources to the fullest to provide for more effective English learning. Thus, the excitement in Case 3 can be analyzed as greater when compared with the other cases, both in terms of resourcefulness and creativity, as Pattern A turned out to be essentially the same in all cases, and the distinctions in the coping strategies used by the participants exist. The four cases disclosed that all were able to optimize the available resources in the best way possible. This supports Konyango's (2011) studies on resource utilization, especially in institutionalized learning. As this occurs in correctional environments where access to learning materials is limited in many ways, learners have to find creative uses for the available resources. For instance, the participants may use objects that are within their vicinity or look for unstructured learning activities to improve their language.

The theme of *socialized learning activities* is particularly important, all the participants (A, B, C, and D) noted that group discussions are helpful to develop confidence, self-esteem, communication, and interaction skills with other people. On the other hand, Case 5 preferred using recordings and pictures to help with understanding because he has a disability in listening. Such group discussions came out as one of the most effective ways through which the participants coped with the situations. This accords with the survey by Galang et al. (2023), who noted that CVS students share a common unity with their fellow ALS students. Talking in the group will enable learners to articulate what they have understood in a group discussion thus enhancing their understanding and language skills. Learning in groups has a positive effect on confidence and turning into an active performer, which is essential in language learning (Bucanegra et al., 2020).

The theme of *obtaining teacher's guidance* is especially important because all four cases (A, B, C, and D) mentioned the



help of teachers in overcoming language difficulties. This was an addition to sharing actual experiences with fellow learners who created a sense of togetherness during learning since they were all in the same boat without clear guidance. On the other hand, Case 5 was taught at a slow rate focusing on his needs under the theme that education should be personal. This shows that appreciation of teacher support in all cases is in line with Mosimege and Winnaar (2021) who posit that instructional teaching practices have a big influence on the learners' performance. But in correctional settings, where access to basic learning tools may be scarce, the part of educators is magnified. Described below is how participants opined their instructors in providing direction on the sophisticated process of learning English besides encouraging a favorable environment for language learning.

The theme of *active and regular self-learning methods* is especially important because in all five cases (A, B, C, D, and E), they wrote, improved their vocabulary and grammar by performing class exercises, and in their turn at the stations, they used them independently. They kept on revising simple English ideas to ensure that they continued to remember how the English language was learned. Using self-learning methods is consistent with Rathiga (2017) wherein the author pointed out that the use of learning through mobile applications provides effective enhancement in language learning. As for the inhabitants of jail facilities within the scope of the implementation of the ALS program, the possibility of independent study helps to consolidate knowledge of basic language skills.

IMPLICATION FOR PRACTICE

The results of this study concerning ALS learners in a jail setting have a few important implications for practice specific to the beneficiaries of ALS and generally to learners in marginalized and restrictive learning environments. First, due to great variations in learners' backgrounds from illiteracy to learning disabilities, the authors highlighted the need to use a flexible and learner-centered approach to teaching. Prospective teachers in the ALS program should ensure the use of individual learning instruction, teaching methods that involve student differentiation, and teaching learning materials that will require contextual learning and teaching. Further, the consistent problem of access to education materials always being a concern in the jail environment underscores the problem area of resources. Educational planners must ensure that sufficient learning/teaching aids like books, flashcards, and multimedia are made available while the question of how to incorporate the use of technology resources like computer or audiovisual or even restricted use of multimedia in teaching and learning is another important consideration considering the learners with e disabled. The engagement and motivation of ALS learners are also attributed to the teacher's involvement in the program. Incorporation of professional development needs in ALS

educators should call for acquisitions in the capacity to respond to the needs of diverse learners who may have language packs or learning disabilities.

RECOMMENDATION FOR FURTHER RESEARCH

Additional studies on the Alternative Learning System (ALS) in jail facilities should focus on critical research questions to enhance program delivery. Prospective cohort studies are recommended to assess the impact of ALS participation on employment, education, and social rehabilitation outcomes for learners. Comparative studies across different jail facilities—both urban and rural—could reveal variations in program effectiveness and resource availability. Research should also explore the perspectives of ALS educators in jail settings to inform better support systems for teachers. Lastly, integrating mixed-methods approaches that combine quantitative assessments with qualitative insights will provide a comprehensive understanding of ALS's effects, ultimately supporting policy and practice improvements.

CONCLUSION

The study emphasizes the importance of making the Alternative Learning System (ALS) accessible and convenient for marginalized learners, especially in comparison to traditional education. It challenges the notion that restrictive environments like jail hinder learning due to inadequate resources and poor literacy skills. The findings highlight how self-learning procedures, regular use of solutions, and supportive relationships within the ALS framework can significantly impact education in severe conditions. Additionally, the research illustrates that ALS participants view education not just as literacy acquisition but as a means for personal change, agency, and social reintegration. Overall, the study advocates for enhancing ALS programs in jail facilities by providing better tools, integrating teaching techniques, and removing barriers to learning to promote educational equity and transformative outcomes for incarcerated individuals.

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SIGNIFICANT IMPROVEMENT IN QUALITY OF LIFE: AN AYURVEDIC CASE STUDY ON KITIBHA KUSHTA

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ABSTRACT

This article presents a comprehensive case study on the Ayurvedic management of Kitibha Kushta, a chronic skin disorder characterized by patches and lesions that can lead to significant discomfort and psychological distress. The Kitibha Kushta can be correlated with the Psoriasis in Contemporary science. Psoriasis is common chronic skin condition which is characterized by the development of erythematous, well defined, dry, scaly papules and plaques of size ranging from a pinhead to larger size. The study focuses on a 22-year-old male patient who exhibited typical symptoms of Kitibha Kushta. The management plan included a holistic approach combining dietary modifications, herbal formulations like Khadiraarishta, Nimbadi Kashaya etc. and therapeutic treatments such as Panchakarma like Vamana & Virechana. The efficacy of the treatment was assessed through both qualitative observations and quantitative measurements of symptom relief over a 3 months period. Results demonstrated a marked improvement in the patient's skin condition, reduction in itching and inflammation, and enhanced overall well-being. This case study underscores the potential of Ayurveda as a viable treatment modality for chronic skin conditions, highlighting the importance of individualized therapy and lifestyle adjustments in achieving long-term health outcomes. The findings contribute to the growing body of evidence supporting Ayurvedic practices in dermatological care and encourage further research into the mechanisms and effectiveness of such interventions.

KEYWORDS: Kitibha Kushta, Psoriasis, Erythematous, Scaly papules, Plaques, Khadiraarishta, Nimbadi Kahasya, Panchakarma, Vamana, Virechana

INTRODUCTION

There is a growing number of population-based studies providing worldwide prevalence estimates of psoriasis. Prevalence of psoriasis varies in different parts of the world. According to published reports, prevalence in different populations varies from 0% to 11.8%. For most of the data given, the range extends from around 0.5% to close to 2.5%. Psoriasis is common chronic skin condition which is characterized by the development of erythematous, well defined, dry, scaly papules and plaques of size ranging from a pinhead to larger size. Scales are dry in nature, associated with itching, Plaques like patchy formation on skin^{1,2}. It is mainly occurring on elbow, scalp, hand, legs etc. In Ayurveda all the skin related diseases are classified under the broad concept of *Kushta*. In Ayurveda, the definition of *Kushta* is mentioned as like –

“कालेनोपेक्षितं यस्मात्सर्वं कुष्णाति तद्वपुः”

If not given treatment on time and ignored which makes the entire body ugly is said to be *Kushta*³. *Kushta* is divided mainly in two types *Mahakushta* and *Kshudrakushta*⁴. The *kshudrakushtas* are subdivided into 11 types and *Kitibha Kushta* is one among them⁵. *Kitibha kushta* can be correlated with plaque psoriasis. *Kitibha kushta* is mainly associated with Vata and kapha vitiation and the

symptoms like *Shava varnayukta* (Blackish Discoloration), *Kinakhara Sparsha* (rough in nature), *Ruksha* (dry), *Kanduyukta* (with Itching)⁶. Acharya Charaka Mentioned that the *Kushta* is *Bahudosha Avastha* in which *Shodhana* should be performed⁷, Acharaya Chakrapani commented over that the *shodhana* should be done repeatedly to remove the doshas in little quantity every time because if at a time removes the doshas from the body it causes loss of strength and death also⁸.

Case Presentation: A 22-year-old male patient, had come to OPD of Kayachikitsa AAMC, Tumkuru complaining of Blackish coloured lesion, rough and whitish scaly multiple lesions over back of ears, scalp, forehead and legs associated with severe itching and pain in the past 8 months.

History: As per patient he was normal 1 year back. Developed with blackish spot over leg associated with itching which is rough and dry. Took Allopathic treatment and got temporary relief. Presently the same complaint relapsed once again with the similar features aggravated with multiple lesions over back of ears, scalp, forehead and legs with severe itching and pain in the past 8 months. So, he consulted to our hospital OPD for treatment. He is not known case of DM and HTN.



Personal History

Diet: Excessive consumptions of Madhura (sweet), Amla(sour), and Guru Ahara (heavy food)

Appetite: Reduced

Bowel: 1 time/day

Micturition: 4-5 times/day

Sleep: Good

Physical Examination:

BP- 110/80 mmhg

PR- 78/min

RR- 18/min

Temperature- 98° f

Astasthan Pariksha

Nadi- 78/min

Mala- Prakruta

Mutra- Prakruta

Jivha- Nirama

Drik- Prakruta

Shabdha- Prakruta

Sparsha- Ruksha and Khara Sparsha

Akriti- Madhyama

Systemic Examination:

RS- NVBS heard

CVS- S1 S2 heard, No murmurs

CNS- Conscious and well oriented to time & place

P/A- Soft & non-tender

Integumentary Examination

Inspection	Site: Right lower limb, Forehead and scalp, over back of the ears
	Shape: circular lesion over lower limb over back, irregular lesion over scalp and forehead
	Colour- Blackish white
	Discharge- Absent
Palpation	Temperature- Felt Texture of lesion- dry, rough & scaly Distribution – symmetrical
Tests	Candle grease sign- Positive Auspitz sign- Negative Koebner phenomenon- Negative

Samprapti Ghataka-

Dosha- Vatakapha pradhana tridosha

Dhatu- Rasa, Rakta, Mamsa

Upadhatu- Twak

Agni- Jatharganimandya

Srotas- Rasa, Rakta, Mamsa

Srotodushhti prakara- Sanga

Rogamarga- Bhaya

Udbhava Sthana- Amashaya

Vyaktasthana- Twak

Roga Swabhava- Chirkari

Sadhyasadhyata- Krichrasadhya

Samprapti-

Nidana sevana $\Rightarrow$ Tridosha Prakopa $\Rightarrow$ Spread in tiryaka gata shiras $\Rightarrow$ Twak, Rakta, Mamsa, Lasika

Dosha dushya takes sthanasamsraya in Twak

Kushta



Vyavachedaka Nidana- Kitibha Kushta, Sidma, Dadru, Vipadika

Vyadhi Vinischaya- Kitibha Kushta

Centre of the study: This study was carried out in OPD of Kayachikitsa AAMC, Tumkur

MATERIAL & METHODS: Shamana Aushadi (Internal Medicine), Amapachana, Arohana Snehapana (internal Oleation therapy), Vamana (Emesis therapy), Virechana (Purgation therapy), Pathya-Apathya (Diet).

Treatment

Shamana Aushadi

Sl. No.	Shamana Aushadi	Dose	Time	Anupana
1	Caps. Skintone DS	1 capsule	3 times before food	Normal water
2	Khadirarishta	15ml	3 times before food	Lukewarm water
3	Nimbadi Kashaya	15ml	2 times before food	Lukewarm water
4	Caps. Atrisor	1 capsule	3 times before food	Normal water
5	Atrisor Lotion	Two times	External Application	

Note: Shamana Aushadi given from 29/07/2024 to 10/08/2024

Shodhana (Vamana Karma)

Sl. No.	Procedure	Date	No.of Days
1	Deepana Pachana with Sujeerna Caps- 1-1-1 before food	12/08/2024 – 22/08/2024	10
2	Snehapana with Mahatiktaka Ghrita ⁹	23/08/2024- 30 ml 24/08/2024-50 ml 25/08/2024- 70 ml	3
3	Sarvanga Abhyanga with Brihat Dantapala Taila followed by Baspa sweda	26/08/2024 to 29/08/2024	4
4	Vamana Karma with Madanaphaladi yoga (Madanaphala, Vacha, Yashtimadhu, Saidhava Lavana)	29/08/2024	1

Note: Advise to Follow Samsarjana Krama.

Shodhana Karma (Virechana Karma)

Sl. No.	Procedure	Date	No.of Days
1	Snehapana with Mahatiktaka Ghrita	8/09/2024- 30ml 9/09/2024- 50 ml 10/09/2024– 70 ml	3
2	Sarvanga Abhyanga with Brihat Dantapala Taila followed by Baspa Sweda	11/09/2024 To 12/09/2024	2
3	Virechana with Trivrit Leha (Vaidyaratnam) 35gm	13/09/2024	After Sarvanga Abhyanga and Baspa sweda

Note: Advise to Follow Samsarjana Krama

Shamana Aushadhi

Sl. No.	Shamana Aushadi	Dose	Time	Anupana
1	Caps. Skintone DS	1 capsule	2 times before food	Normal water
2	Khadirarishta	15ml	2 times before food	Lukewarm water
4	Panchatikta Kashaya	15ml	Morning before food	Lukewarm water
5	Nimbadi Kashaya	15ml	Night before food	Lukewarm water
6	Caps. Atrisor	1 capsule	2 times before food	Normal water
7	Atrisor Lotion	Two times	External Application	
8	Atrisor Soap	One time	For Bathing	

Note: Shamana Aushadi given from 23/09/2024 to 23/10/2024

RESULTS

Sl no.	Complaints	BT	AT
1)	Shyava Varna	Present	Reduced
2)	Kandu	Present	Absent
3)	Khara Sparsha	Present	Reduced
4)	Parushata	Present	Reduced



Before Treatment



After Treatment

DISCUSSION

Kitibha Kushta, a type of chronic skin disorder mentioned in the classical Ayurvedic texts, is characterized by the presence of scaly, itchy lesions, often with erythema and dryness. It is believed to be caused primarily by an imbalance of *vata* and *kapha* doshas, which leads to the accumulation of *ama* in the body, eventually manifesting as dermatological symptoms. The case presented in this article demonstrate the effectiveness of Ayurvedic principles and therapies in managing *kitibha kushta*, contributing to a holistic understanding of its treatment approach. The Ayurvedic management of *Kitibha Kushta* focuses on restoring balance among the doshas, eliminating toxins from the body, and alleviating symptoms of the disease. The treatment is multifaceted, including *Shamana Aushadhis* (internal medications), *Shodhana* (external therapies), dietary modifications and lifestyle changes.

Shamana Aushadhis

In this case, a combination of herbs with *kushta* healing properties was utilized, such as *Khadiraarishta* which contains *Khadira*, *Devadaru*, *Bakuchi*, *Triphala* and other *prakshepaka dravyas*. The *dravyas* used in *Khadiraarishta* are *Tikta* and *Kashaya rasa* predominant and having *kushtahara* action. *Nimbadi Kashaya* also contains *Nimba*, *Vishwa*, *Amruta*, *Daru*, *Bhunimba* etc. *Dravyas* which are *tikta* in *rasa* and *kushtahara* also. *Panchatikta Kashaya* contains *Amruta*, *Kshudra*, *Nagara*, *Pushkara*, *Kiratikta* which are having antimicrobial activity and corrects the immunity. *Skintone Ds* capsule contains *Nimba*, *Chakramarda*, *Aragwadha*, *Harretaki*, *Amalaki*, *Vidanga*, *Haridra*, *Shatashuddi*, & *Gandhaka* which are indicated mainly in skin diseases. *Atrisor* capsules contains *Darvi*, *Kalinga*, *Kantakari*, *Amruta*, *Nimba*, *Ativisha*, *Vasa*, *Agni*, *Patola* and *Patha* which controls the process of keratinization and facilitates shedding of dead cells and there by decreases the accumulation of silvery white flakes on the skin and also reduces itching associated with psoriasis. *Atrisor Lotion* contains *Jivanti*, *Manjistha*, *Haridra*, *Streekutaja*, *Kerataila*, *Tuvaraka Taila* and *Kumari* which keeps the skin soft and supple. Prevents further dryness and exacerbation of the lesion.

Mode of Action of Shodhana

The classical *Shodhana* consist of *Purva karma* (Pre - operative procedures), *Pradhana karma* (Operative procedures) and *Pashchat karma* (Post operative procedures). *Purva karma* mainly consist of *Deepana*, *Pachana*, *Snehana* and *Swedana*. *Pradhana karma* consist of *Vamana* and *Virechana* in this case. *Paschat Karma* includes *Dhumapana*, *Samsarjana Karma*, use of *Shamana aushadhis*.

Deepana & Pachana: In this case study for *Deepana Pachana* *Sujeerna* capsules was given in three times before food. *Sujeerna* capsules contains *Ardraka*, *Maricha*, *Bilva*, *Musta* and *Parpata* which are *tikta* in *rasa* and having *Deepana*, *Pachana* and *Sangrahi* properties.

Snehapana: In this case the *Snehapana* was given with *Mahatiktaka ghrta* which contains *Saptaparna*, *Ativisha*, *Tiktaroohini*, *Patha*, *Ushira*, *Triphala*, *Patola*, *Parpataka*, *Chandana* etc. In the case of *Kushta* doshas exist in dhatus such as *Rasa*, *Rakta*, *Mamsa* and *Meda*. The *Ghrta* has *Sukshmastrotogamitva* action and it can reach and also nourish the *shukra dhatu*. Moreover, in *Kushta* the medicated *ghrita* fortified with *tikta* and *Kashaya rasa* has been recommended for internal and external use. Various active phytoconstitutes extracted in the *Mahatiktaka ghrta* work synergistically to cure *kushta*, possibly through the liposomal drug delivery system.

Sarvanga Abhyanga and Baspa Sweda

In this case *Abhyanga* was done with *Brihat Dantapala taila* which contains *sweta kutaja*, *Jyothishmati*, *Bakuchi*, *Kera taila* which is mainly indicated in *Psoriasis*. *Acharya Sushruta*, while explaining the importance of *Abhyanga* he stated that *abhyanga* is *Mardavakara*, *Kaphavatahara*, *Dhatupushtikara*, *Mruja*, *Varna* and *Balaprada*. It helps to pacifies the *vata*, cures itching, normalize the colour of the skin by its action. *Swedana karma* increases the exchange process between cells and do the liquification of doshas because of liquification the doshas. Because of *Snehana* and *Swedana*, the doshas which are present in *shakas* will come to *koshta* by *Anupravana bhava* and after that they will be expelled out by *Vamana* or *Virechana karma*.



Mode of action of Vamana Karma

Vamana Yoga, which includes Madhu, Saindhava, Madhaphala Pippali, and Vacha Churna, can be used to treat skin conditions, and

Yashtimadhu Phanta can be utilized as Vamanaopaga Dravya.



Ushna, Teekshna, Sukshma and Vikasi Vamana drugs



Due to their veerya, move to Hridaya and circulate through Dasha dhamani (Vyavayee)



Act over the vitiated doshas in the body



With Agneya guna it liquifies the doshas (Vishyandana)



With Teekshna guna- break down them into several particles



Liquified doshas comes to koshta from shakha (Pravana bhava of Sukshma guna)



Vayu predominance Vamak drugs stimulates liquefied Doshas from Aamashaya



Urdhvaabghara Prabhava ultimately leads migration of Doshas towards upper body part and Expelled out the Doshas from mouth

Mode of action of Virechana Karma

Intake of Trivrut leha which is rooksha, Tikshna, usna, and having rechana karma



Due to their veerya, move to Hridaya



From there, through Dasha dhamani (Vyavayee), reaches to macro and micro channels of the body (Anutva guna)



Act over the vitiated doshas in the body



With Agneya guna it liquifies the doshas (Vishyandana)



With Teekshna guna- break down them into several particles



Liquified doshas comes to koshta from shakha (Pravana bhava of Sukshma guna)



Because of Prithvi and Jala Mahabhutas it moves in downward direction & Expelled out from the guda marga



Samsarjana Karma: Samasarjana Karma is an important sequence to enhance the Agni in a systematized manner after Samsodhana karma. A special diet plan known as Samsarjana karma which refers to the correct sequence of Peya-Vilepi-Kirtakirita Yusha- Kiritaakirta Mamsarasa is followed. In Samsarjana karma, diet is introduced step by step from Lghu Ahara to Guru Ahara in order to strengthen the Agni. Acharya Charaka while explaining the Importance of Samsarjana karma he gives a simili that-

“यथाऽग्निरग्निस्तृणगोमयाद्यैः सन्धुक्ष्यमाणो भवति क्रमेण महान् स्थिरः सर्वपचस्तथैव शुद्धस्य पेयादिभिरन्तरग्निः॥”¹⁰

Just as small fire gradually grows larger and more stable with the help of grass, cow dung etc. so, in the case of Agni after Vamana and virechana karma, Peyadi karma causes the Agni to digest all kinds of food. In this case the Samsarjana karma is followed for Pravara Suddhi.

Day	Time	Annakala	Pravara Shuddhi
1	Morning		
	Evening	1 st	Peya
2	Morning	2 nd	Peya
	Evening	3 rd	Peya
3	Morning	4 th	Vilepi
	Evening	5 th	Vilepi
4	Morning	6 th	Vilepi
	Evening	7 th	Akruta yusha
5	Morning	8 th	Akruta yusha
	Evening	9 th	Kruta yusha
6	Morning	10 th	Kruta yusha
	Evening	11 th	Akruta Masha yusha
7	Morning	12 th	Krita Masha yusha
	Evening	13 th	Normal diet

CONCLUSION

The case study's demonstration of the Ayurvedic treatment of *Kitibha Kushta*, in conclusion, highlights the potential of traditional therapeutic methods in treating persistent skin conditions. Using Panchakarma therapies, dietary changes, lifestyle adjustments, and certain herbal formulations, the holistic approach offers a thorough framework for treating the underlying causes as well as managing symptoms. Through the use of internal and external therapies for detoxification and the balancing of doshas, specifically Vata and Pitta, the case study demonstrates how Ayurvedic principles can result in notable improvements in the patient's skin condition and general well-being. Here, the decrease in the typical *Kitibha Kushta* symptoms—such as erythema, itching, and lesions—demonstrates the effectiveness of specific Ayurvedic treatments. Although more clinical investigations and bigger sample sizes are required to confirm and improve Ayurvedic treatment plans for *Kitibha Kushta*, this case study provides encouraging information about how Ayurveda might be used in conjunction with contemporary dermatology. It highlights the value of a customized, multifaceted approach to treatment that addresses the psychological as well as the physical components of skin disorders, helping people with this chronic illness experience long-term relief and an enhanced quality of life.

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CURRICULAR ADAPTATIONS FOR STUDENTS WITH HEARING IMPAIRMENT IN INCLUSIVE EDUCATION

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ABSTRACT

The purpose of this study was an attempt to give an insight and importance about the Curricular Adaptations for Students with Hearing Impairment in Inclusive Education. Generally, some people (mainly educators of students with severe disabilities) have narrowly defined the terms "inclusion," "full inclusion," and "inclusive education" to support the idea that all students with disabilities, irrespective of the degree or nature of their disability, get their suitable education in a regular classroom setting. The relatively recent integration of a small number of students with severe disabilities into regular classrooms serves as the foundation for this perspective. It must be founded on curriculum areas that call for special adaptations or strategies for students with hearing impairments. These areas include content, language, time table, presentation and illustrations. So, Curricular Adaptations is crucial for the betterment of the child with hearing impairment in order to survive in the inclusive society. So, it is suggested to the parents, inclusive school teacher and administrators must understand the need and provide the accessible environment by curricular adaptations.

KEY WORDS – Inclusion, Integration, Adaptation, Academic Achievement.

INTRODUCTION

In recent years, increasing focus on inclusion has brought significant attention from educators, policy-makers, researchers and economists, to schools and classrooms in India. Constitutional provisions, legal mandates such as the Right to Education (RTE), 2009, Persons with Disabilities (PWD) Act, 1995 and policy measures to make improvements in India's education system. The aim of all these initiatives is to enable effective academic and social participation of CWSN (Children with Special Needs). The classroom offers a dynamic, productive space where ideas, values, information, knowledge are shared and conveyed. Organization of the class and interactions amongst its fundamental components i.e., the students, teacher and curriculum-transactions, create potential for the group to move from a state of not knowing to one of knowing.

Creating an inclusive culture in classroom will involve attending to the curriculum, which includes the components of a course of study. These consist of the syllabus, textbooks and needed teaching learning materials, teaching strategies/processes and assessment and evaluation processes. In discussing the efforts in curricular development and reform, National Curriculum Framework (NCF) 2005 underscores the significance of making curriculum "an inclusive and meaningful experience for children" stating "this requires a fundamental change in how we think of learners and the process of learning." Attending to curriculum to define the classroom culture and the approach to the teaching-learning processes is thus a significant aspect of teacher's work in fostering inclusivity in their work with students.

Curriculum Adaptations

Curriculum adaptation involves differentiation to meet the needs of all students. The content, the teaching process, assessment and evaluation, and the physical environment may be modified to help students to achieve success in the classroom. The kind of activities chosen by the teacher, including group activities, must be flexible and reflect the background knowledge of small groups or individual students. The following shows the adaptations that are required in different areas for inclusive pedagogy.

However, the two terms adaptation and modification related to curriculum create some amount of confusion, perhaps misunderstanding. While adaptation refers to adjusting assessments, material, curriculum or classroom environment, to accommodate a student's needs to enable him/ her to participate in and achieve the teaching-learning goals, modifications involve making changes to learning goals, teaching processes, assignments and/or assessments to accommodate a student's learning needs. For example, use of audio tapes, electronic texts where available, having peer or a classmate to assist with class activities, or simply reorganizing seating of a child who is unable to be attentive, is easily distracted or distracts others in the classroom would be adaptations, changing the assignment to accommodate a student's learning needs: allowing use of letter-cards to spell words as a modification to saying the spelling aloud, allow the student with intellectual impairment to utilize concrete and/or more hands-on experiences, changing the conceptual difficulty level for some students would be modifications. In case of content, teaching and assessment, the following are some examples of curricular adaptations that indicate that these adaptations can be used for all children in the



classroom and are not limited to CWSN. These strategies create a universal design of learning in inclusive classrooms.

Need for Curriculum Adaptations

As a result of Right to Education Act, 2009, the composition of classrooms is changing. Students with varying levels of abilities cannot, and should not, be taught in the same manner. Without adaptations/modifications, some children in your classrooms would never be challenged to perform up to their potential, while others may not be able to ever experience success. Curriculum adaptations involve effective teaching in the classroom that takes into consideration the individual needs of all children including CWSN and learning difficulties. It has also been seen that adaptations if carried out effectively facilitate both academic and social participation in class activities and can be used across various settings to facilitate success. Adaptations can also help in creating partnerships where parents and teachers can work together to evaluate/implement adaptations.

Strategies of Curricular Adaptation for an Inclusive Classroom

In an inclusive classroom environment, quality education would depend upon a number of factors. Crucial amongst these are understanding of special needs of learners, infrastructural facilities, modified environment that is warm, welcoming and inclusive, trained motivated teachers, flexible educational content (what is being taught), strategies for teaching and evaluating that meet the needs of all children that focus on meaning, active learning and interaction, sufficient teaching time and its optimal use by teachers, access of every child to teaching learning materials and continuous onsite support to the teacher by specialists if required. The following are examples of some needs and strategies for curricular adaptations for CWSN.

Hearing Impairments (HI)

Although the learning needs of children with HI may differ in terms of severity of problem and the quantity, quality and timing of the support services the children receive, the following are some common needs these children exhibit across various subjects.

- Development/Acquisition of Speech and Language vocabulary, syntax and figurative language (like similes, metaphors and idioms);
- Understanding of abstract concepts;
- Reading and spellings (because of difficulty in phonemic awareness and speech sound discrimination);
- Communication Skills (speaking and listening, understanding);
- Mathematics;
- Organising ideas and;
- Communicating ideas.

Mathematics

1. Concept of time duration can be taught with simple activities. For example, observing the time taken by two peers during meal time and then assessing who had taken longer time to finish the food.

2. Two digit additions without carry over or with carryover can be demonstrated using simple objects like sticks or beads.
3. Word problems can be understood through real life examples/ situations or pictures.

Differentiated instructional strategies for mathematics for Students Who are Deaf or Hard of Hearing

Team members working with students who are deaf or hard of hearing need to carefully consider each student's unique needs and learning style, as well as the demands of the task. Strategies are offered to provide a starting point for thinking about possible adaptations. It is important to remember that all team members should have input into decisions regarding instructional strategies. Having a hearing loss may affect skill development in mathematics for a number of reasons. Mathematical concepts can be learned by children who are deaf or hard of hearing in the same sequence and manner as by their hearing peers (Meadow, 1980). Various factors may prevent children who are deaf or hard of hearing from successfully constructing mathematical knowledge:

They may lack general vocabulary and the basic mathematical vocabulary needed to be able to understand math concepts/processes. Hearing children are exposed to language from birth and have an understanding of everyday language. This serves as a base for developing an understanding and use of mathematical language. It is more difficult for children who are deaf or hard of hearing to acquire language and learning from their environment incidentally (from overhearing conversations of others in their environment, on TV, on the radio). Without this incidental learning, a child who is deaf may not develop even beginning math concepts such as "in front of/behind" or "heavy/light" without being formally taught them.

Communication with others may be difficult. If the child and others in his or her environment cannot communicate with each other effectively, they will not be able to engage in mathematical processes such as problem-solving, developing logic and reasoning, and communicating mathematical ideas. Problem-solving is especially difficult for children who are deaf as a sound language base is needed for putting observations into words or making predictions. Without communication skills, the child can be isolated in the learning environment and unable to participate in group activities and discovery (Ray, 2001). Cognitive development may be delayed. Research shows that children who are deaf or hard of hearing have normal intellectual potential (Meadow, 1980). However, for normal cognitive development, particularly in a mathematical sense, a child must be introduced to a diversity of mathematical experiences along with a rich language base (Ray, 2001). This does not always occur in the home and in the educational setting.

Ways to help students who are deaf or hard of hearing succeed in mathematics

The following strategies are designed to promote access to mathematics content based on the Standards of Learning for



students who are deaf or hard of hearing. It is important to remember that each child has unique needs and that decisions regarding instructional strategies should be based upon current and accurate information about the child's sensory functioning and on team input.

Instructional and Environmental Strategies

- Provide an enriched learning environment that will promote a wide range of meaningful mathematical experiences with opportunities for exploration and problem-solving.
- Be sure that there is someone for the child to interact with in the learning environment who can effectively provide not only the vocabulary to label objects but also a language model for expressing concepts and ideas, using the child's mode of communication..
- Partner with parents. Maintain on-going communication between the home and teachers so that math vocabulary and concepts are reflected and reinforced in as many different situations as possible. Make families aware of the limitless opportunities in the home to explore and discuss math concepts during daily routines, and make sure that the parents are able to communicate effectively in the child's chosen mode.
- Make use of multimedia approaches for visual representation of course content. Overhead projectors or PowerPoint presentations are preferable to blackboards, as the teacher does not need to turn his or her back to the students. This is especially important for students who are relying on speech reading, signing, cuing, and/or use of residual hearing for receptive communication.
- More than one mode of presentation should be used for concepts such as fractions. These may include manipulative, verbal, pictorial, and symbolic modes. Encourage students to translate between sign language, English and particularly the language of mathematics, and to make connections between all modes presented.
- Word problems may be introduced initially as informal stories with math facts through dramatization, using an overhead and manipulative, and then translating the action into a math sentence. Use of pictures, drawing sets, and visualizing or pantomiming the action in a problem can also be used by students to move from the concrete to more abstract representations of the problem.
- When using visuals, allow time for the child to view the board, overhead, or objects, then to watch explanation/instruction given by the teacher or interpreter, and only then, allow students to offer responses. A hearing person can view visuals and listen at the same time. Children who are deaf or hard of hearing and rely on visual communication through sign language, cued speech, or speech reading must process information sequentially rather than simultaneously.

- Pre teach vocabulary for coming math lessons in context. Collaboration with the speech/language pathologist in this effort can be beneficial. Remember, many children who are deaf or hard of hearing do not learn words incidentally.
- For students who sign, ensure that all involved are consistent in the signs being used. Conceptually based signs should be used and inventing new signs for new vocabulary should be avoided.
- Word problems may be especially difficult for some students who are deaf or hard of hearing because of the literacy level needed to comprehend the problem and what is being asked of the student. Having the interpreter sign the problem may be an appropriate accommodation for some students.
- Encourage students to process information at a deeper level through questioning.

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ORIGIN, GROWTH AND DEVELOPMENT OF DAIRYING IN INDIA

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ABSTRACT

The study examines the historical and contemporary dynamics of dairying in India presenting its evolution from ancient to modern day practices. Secondary research as a tool traces of the origin from archaeological, cultural and economic prospects by highlighting the contributions from Indus Valley Civilizations, Vedic period and different dynasties for the development of dairying, which later carried on during the British as a need base leading to the establishment of national level dairy development and research institutes and the schematic development that is being witnessed after Independence.

INTRODUCTION

India is a vast country with a land coverage of 3.287 million sq. km (1) and population is around 1.416 billion (2). The survey (2021 data) depicts that 65 per cent of total population residing in rural among, 47 per cent of the population is agriculture dependent for livelihood (3). Dairying an allied sector of Agriculture, play a key role in Indian economy among which dairying plays a prominent role in determining the economic status of about 70 million especially at family level. Dairying assures employment and nutrition to farm family (4). Dairying can be considered as the one of the oldest form of livelihood that prevailed in India even before British invasion and can also be observed that it is linked to the culture. In this context the current study is an attempt to analyze the dynamics of dairying in India from days old to the present.

METHODOLOGY

The current study is a secondary research study i.e. to analyze the emergence of the practice of dairying especially cattle and buffalos from ancient India to present schematic promotion of dairying that depicts origin and growth. The development of dairying is expressed in terms of total milk production, per capita availability of milk, cattle and buffalo population. Research articles, books and websites of dairying bodies are considered as the sources of data.

The study is segregated into four main sections namely: Early India, British India, Independent India and Dairy Development.

OBJECTIVES

1. Identify the possible starting of dairying in India.
2. Sequelize the practice of dairying from the identified starting point to present days.

3. Highlight the achievements of each period that depicts dairying and its development.

4. Evidence the development of dairying in India.

REVIEW AND ANALYSIS

EARLY INDIA

Dairying in Ancient India

There are evidences that animal rearing is centuries old practice. Evidences of the art of the cave dwellers prove that animal rearing began before the written history started. The archaeological evidences of Harappa and Mohenjo-Daro of Indus-valley civilization exposed the information of animal keeping. People of this period raised livestock, used them for recreation and games. Livestock products like ghee, curd, milk, etc. were consumed on the other side hides and skin were documented for important uses like clothes and ornaments. Including other animals cattle is also mentioned vastly as food during Harappan period. Various seals and stamps, scripts and paintings stood as the mirrors displaying the activities of animal husbandry during Indus valley civilization (5).

Indus Valley Civilization

In the Vedic period, the animals were gained more importance. The cows were considered as religious entity and referred as 'Aghanya' which mean 'not to be killed'. It is also stated that, people used to feed their cows on pastures near their homes, if sufficient pastures are not available forest lands were cleared to raise pastures and cows were milked twice a day.

Aryans considered cattle as wealth, sacred and meant not to be killed (6). They also waged wars by the name "Gavishti" to acquire cows of local tribes. Aryans preferred cows over buffalos for milk. Selective breeding was also practiced for breeding bull which was called as 'Nandi'. The process of castration was also



practiced and oxen were used for agriculture, irrigation, plowing and transport (5). Aryans knew the importance of pastures and forest. They used to take cattle for pastures in the morning and bring them back in the evening (6). The sacred books of Rigveda states that barley, sugarcane and deoiled sesme cake were used as feed for domesticated animals. In Vedic hymns it is mentioned the use of medical herbs and dietary supplements for curing of animals. Atharvaveda also mentions the practice of animal ayurveda. Practice of surgical methods such as grafting, treatment of dislocations, removal of foreign bodies, fistula and fractions for managing the animal diseases was also mentioned (7).

Post Vedic

The witness of the post-Vedic age also known as Iron age of India through the great epics of Hindus- Ramayana and Mahabharata states that cattle was an important occupation and practiced by all (6). It also mentioned that trained Vaidhyas perform the animal disease management and curing by medicine, oils, herbs and surgeries. The importance of cow dung for agriculture was noticed in this period.

In the Krishna or Gopala era (900-1000 BC) 'Gaupalan' and 'Gau Sanrakshan' were became popular which mean the keeper/protector of cattle. Govinda was another name of Krishna which also means protector of cows. During this period milk and milk products were assumed importance and tax was paid in terms of milk-butter to the king. A special day after Deepawali called Gopashtami was started by Krishna to worship cows. Panchagavya that includes five things i.e. cow milk, curd and ghee made from cow's milk, urine and dung gainrd importance and used for religious rituals during this period. The 'Shrimad Bhagawat' a religious text of this era mirrors the role and importance of cow husbandry in the society in the form of poetry and paintings (5).

Mauryan Era

During Mauryan period the cattle breeding was wide spread and was important source for milk, draught power, meat and herd size was large (8). Arthashastra written by Kautilya of Mauryan period documented the care and management of domestic animals which also include the duties and role of king in promoting care and protection to cows. It was during this period the buffalos were also recognized for dairying and identified the differences in fat content in cow and buffalo milk indicating the high fat percent in buffalo milk. Mauryan period is also known for state funded veterinary services (7). The appointment of 'Gopas' village-based accountants under separate department in the state for accounting and livestock and land maintained for pastures was suggested in Arthashastra. Arthashastra also describes optimum herd size, male to female ratio of cattle, feeds and fodder. The laws (veterinary Jurisprudence) for provision of punishments and penalties imposed on committing crime (ill treatment of cows or robbery) and non-compliance to pay taxes related to animal husbandry were mentioned in Arthashastra.(5).

Medieval Era

The medieval era of India is between the end of Gupta Empire (6th Century) and the start of Mughal empire (1526). During this period India subcontinent was contemporarily ruled by 32 dynasties in different geographical regions. Among 32 dynasties 16 dynasties have the evidence of documents on animal husbandry (9).

During eastern Chalukya period the practice of donating cows, goats and sheep for practicing daily sacred activities was noticed. A community group called 'Golla or Boya' used to maintain the animals which were donated according to number of perpetual lamps in temple(10).

During Rashtrakuta dynasty buffalos were also used for business travels.

During Chola empire cows were given almost equal rights of humans besides this cows were worshiped and during famines provision of food to humans and feed to animals was similar(5).

Mughal Era

The Mughals prevailed India from 1526 to 1857 during which the country was home to large cattle population(5). Ain-e-akbari the book written during the period of Akbar mentions that cattle farming was the major occupation of agriculture, taxes were collected on cattle and cattle farming was imposed on farmers. Several books like 'Tuzak-iBaburi' 'Humayunnama', 'Tuzuk-i-Jahangiri' etc highlighted the importance of cattle rearing for milk, drought power, manure, meat, skin bones etc (8).Historian Irfan Habib in his book 'The Agrarian system of Mughal India' quoted that India had more cattle than Europe but have lower milk yields. In India the milk productivity of cattle and buffalo ranged from 1 to 5 seers and 2 to 30 seers respectively (1 seer ~ 1 KG). The cattle of Gujarat and Buffalo of Punjab were considered the best. Milk productivity of the animal decides the feeding management of animal. "Khas" class/breed was used to indicate the high milk producers of milk and fed about 6 kg of grain and 15 kg of green grasses per day while other classes/breeds were fed with the half of this ration. Peasents of Mughal era used to take extra care of buffalos by providing about 8 kg of wheat flour, 500 gms of molasses, 20 kg of green grass and 1.5 kg of grain as feed as buffalos were main milch breed. Besides traction, livestock were used for improving soil fertility.

During the Mughal period many indigenous products of milk like khir, phirni, rabri, etc were most popular. In 16th century a "traditional Indian ice-cream" called Kulfi was originated(5).

BRITISH INDIA

The company rule in India effectively started from 1757 and ended with the 1857 rebellion after that, British directly ruled the country until the Independence in 1947(5). During the early colonel rule cattle rearing was highly affected as the pastoral land was converted to agricultural land for cultivation of cotton and food grains that reduced the grazing space(8)(11).The straight rules prohibited grazing of animals in the forest.



First military dairy farm was established at Allahabad in 1889, later more farms were established across the country which reached to around hundred by the time of independence in 1947 and this was considered as the initial point towards organized dairy farming. High yield varieties were reared by maintaining the proper records(12). In 1920, to analyze the status of dairy sector and propose the plan for growth of dairy sector an imperial dairy expert team was appointed which witnessed a rise in cattle rearing in an organized way(6). Artificial Insemination was started in 1925 which drove to the improvement of the herd to some extent. Local breed protection was also done in some farms (5).

During the period of British the yield of buffalo and cattle was around 2.27 liter per day and 0.4 to 1.8 liters per day, respectively. Buffalos were preferred over cattle because of their high yields(13). Over the local breeds the breeds like Gujarat, Sind, Ongole and Nellore were considered better as they have vast scope for improvement. For maintaining good productivity for good dairy animals cotton seed and oil cake were fed.

With the suggestions of William Frazer breeding of indigenous cattle with Nagore breed bulls was done. Later in 1815 Government cattle farm of Hisar also started cattle breeding with a main focus on dual-purpose breed of Haryana. Mysore cattle were crossed with Sind, Ongole, Gujarat and Nagore breeds to improve milk yield. Poor health and low milk yield of the breeds of Indian cattle is main constraint for dairy development stated by The Royal Commission of Agriculture (1928) that resulted in introduction of exotic breeds to India for breeding. Bulls of Ayrshire and Friesian were recommended for crossing the native cows(5).

In the year 1868 cattle plague commission was formed due to huge out-break of Rinder-pest (Cattle plague) in 1865-67 with millions of animals died(14). Government was forced to take the counter steps against the spread of the disease to military farms. More over between 1901 and 1904 treatment activities for anthrax and hemorrhagic septicemia were carried out. Vaccine for against rinderpest and black-quarter was developed.

Due to lack of chilling and fast transportation facilities 68.8 percent of milk was converted to curd, ghee, butter and khoa. In 1940 collection and distribution centers between rural producers and urban consumers were formed, which later implemented in Delhi, Madras, Calcutta, Karachi and Nagpur by well organized milk marketing organizations. The first large scale dairy established in India was at Bombay in the year 1915 and called as Polson dairy. Keventers and Express Dairy were other popular dairy processors. They didn't concerned about rural producers as profit was their main motive. Middleman and contractors exploited the farmers that led to the dissatisfaction of dairy farmers(15). The cooperative moment in dairying led to establishment of Kaira District Cooperative Milk Producers Union in Gujarat in 1946. The success of this dairy cooperative

union encouraged the formation of similar dairy cooperative unions across the country after Independence (5).

In 1857 by the end of the first war of independence, many people collectively started a movement for protection of cows. Between 1810 and 1893 a large number of gaushalas were established. One of the Swaraj Movement's objective was Prohibition of Cow Slaughter. In 1944 British Government imposed restrictions on cattle slaughtering which include –army was not allowed to slaughter working cattle, milking and pregnant animals and cattle fit for bearing offsprings(5).

In 1882 at Lahore first veterinary college was established. Cattle plague commission which was appointed in 1868 led to creation of Civil Veterinary Departments in the provinces to encounter plague outbreak in 1889. In 1902 Indian Council Veterinary Department was established which assigned the responsibilities of animal husbandry and dairying till the provinces in 1919(5).

In 1871 Cattle Plague Commission submitted its report(15). In Pune an Imperial Bacteriological Laboratory was established where scientific work on animal diseases was started(17). In 1893 for the favorable cool climate that suits bacteriological research and vaccine preservation Imperial Bacteriological Laboratory was shifted to Mukteswar of Uttarkhand. At Izatnagar of Bareilly another branch of laboratory was opened for bulk production of serum and vaccines in 1913 later in 1925 which was renamed as Imperial Institute of Veterinary Research which again renamed I 1930, 1936 and 1947 respectively as Imperial Veterinary Serum Institute, Imperial Veterinary Research Institute and Indian Veterinary Research Institute. Meanwhile an institute named as Imperial Institute of Animal Husbandry and Dairying was established in Bangalore in the year 1923 for dairy specific research which was renamed as Imperial Dairy Research Institute in 1936. Later in 1955 after Independence its headquarters was shifted to Karnal of Haryana and renamed it again as National Dairy Research Institute(5).

INDEPENDENT INDIA

As government gave importance for development of cattle and started various programs in the five year plans, cattle rearing developed in a planned way in India. In the first five year plan Key Village scheme was implemented to develop cattle at village level. In second five year plan Intensive Cattle Development Project was developed to strengthen Key Village Scheme and develop the quality of cattle in India. Besides all these programs Operation Flood program stood tall making India self sufficient in production and improving per capita availability of milk.

Key Village Scheme

After Independence, India's first step for an effective and organized attempt to develop cattle of villages was Key Village Scheme (KVS) launched during the first five year plan in 1950. KVS is Government of India's general comprehensive scheme by adopting scientific methods of Grading and selective breeding, Artificial Insemination, develop feed and fodder and forming co-



operative societies to increase cattle population with the aim to cover 5000 number of breedable buffalos and cows that later increased up to 10,000. KVS is meant for group of villages or whole village or part of a village or an area. (8)(18)

Intensive Cattle Development Programme

As KVS was not able to accomplish the expected results led to a new programme called Intensive Cattle Development Programme (ICDP) introduced to produce required quantity of milk for processing in established dairy plants especially in milk sheds and breeding tracks of indigenous breeds of buffalos and cattle. ICDP was started in the year 1964 and was to cover a lakh of breedable cattle and buffalos. With the target of increasing milk production by 30 percent, 70 percent of the cattle and buffalo population was selected for breeding purpose in the selected area for a period of 5 years. During the third- five year plan government of India provided 100 percent assistance from the central and after 2 years of completion the program was transferred to state government(8)(18).

AMUL and Evolution

The Kaira District Cooperative Milk Producers' Union was registered by the milk producers in 1946 now it is popular as AMUL. The Kaira District Union procured milk from associated village-level milk societies and this was considered as genesis of the organized milk marketing of India.

In 1952 AMUL's policy of obtaining total rights for the sale of milk to the Bombay milk scheme was achieved as Bombay cancelled its contract with Polsons. In peak winter seasons to keep up the confidence of societies and to utilize surplus of milk, a new dairy plant to produce ghee, butter and milk powder was setup at Anand in 1955. In 1965 second dairy was build followed by a product manufacturing unit in 1971. Later in 1993 fully automatic modern dairy was constructed at Anand adjacent to original AMUL dairy plant. (15)

National Dairy Development Board (NDDB)

In 1964 the then Prime minister of India Lal Bahadur Shastri during his visit to AMUL cattle feed plant for its inauguration and impressed by the socio-economic impact of milk cooperatives and expressed his desire for a national level organization replicate Anand model dairying cooperatives all over India. This resulted in formation of NDDB in 1965 which was registered under the Societies Registration Act, the Charitable Trust Act and the Public Trust Act with its head quarters at Anand.(15)(19)

Operation Flood

"Launched in 1970, Operation Flood has helped dairy farmers direct their own development, placing control of the resources they create in their own hands. A National Milk Grid links milk producers throughout India with consumers in over 700 towns and cities, reducing seasonal and regional price variations while ensuring that the producer gets fair market prices in a transparent manner on a regular basis. Operation Flood's objectives included:

- Increase milk production ("a flood of milk")
- Augment rural incomes

- Reasonable prices for consumers
- Operation Flood was implemented in three phases."(20)

Department of Animal Husbandry and Dairying (DAHD)

"The Department of Animal Husbandry and Dairying (AH&D) is one of the Departments of the newly created Ministry of Fisheries, Animal Husbandry & Dairying.

The Department advises State Governments/Union Territories in formulation of policies and programme in the field of Animal Husbandry and Dairy Development. The main thrust areas are:

- Development of requisite infrastructure in States/ UTs for improving animal productivity.
- Preservation and protection of livestock through provision of health care.
- Strengthening of central livestock farms (Cattle, Sheep and Poultry) for development of superior germplasm for distribution to states."(21)

National Project for Cattle and Buffalo Breeding.

"Genetic improvement in bovines is a long term activity and Government of India has initiated a major programme "National Project for Cattle and Buffalo Breeding" (NPCBB) from October 2000 over a period of ten years The project envisages 100% grant-in-aid to Implementing Agencies.

The Objectives of the scheme is to:

- Arrange delivery of vastly improved artificial insemination service at the farmers door-step.
- Bring all breedable females among cattle and buffalo under organized breeding through artificial insemination or natural service by high quality bulls within a period of 10 years.
- Undertake breed improvement programme for indigenous cattle and buffaloes so as to improve the genetic makeup as well as their availability."(22)

Rastriya Gokul Mission

"The Rashtriya Gokul Mission (RGM) is being implemented for development and conservation of indigenous bovine breeds since December 2014. The scheme is important in enhancing milk production and productivity of bovines to meet growing demand of milk and making dairying more remunerative to the rural farmers of the country.

Objectives

- a) To enhance productivity of bovines and increasing milk production in a sustainable manner using advance technologies.
- b) To propagate use of high genetic merit bulls for breeding purposes.
- c) To enhance Artificial insemination coverage through strengthening breeding network and delivery of Artificial insemination services at farmers doorstep.
- d) To promote indigenous cattle & buffalo rearing and conservation in a scientific and holistic manner."(23)



National Dairy Plan Phase I (NDP I)

“National Dairy Plan Phase I (NDP I) is a Central Sector Scheme for a period of 2011-12 to 2018-19.

Objectives

NDP I is a scientifically planned multi-state initiative with the following Project Development Objectives :

- To help increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk
- To help provide rural milk producers with greater access to the organised milk-processing sector
- These objectives would be pursued through adoption of focused scientific and systematic processes in provision of technical inputs supported by appropriate policy and regulatory measures.”(24)

National Livestock Mission

“The focus of the scheme is on entrepreneurship development and breed improvement in poultry, sheep, goat and piggyery including feed and fodder development. The scheme is implemented with the following three Sub-Missions:

- Sub-Mission on Breed Development of Livestock & Poultry
- Sub-Mission on Feed and Fodder development
- Sub-Mission on Extension and Innovation”(25)

National Programme for Dairy Development (NPDD)

“The NPDD scheme aims to enhance quality of milk and milk products and increase share of organized milk procurement. The scheme has two components:

Under NPDD, Fund sharing Pattern of Centre & State is as under: Component 'A' focuses towards creating/strengthening of infrastructure for quality milk testing equipment as well as primary chilling facilities for State Cooperative Dairy Federations/ District Cooperative Milk Producers' Union/SHG run private dairy/Milk Producer Companies/Farmer Producer Organisations.

Component 'B' (Dairying Through Cooperatives) provides financial assistance from Japan International Cooperation Agency (JICA) as per project agreement already signed with them.”(26)(27)

Livestock Health and Disease Control

“The overall aim of the Livestock Health & Disease Control scheme is to improve the animal health sector by way of implementation of prophylactic vaccination programmes against various diseases of livestock and poultry, capacity building, disease surveillance and strengthening of veterinary infrastructure.

The objectives of the scheme are:

- To implement Critical Animal disease control programme to eradicate PPR by 2030 by vaccinating all sheep and goats and to control Classical Swine Fever (CSF) by vaccinating the entire pig population
- To provide veterinary services at the farmers' doorstep through Mobile Veterinary Units (MVUs)

- To assist States/UTs for Control of Animal Disease (ASCAD) by prevention & control of important livestock and poultry diseases prevalent in different States / UTs as per the State /UT's priorities.”(28)

National Animal Disease Control Programme (NADCP)

“National Animal Disease Control Programme (NADCP) is a flagship scheme launched by Hon'ble Prime Minister in September, 2019 for control of Foot & Mouth Disease and Brucellosis by vaccinating 100% cattle, buffalo, sheep, goat and pig population for FMD and 100% bovine female calves of 4-8 months of age for brucellosis.

Objectives of the Programme

The overall aim of the National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is to control FMD by 2025 with vaccination and its eventual eradication by 2030. This will result in increased domestic production and ultimately in increased exports of milk and livestock products. Intensive Brucellosis Control programme in animals is envisaged for controlling Brucellosis which will result in effective management of the disease, in both animals and in humans. National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is a Central Sector Scheme where 100% of funds shall be provided by the Central Government to the States / UTs.”(29)

Dairy Processing and Infrastructure Development Fund (DIDF)

“The project focuses on building an efficient milk procurement system by setting up of processing and chilling infrastructure & installation of electronic milk adulteration testing equipment at village level.

Objectives of the DIDF scheme

To modernize the milk processing plants and machinery and to create additional infrastructure for processing more milk.”(30)

Animal Husbandry Statistics (AHS)

“The Animal Husbandry Statistics (AHS) Division of Department of Animal Husbandry & Dairying (DAHD) is entrusted with the generation of Animal Husbandry Statistics through the Centrally Sponsored Scheme “Livestock Census and Integrated Sample Survey” under the development programmes category with two components, (i) Livestock Census (LC)& (ii) Integrated Sample Survey (ISS). The scheme is being implemented by the Department of Animal Husbandry and Dairying through State Animal Husbandry Departments.

Division's Mandate:

- Conducting quinquennial Livestock Census (LC).
- Conducting annual sample survey namely Integrated Sample Survey (ISS).
- Publishing All India Livestock Report consisting of livestock population of major species at National and States/UT level by use, sex and age.



- Publishing Breed-wise report based on the latest Livestock Census consisting of detail breed-wise livestock population at aggregate as well as segregated level.
- Publishing of annual publication title Basic Animal Husbandry Statistics to release the production estimates of four major livestock products like milk, meat, egg and wool..”(31)

Animal Husbandry Infrastructure Development Fund

“The Animal Husbandry Infrastructure Development (AHIDF) has been approved for incentivizing investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) and Section 8 companies to establish the dairy processing and value addition infrastructure, meat processing and value addition infrastructure and Animal Feed Plant.

OBJECTIVES

- To help increasing of milk and meat processing capacity and product diversification thereby providing greater access for unorganized rural milk and meat producers to organized milk and meat market.
- To make available increased price realization for the producer.
- To make available quality milk and meat products for the domestic consumer.
- To fulfill the objective of protein enriched quality food requirement of the growing population of the country and prevent malnutrition in one of the highest malnourished children population in the world.
- Develop entrepreneurship and generate employment.
- To promote exports and increase the export contribution in the milk and meat sector.
- To make available quality concentrated animals feed to the cattle, buffalo, sheep, goat, pig and poultry to provide balanced ration at affordable prices.”(32)

Supporting Dairy Cooperatives & Farmer Producer Organizations (SDCFPO)

“A Scheme named “Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities” was approved to provide working capital loan to State Cooperatives and Federations.

Objectives:-

- To assist the State Dairy Cooperative Federations by providing soft working capital loan to tide over the crisis on account severely adverse market conditions or natural calamities.
- To provide stable market access to the dairy farmers.
- To enable State Cooperative Dairy Federations to continue to make timely payments of dues to the farmers.
- To enable the cooperatives to procure milk at a remunerative price from the farmers, even during the flush season.”(33)

DAIRY DEVELOPMENT

After independence India was a milk deficit nation which dependent on imports and annual production growth was negative for several years. With the implementation of Anand Pattern all over India by NDDB gave massive progress in dairying. (34)(35)

Milk Production Scenario

Milk production in 1950-51 stood at merely 17 Million Tonnes (MT). In 1968-69, prior to the launch of Operation Flood, milk production was only 21.2 MT which increased to 30.4 MT by 1979-80 and 51.4 MT by 1989-90. Now it has increased to 230.6 million tonnes in 2022-23. The milk production is gradually increasing. (34)(36)

Per-Capita Availability of Milk

Per-capita availability of milk is nothing but the availability of milk per head per day which is commonly measured as grams per day. The per-capita availability of milk is in decreasing scenario till 1970 and later it started to increase. Now it has increased to 459 gm/day in 2022-23. (34)(36)

Cattle Population

The least cattle population is in the year 1951 with 155.3 million and the highest cattle population is in the year 1992 with 204.6 million. The minimum adult female cattle population is in the year 1961 with 51 million and the maximum adult female cattle population is in the year 2019 with 81.4 million.(37)(38)

Buffalo Population

The least buffalo population is in the year 1951 with 43.4 million, with consistent increase the highest buffalo population is in the year 2019 with 109.85 million. The adult female buffalo population is lowest in the year 1951 with 21 million and highest in the year 2012 with 56.6 million. (37)(38)

CONCLUSION

This is evident that dairying is one of the earliest forms of livelihood in India that played a prominent role in socio-economic and cultural aspects of people. The historical excavations of Indus valley civilization were considered as the proof of earliest practice of dairying followed by the mentions of animal rearing in the epics of Indian culture namely The Ramayana and The Mahabharata. From historical evidences of Kingdoms, Empires and The British represent the growth of dairying in the form of animal health-care, importance to some breed types, cross breeding, artificial insemination and drug development. The numerical data on total milk production, per-capita availability of milk, cattle and buffalo population states the visual evidence of development of dairying in India.

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EXTENT OF IMPLEMENTATION OF ALTERNATIVE DELIVERY MODE (ADM) AND ACADEMIC PERFORMANCE OF KEY STAGE 1 LEARNERS OF TAFT DISTRICT

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ABSTRACT

This study examined the implementation of Alternative Delivery Mode (ADM) through modular print and its impact on the academic performance of Key Stage 1 learners in the Taft District during class suspensions caused by calamities. In response to educational disruptions, the Department of Education (DepEd) introduced the Basic Education Learning Continuity Plan (BE-LCP), with modular print selected as the primary learning modality due to its accessibility, particularly in areas with limited connectivity. Survey data from Key Stage 1 teachers indicated that the extent of ADM via modular print implementation was moderately evident, with a mean score of 3.62. Learners displayed satisfactory academic performance during the first grading period, with most students in Grades 1 to 3 showing progress, rated as "developing" or "very satisfactory." However, statistical analysis revealed no significant relationship between school demographic profiles and academic performance, nor between the extent of modular print implementation and academic outcomes. These findings suggest that while modular print provided a means to continue education, other factors such as teaching quality, student engagement, and home support likely played a more significant role in influencing academic success. Based on these findings, the study recommends conducting face-to-face surveys for more accurate data collection and expanding the research to include all educational levels within the district to better assess the broader effectiveness of modular print as an educational modality in the Taft District.

KEYWORDS: Modular Print, Academic Performance, Alternative Delivery Mode (ADM)

INTRODUCTION

Background of the Study

Education is essential for the intellectual and social development of learners, even amid challenges like natural disasters. In areas like Taft District, Eastern Samar, which is frequently affected by calamities, the Department of Education (DepEd) has implemented the Alternative Delivery Mode (ADM) to ensure learning continuity. ADM offers flexible learning options when traditional face-to-face classes are disrupted, addressing

barriers to education and promoting inclusivity and quality, as outlined in DepEd Order No. 21, s. 2019.

In disaster-prone regions such as Eastern Samar, frequent calamities lead to prolonged class suspensions, heightening the risk of learning loss. ADM, through modular instruction and blended learning, helps mitigate these challenges, ensuring education continues despite interruptions. Research highlights ADM's role in adapting pedagogical approaches to address resource and infrastructure limitations during emergencies



(Alipio et al., 2022). Moreover, ADM aligns with global educational strategies focused on resilience and adaptability, as recommended by UNESCO (2023).

This study examined the extent of ADM implementation in Taft District and its correlation with the academic performance of Key Stage 1 learners. It aimed to evaluate whether ADM effectively supports academic growth despite disruptions, offering insights for improving educational practices and policy. In line with the Sustainable Development Goal (SDG) 4 on quality education, this study underscores the need to build robust educational systems capable of overcoming environmental challenges. Understanding the extent of ADM implementation and its impact on academic performance not only informs local educational practices but also contributes to the broader discourse on educational resilience in disaster-prone regions.

Driven by the current challenges, this study will be conducted to explore the extent of implementation of Alternative Delivery Mode (ADM) at Taft District. Furthermore, it attempts to investigate the school's profile as it implements such program and its implication to the academic performance of learners at Taft District.

Objectives of the Study

The study aimed to explore the extent of implementation of implementation of Alternative Delivery Mode (ADM) at Taft District and learners' academic performance of K stage 1 learners of Taft District which as basis for crafting a contextualized learning continuity plan.

Specifically, the following were the objectives of this study:

1. To determine the demographic profile of schools implementing Alternative Delivery Mode (ADM) in terms of the following:
 - 1.1 Category
 - 1.2 Location of Schools
 - 1.3 Availability of School resources
2. To determine the extent of implementation of Alternative Delivery Mode (ADM) at Taft District during the course of class suspensions in terms of the following:
 - 2.1 Teacher Support
 - 2.2 Authentic learning
 - 2.3 Pupil autonomy
3. To assess the academic performance of K stage 1 learners of Taft District during the implementation of Alternative Delivery Mode (ADM) at Taft District during the course of class suspensions.
4. To identify if significant relationship exists between the extent of implementation of Alternative Delivery Mode (ADM) on the profile of schools and the academic performance of K stage 1 learners of Taft District
5. To identify if there is significant relationship between the extent of implementation Alternative Delivery Mode (ADM) and the academic performance of K stage 1 learners of Taft District

METHODOLOGY

Research Design

This research utilized a descriptive-correlational research design. An adopted survey questionnaire called Distance Education Learning Environment Survey (DELES), borrowed from the study of Walker et.al in 2015, was used to gather the information on the extent of implementation of ADM particularly distance learning of Taft during class suspensions due to calamities and emergencies. The extent as to the implementation of ADM was correlated to the academic achievement of learners of Taft District for the First Grading which was extracted as secondary data from M&E from the different schools of the Taft District.

Locale of the Study

This research was conducted at Taft District during the Second Grading Period of SY 2024-2025. Taft District is among the 27 districts of Schools Division of Eastern Samar that shifts to ADM particularly distance learning during natural calamities and disasters per DepEd Order No. 37 series of 2022. Taft District is located at the northern part of Eastern Samar with 18 elementary schools and two secondary schools servicing 2,702 learners. Specifically, Modular distance learning is the modality that is adapted in the ADM by all schools in the district based on the BE-LCP of schools in the district.

Respondents of the Study

This study employed complete enumeration as a sampling technique in this study wherein all Key Stage 1 teachers were involved in the district. Complete enumeration was deemed appropriate considering the relatively small number of targeted populations. In the district, there are 19 Schools with Key Stage 1 implementation with 57 teachers teaching Key Stage 1.

Research Instruments

The instrument used in this study was the Distance Education Learning Environment Survey (DELES), an adopted survey material from the study of Walker et.al in 2015 which was aimed to develop and validate the learning environment instrument designed to aid investigators and practitioners in measuring and researching the learning environment in distance education. The questionnaire was a two-part self-report questionnaire intended teachers to assess their implementation of ADM via modular print amidst class suspensions due to disasters or calamities. First part of the material collected the profile of the school (Category, location, and availability of resources). Second part of the material gathered information on the extent of ADM particularly modular print implementation as learning modality of the district.

Data Gathering

This study started on the last week of November 2024. All Key Stage 1 teachers of Taft District were made to answer the survey online via Google Form. Prior to the fielding of the survey questionnaire, approval from the research panel was secured, then, permit was solicited from the District Principal In-Charge through communication letters stating the request to conduct the online survey and the promise to adhere to the confidentiality protocols. After all targeted participants have responded to the online survey form, the researchers disabled the 'collecting responses' feature of the Google Form to



maintain the integrity of the data. The responses were then downloaded as an MS Excel file, ready for interpretation and analysis.

Analysis of Data

For the translation of data into meaningful information, both descriptive and inferential statistics was used in the analysis of gathered data. Descriptive statistics was employed to discuss the extent of implementation of ADM via Distance Learning in Taft District. The study used frequency counts on the descriptive part. To identify whether significant relationship exists between the two variables Pearson r, inferential statistics was used. The inferential aspect of analysis used several tools to explore difference of variables under investigation. All tests were performed at 0.05 level of significance and 95% confidence interval.

Ethical Considerations

This study followed the appropriate research ethics guidelines. Consent from the respondents were provided, and permit was ensured when using their given data. The participants were assured that these data was kept confidential and cannot be used in any legal actions against them.

Table 1. Demographic profile of schools implementing modular print

Category	Frequency (n=19)	Percent
Monograde	11	57.89%
Multigrade	8	42.11%
Location of School		
Along the highway	12	63.16%
Near the coastline	0	0%
Near a river or waterway	3	15.79%
By the hillside	4	21.05%
On top of a mountain		
Availability of School Resources		
	Frequency (n=19)	
Highly sufficient	0	0%
Moderately sufficient	11	57.89%
Less sufficient	7	36.84%
Not sufficient	1	5.26%

On Extent of Implementation of ADM at Taft District

The survey data revealed that the Taft District attained an overall mean score of 3.62, indicating that the extent of ADM (Alternative Delivery Mode) through modular print implementation was moderately evident. This suggests that, despite the challenges brought about by the pandemic, the use of modular print materials was implemented to a considerable degree, allowing for continued learning opportunities. The parameters used to measure the extent of this implementation—teacher support, authentic learning, and pupil autonomy—serve as key indicators of how effectively modular print materials were utilized within the district.

Among these parameters, teacher support emerged as a significant contributing factor to the success of modular print

RESULTS

Demographic profile of Schools Implementing Modular Print

Based on the conducted survey, data on demographic profiles presents a wide range on the demographics of the schools in Taft District that are implementing ADM via modular print. As seen on Table 1, Schools of Taft District have a wide range of characteristics on the parameters measured. For School Category, there are 57.89% (11 of 19) schools are offering monograde and 42.11%(8 out of 19) schools are multigrade in nature. As to the school location, most schools are situated along the high way(63.16% or 12 out of 19) and no school was recorded to be near the coastline and on top of a mountain. These above mentioned locations also has relation to the accessibility of household which points out based on the data collected that household were mostly highly accessible. Most schools are moderately financially able (57.89%) and no school is reported to be financially able in the implementation of distance learning. Also, resources used in distance learning among schools are moderately sufficient (73.68% or 14 out of 19).

implementation. As highlighted in Table 2.1, teacher support received a weighted mean score of 4.16, which is interpreted as Highly Evident. This indicates that teachers in the Taft District demonstrated a strong commitment to facilitating learning, even amidst the challenges posed by the pandemic. High levels of teacher support likely involved consistent guidance, clarification of content, feedback provision, and ensuring that learning materials were accessible and understood by students. Such support is particularly crucial in modular print implementation, where students engage in self-paced, independent learning and often rely on their teachers for reinforcement and intervention when difficulties arise.



Table 2.1 Extent of implementation of ADM in Taft District in times of class suspensions due to calamity in terms of Teacher Support

Statement	Mean	Interpretation
If there is an inquiry, the teacher finds time to respond.	4.4	Highly evident
The teacher helps identify problem areas in my study.	4.2	Highly evident
The teacher responds promptly to the questions.	4.0	Highly evident
The teacher gives valuable feedback on my assignment.	4.4	Highly evident
The teacher adequately addresses the questions	4.0	Moderately evident
It is easy to contact the teacher if ever that there are queries on the modular print	4.1	Highly evident
The teacher provides a positive and negative feedback on the pupils work.	4.0	Highly evident
Average	4.16	Highly evident

Despite the challenges encountered in the learning process, evidence of authentic learning was still apparent in the implementation of modular print, as reflected in Table 2.2,

which reports an average mean score of 3.29, interpreted as Moderately Evident.

Table 2.2 Extent of implementation of ADM in Taft District in times of class suspensions due to calamity in terms of Authentic Learning

Statement	Mean	Interpretation
The pupils study real cases related to the class.	3.5	Moderately Evident
The pupils use real facts in class activities	3.0	Moderately Evident
The pupils work on assignments that deal with real-world information	3.1	Moderately Evident
The pupils work with real example.	3.5	Moderately Evident
The pupils enter the real world of the topic of study.	3.2	Moderately Evident
The pupils work with real activities that I face every-day	3.4	Moderately Evident
The pupils deal with examples that I come across with	3.3	Moderately Evident
Average	3.29	Moderately Evident

The survey conducted among Key Stage 1 teachers in the Taft District regarding the extent of ADM (Alternative Delivery Mode) through modular print implementation, particularly in relation to student autonomy, revealed a mean score of 3.36, interpreted as moderately evident. This finding suggests that, while students demonstrated some level of independence in managing their learning tasks, there were still areas where

further support and improvement may be needed to fully develop autonomous learning behaviors. The moderately evident score of 3.36 implies that while some students were able to exhibit these skills, others may have struggled with the demands of independent learning, particularly younger learners who may require more direct guidance and scaffolding.

Table 2.3 Extent of implementation of ADM in Taft District in times of class suspensions due to calamity in terms of Pupil Autonomy

Statement	Mean	Interpretation
The pupils explore their own strategy for learning.	3.5	Moderately Evident
The pupils seek their own answer.	3.1	Moderately Evident
The pupils make decisions about my learning.	3.0	Moderately Evident
The pupils work during times that find convenient.	3.7	Moderately Evident
The pupils are in control of their learning	3.2	Moderately Evident
The pupils play an important role in their learning.	3.2	Moderately Evident
The pupils approach learning in their own way.	3.8	Moderately Evident
Average	3.36	Moderately Evident

Academic Performance of Key Stage 1 Learners of Taft District

Academic performance as an indicator of quality of education can be evaluated based on the grades on the performance of learners. For this particular variable in this study, a secondary data collected from the Taft District M&E Office was collected. Based on Table 3.1, it can be summarized that as to the Stage 1

Learners, or learners belonging to Grades 1, 2 and 3, 55.07% had a grade of Very Satisfactory, 30.74% were Outstanding, 12.84% were Satisfactory and 1.35% were Fairly Satisfactory. This data on Table 3.2 revealed that Key Stage 1 learners were doing well in relation to the extent on how ADM via modular print was implemented in Taft District.



Table 3.2 Academic performance of stage 1 learners of Taft District during the implementation of modular print as learning modality

Academic Performance	Frequency (n=284)	Percent
Outstanding (90-100)	91	30.74
Very satisfactory (85-89)	163	55.07
Satisfactory (80-84)	38	12.84
Fairly Satisfactory (75-79)	4	1.35
Did not Meet Expectation	0	0

Relationship between the profile of schools and academic performance

To determine whether the demographic profiles of schools are related to the academic performance of learners in the Taft District, a correlation test was conducted at a 0.05 level of

significance. As shown in Table 4, the results indicate that there is no significant relationship between the schools' demographic profiles and learners' academic performance. Consequently, the null hypothesis of the study is accepted.

Table 4 Test of relationship between the profile of schools and the academic performance of pupils

Profile of Schools	Academic performance	p-value	decision	interpretation
Category	Academic performance	0.299	Accept H_0	Not significant
Location of school		0.230	Accept H_0	Not significant
Accessibility of households		0.617	Accept H_0	Not significant
Financial ability		0.713	Accept H_0	Not significant
Availability of facilities		0.711	Accept H_0	Not significant

$\alpha = 0.05$ level of significance

The findings of this study, as presented in Table 4, challenge the conclusions of Smith and Naylor (2001), who asserted that there is a notable overlap between school type and school performance. According to their study, larger schools with sufficient resources tend to achieve higher academic performance. This suggests that school characteristics, such as size and resource availability, play a critical role in influencing student outcomes. However, the relationship between school type and academic performance appears to be inconsistent across studies, as variations in methodologies, contexts, and sample populations can produce differing results.

In contrast, the results of this study align with the findings of Heath (2009), who argued that the average academic performance of students within a school does not consistently influence the overall school setting. This perspective supports the idea that school-level factors, while important, may not always have a direct or uniform impact on individual student achievement. Instead, other variables such as teaching quality, home environment, or student motivation could mediate this relationship, thereby reducing the direct effect of school type or size on academic outcomes.

The broader literature reflects a lack of consensus regarding the direction and significance of the relationship between school performance and academic attainment. For instance, Smith and Naylor (2001) acknowledged the ambiguity in determining

whether school characteristics positively or negatively influence academic outcomes, while Hoare and Johnson (2010) questioned whether school performance has any significant effect at all. This ongoing debate highlights the complexity of factors influencing academic achievement and underscores the need for further research to clarify the mechanisms at play.

The results of this study contribute to this discourse by demonstrating that, at least within the Taft District, no significant relationship exists between school demographic profiles and academic performance. This finding suggests that demographic factors, such as school type or resource levels, may not be the sole determinants of academic success and that attention should also be directed toward other variables, such as instructional quality, student support systems, and parental involvement.

Relation between the extent of ADM implementation and academic performance

As to the test for relationship between extent of ADM implementation and academic performance of learners in Taft District in the implementation of modular print during class suspensions due to calamities tested at 0.05 level of significance, it can be gleaned from Table 5 that all indicators showed no significant relationship.

Table 5 Test of relationship between the extent of implementation and the academic performance of pupils

Extent of Implementation	Academic performance	p-Value	Decision	Interpretation
Teacher Support	Academic performance	0.493	Accept H_0	Not significant
Authentic Learning		0.067	Accept H_0	Not significant
Pupil Autonomy		0.204	Accept H_0	Not significant



These findings align with existing studies that highlight the complexity of factors influencing academic performance during disruptions to traditional learning. For instance, Bernardo et al. (2020) emphasize that while alternative learning delivery methods, such as modular print, aim to mitigate learning loss during crises, their effectiveness is often mediated by external factors such as the home learning environment, parental support, and student motivation. In situations where students lack access to adequate resources or struggle with self-directed learning, the full benefits of ADM may not be realized.

Similarly, Basilaia and Kvavadze (2020) argue that during periods of educational disruption—such as those caused by natural calamities—implementation of alternative learning modes can face significant challenges, including inconsistencies in instructional delivery, limited teacher-student interaction, and varying levels of preparedness among learners. These limitations can contribute to a disconnect between the extent of ADM implementation and academic performance, as observed in this study.

On the other hand, some studies, such as Heath (2009) and Hoare and Johnson (2010), contend that the effectiveness of learning delivery methods depends not only on their implementation but also on broader systemic and contextual factors, such as socioeconomic conditions and school support systems. In the case of modular print, while it ensures continuity of education during class suspensions, the extent of its impact may be constrained by learners' ability to independently engage with the materials and the support available to them at home.

The findings in Table 5 suggest that simply implementing ADM methods like modular print does not automatically translate into improved academic performance, particularly in crisis situations. This highlights the need for a holistic approach to ADM implementation, one that includes addressing the challenges faced by learners and providing sufficient support systems for teachers, students, and parents. As Anderson (2021) suggests, bridging the gap between ADM implementation and learning outcomes requires not only access to materials but also strategies to foster active engagement, teacher involvement, and student autonomy.

CONCLUSIONS

Based on the online survey conducted to Teachers of Key Stage 1 on the extent of ADM via modular print implementation as related to the academic performance of learners, the following conclusions are derived: (1) The demographic profiles of schools of Taft District are mostly offering monograde in terms of category. As to the location, most schools are situated along the highway and no schools were recorded to be near the coastline or by the hillside. Also, most schools are moderately sufficient in terms of the availability of resources and equipment. (2) Data collected by the survey revealed that Taft District had an overall mean of 3.62 interpreted as moderately evident as extent of ADM via modular print implementation. (3) The learners of Taft District performed well based on their First Grading Grade during the implementation of modular print wherein most are developing and got a very satisfactory academic performance for most of the Grades 1 to 3 learners.

(4) The test for correlation revealed that there was no significant relationship between profiles of school against academic performance. (5) On the test for correlation between extent of modular print implementation and academic performance of learners, there was no significant relationship between the variables.

RECOMMENDATIONS

The researchers recommend conducting face-to-face data collection for future studies to ensure the genuineness and accuracy of participant responses. This method allows for a more personal and interactive approach, minimizing potential misunderstandings of survey questions or instructions. Additionally, face-to-face interactions can help build trust with respondents, encouraging them to provide honest and detailed answers. Such an approach is particularly valuable in contexts where remote or paper-based data collection might result in incomplete or ambiguous responses due to factors like literacy challenges, limited access to technology, or participant hesitancy.

To gain a more comprehensive understanding of modular print implementation, it is recommended to extend the scope of the study beyond Key Stage 1 to encompass all educational levels. By including participants from different stages of learning, the findings would provide a more holistic view of how modular print materials are utilized and perceived across various age groups and curricula. This broader scope would also allow for comparative analyses, identifying trends, challenges, and best practices unique to specific grade levels. Moreover, such an expansion would provide a statistically robust representation of the implementation at the Taft District, enabling the formulation of targeted interventions or policy recommendations.

Conflict of Interest

The authors affirm that there are no financial, personal, or professional conflicts of interest that could have influenced the conduct, outcomes, or interpretation of this study. This research was carried out with the sole intention of contributing to the academic and practical understanding of ADM implementation and its impact to the academic performance of learners.

No external funding, sponsorships, or affiliations have compromised the objectivity of this research process or its findings. The authors declare full transparency in the development, execution, and reporting of this study, ensuring that the conclusions drawn are free from bias and solely grounded in the data collected and analyzed. This statement reflects the authors' commitment to maintaining ethical research practices and upholding the integrity of academic inquiry.

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THE BEST PRACTICES OF TEACHER-ADVISERS OF AWARD-WINNING SCHOOL PAPERS IN THE PHILIPPINE NATIONAL COMPETITIONS: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

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ABSTRACT

This study utilized Interpretative Phenomenological Analysis (IPA) to explore the best practices of teacher-advisers of award-winning school papers in the Philippine National Schools Press Conference (NSPC) within the Davao Region. It aimed to understand how these advisers interpret their experiences and implement these practices. Seven advisers participated in in-depth interviews and shared their insights on achieving excellence in school paper competitions. Through thematic analysis, six superordinate themes emerged: Upon reflecting on their practices, the school paper advisers enhanced student staff's skills through structured training; the school paper advisers promoted teamwork, peer learning, and collaboration for effective journalism; the school paper advisers mentored student staff through tailored strategies, feedback, and reflection; the school paper advisers incorporated digital tools to stay updated with trends in the school publication; the school paper advisers focused on grammar and writing quality to enhance publication standards; and the school paper advisers promoted advocacy-driven reporting in school publications.

KEYWORDS: Education, applied linguistics, interpretative phenomenological analysis, best practices, teacher-advisers, National Schools Press Conference (NSPC), Davao Region, Philippines

CHAPTER 1

INTRODUCTION

The school paper advisers functioned as mentors, guides, and facilitators for student journalists (Advincula & Adtoon, 2024). Their management style shapes the campus paper's outcomes by overseeing and training student writers to produce balanced news. They teach proper writing techniques, guide editorial staff, and ensure the publication's quality and impact (Cainong 2024). To further strengthen campus journalism in honing students' skills, the National Schools Press Conference (NSPC) is established (Goh, 2014), and succeeding in this competition is the result of school paper advisers' preparation to ready student journalists for the task (Roxas & Marasigan, 2019). However, many secondary public school advisers lack the skills, resulting in subpar campus journalism which relates to their background characteristics, such as financial aspects (Cubillas & Cubillas, 2021), number of years, availability of resources (Laroya & Limjuco, 2016), (Hinay, 2019) insufficient education in journalism, and the limited support of the school in organizing and offering training opportunities.

In the United States, Sparling (2011) reported high levels of emotional exhaustion and burnout among high school journalism advisers in her national survey. The study identified job dissatisfaction and gender as significant predictors of this

burnout. Moreover, Sinha and Basu (2020) highlight a pressing issue within journalism education in India wherein the government's proposed program objectives do not align with the allocated budget, resulting in shortages of vital materials and training opportunities for both teachers and students.

In the Philippines, encouraging the sharing of best practices in school paper management and journalist training can be achieved through mentorship sessions involving both seasoned and new School Paper Advisers (Zita et al, 2019). However, as revealed by Nilooban (2019) and Opiano et al (2017), school paper advisers often encounter significant management hurdles related to staffing, planning, directing, organizing, reporting, coordinating, and budgeting for the school paper. In consonance, Valeza et al (2021) stated that as of now, the schools continue to pose challenges to press freedom due to issues such as inadequate funding, insufficient provisions for editorial independence, and concerns regarding the school's authority to discipline students.

By exploring the experiences and practices of national awardees in school papers through interpretative phenomenological analysis (IPA), this research offers valuable insights into effective teaching strategies and approaches employed by successful school paper advisers, enhancing the quality of journalism education, informing teacher training programs, and promoting ethical journalism practices among students. Furthermore, it serves as a source of inspiration and recognition for educators and



students alike, highlighting the dedication and innovation demonstrated by national awardees in this field.

With the issues in school paper advising, some scholars delved into them. According to Cervantes (2017), campus journalism is difficult for school paper advisers and student journalists because schools lack the funds to support their participation in trainings, workshops, seminars, and forums. Meanwhile, Patrimonio & Machutes (2023) highlighted the challenges faced by student publication, which are associated with content, coaching and assessment scheduling, and resource availability.

From the issues above on school paper advising from a global to local scale, I was eager to undertake this study, which involved analyzing the best practices of teacher-advisers of award-winning school papers in Philippine national competitions using an interpretative phenomenological approach. Gaining insights from the advisers who have successfully guided their school papers and student journalists to victory in various competitions can provide valuable knowledge and inspiration. It can help other educators enhance their teaching methodologies, build confidence, establish rewarding mentorship relationships, expand networking opportunities, contribute to professional development, and improve the quality of campus journalism programs. There are qualitative studies conducted and published about campus journalism, but very few readings about school papering studies in the Philippines, especially in the local context; hence, there is a need and urgency to conduct the study.

Moreover, the results of this study will be disseminated in 2024 through local and international research forums or conferences. In addition, the findings will be published in a refereed journal, and a copy of the study was provided in the University of the Immaculate Conception library.

Purpose of the Study

The purpose of this qualitative interpretative phenomenological analysis study was to explore the lived experiences of teacher-advisers involved in award-winning school papers in Philippine national competitions. The study aimed to investigate the best practices employed by these teacher-advisers, their experiences in mentoring relationships with the student staff concerning language abilities, the impact of these relationships on the staff's success in competitions, and how teacher-advisers perceive and understand their experiences in implementing effective best practices.

Research Questions

1. What are the best practices of teacher-advisers of award-winning school papers in the Philippine national competitions?
2. How do these advisers describe their experiences on mentoring relationships with students' staff on their language abilities?
3. How do these relationships shape the staff's winning endeavors?

4. How do these teacher-advisers make sense of their experiences in living out their best practices?

Theoretical Lens

This qualitative research is grounded in Interpretative Phenomenological Analysis (IPA), as defined by Smith, Flowers, and Larkin (2009), to delve into the practices and leadership approaches of award-winning school paper advisers. IPA focuses on understanding individuals' subjective experiences and their interpretations of phenomena, providing deep insights into the lived experiences and viewpoints of these advisers. Through in-depth interviews, the research elucidates the meanings, motivations, and challenges related to excelling in school press conferences, highlighting the factors that contribute to success in campus journalism.

Additionally, the study incorporates Transformational Leadership Theory by Bass and Riggio (2006) and Constructivist Learning Theory by Piaget (1971). Transformational Leadership Theory examines leadership practices that inspire and motivate teams toward common goals, allowing the research to explore how award-winning advisers guide and influence their student journalists. Constructivist Learning Theory supports the notion that knowledge and skills in journalism are actively constructed by students through experiences and reflection. Together, these theories provide a comprehensive framework to understand how teacher-adviser practices foster meaningful learning experiences and contribute to the development and success of student journalists in campus paper competitions.

CHAPTER 2 METHODOLOGY

Research Design

This study adopted a qualitative method based on a phenomenological approach. According to Creswell (2014), qualitative research is essentially an exploratory process anchored in specific methodological traditions to understand issues of the social or human world. This research took on multiple methodologies-applying both narrative inquiry and phenomenological inquiry-based regarding capturing individuals' experiences and interpretations of richly complex research objectives.

In this qualitative research study, I utilized the interpretive phenomenological analysis. Interpretive phenomenological analysis is the combination of interpretation and description to investigate lived experiences. The use of this approach recognizes that all phenomena are interpreted, and that the interpretation of these experiences involves both description of the phenomena as well as interpretation of their meanings. Interpretive phenomenology aims at exploring the basic structures of consciousness as humans. However, van Manen (2003) stated that this research does so by actually focusing on subjective meaning as well as meaning which people ascribe to their experiences. In this methodology, it states that interpretation and description go hand-in-hand in an attempt to encapsulate lived experience.



Research Participants

For the participants of this study, I identified seven school paper advisers who have received awards and recognition at the National Schools Press Conference (NSPC) at least twice. The participants were selected from a region-wide pool, ensuring a diverse representation. These educators are language teachers at elementary and secondary levels, teaching either English or Filipino subjects, and have a minimum of five years of experience as school paper advisers.

I used purposive sampling in the selection of my participants. Purposive sampling is appropriate in this study because it will effectively target participant groups who have experiences and information that are pertinent to the research objectives. As Patton (2002) ascertains, purposive sampling enables the researcher to choose participants based on specific criteria in such a way that the sample would comprise individuals who are deemed to offer rich and intensive data regarding the phenomenon under investigation.

Furthermore, according to Clark (2010), a sample size of 4-10 is adequate for professional doctorates. I adopted a sample size that

would generate considerable data to conduct an adequate study considering that too much data poses significant challenges.

Data Analysis

A thorough examination using IPA gave insights into the experiences and practices of school paper advisers whose students and schools' publications win competitions at the national level. The analysis of the qualitative data from the IPA provided a lead into motivations, challenges, and successful strategies of the teacher adviser, thus giving an insight into the process of mentorship and students' success.

As a researcher, I ensured organized and step-by-step analysis of the interview transcripts, observation notes, audio recordings, and any other textual material as a means to follow research procedure and gain better understanding of the phenomena under research. The IPA approach to data analysis requires several stages by Noon (2018) in the following order: reading and note taking, noting emergent themes, making connections between emergent themes, creating a table of themes, then proceeding to the next case, and then finalizing the table of themes prior to writing up the research.

CHAPTER 3 RESULTS

Table 1
Profile of the Participants

Code	Gender	Age	Rank	Subject Taught	Years as School Paper Adviser	No. of National Awards and Year/s Recognized
Adviser 1	Female	49	School Principal II	English and Filipino	19	2 – 2016, 2017
Adviser 2	Female	36	Teacher I	SPJ English	6	2 – 2019, 2020
Adviser 3	Male	33	Teacher I	SPJ Filipino	6	2 – 2020, 2023
Adviser 4	Female	40	Master Teacher I	English	12	2 – 2018, 2019
Adviser 5	Male	30	Teacher I	SPJ Filipino	9	3 – 2019, 2023, 2024
Adviser 6	Female	44	Master Teacher III	English	17	3 – 2018, 2019, 2020
Adviser 7	Male	33	Teacher I	SPJ Filipino	6	2 – 2020, 2023

Report of Participant Findings

Adviser 1. Adviser 1 provided insights into winning school papers in the Philippine national competitions. She highlighted several successful approaches such as strengthening student skills through consistent and specialized training programs, promoting teamwork and peer learning for effective journalism, adopting

tailored mentorship strategies to build student confidence and success, enhancing writing quality by focusing on grammar and structured feedback, maximizing student success by aligning strengths with appropriate competitions, and encouraging reflection, feedback, and learning from experiences to achieve national recognition.



Adviser 1: Personal Experiential Themes

- Strengthen student skills through consistent and specialized training programs
- Promote teamwork and peer learning for effective journalism
- Adopt tailored mentorship strategies to build student confidence and success
- Enhance writing quality by focusing on grammar and structured feedback
- Maximize student success by aligning strengths with appropriate competitions
- Encourage reflection, feedback, and learning from experiences to achieve national recognition

Adviser 2. Adviser 2 gave inputs into winning school papers in the Philippine national competitions. She noted several practices such as establishing clear, structured training to strengthen the efficiency of school paper production, embracing digital tools and staying abreast of current trends to develop quality publication,

using writing that constantly seeks to resolve grammatical challenges, creating a culture of peer learning and improvement in both writing and editing, instilling discipline and a character for long-term success journalism, and practicing the culture of resilience and improvement through adaptability and reflection.

Adviser 2: Personal Experiential Themes

- Establish clear, structured processes to enhance the effectiveness of school paper production
- Incorporate digital tools and stay updated with trends to improve publication quality
- Enhance writing by consistently addressing grammar and structure challenges
- Foster a culture of peer learning and collaborative improvement in writing and editing
- Instill discipline and character development for long-term success in journalism and beyond
- Encourage resilience and continuous improvement through adaptability and reflection.

Adviser 3. Adviser 3 specified insights into winning school papers in the Philippine national competitions. She highlighted several successful approaches such as, enhancing student performance through structured, rigorous training and early introduction to journalism standards, leveraging modern technology while balancing traditional journalism practices with current trends, offering comprehensive mentorship, combining moral and practical support with clear guidance, encouraging

collaboration through open discussions, peer feedback, and co-teacher support, instilling discipline and values to ensure long-term success and effective guidance, addressing challenges in writing, time management, and performance through feedback and co-teacher collaboration, and encouraging continuous learning and professional growth through effective mentorship and motivation.

Adviser 3: Personal Experiential Themes

- Enhancing student performance through structured, rigorous training and early introduction to journalism standards
- Leverage modern technology while balancing traditional journalism practices with current trends
- Offer comprehensive mentorship, combining moral and practical support with clear guidance
- Encourage collaboration through open discussions, peer feedback, and co-teacher support
- Instill discipline and values to ensure long-term success and effective guidance

Adviser 4. Adviser 4 shared best practices to be recognized in the NSPC: advocacy-driven reporting promoting, skill development guided by expertise-driven training and role-based assignments, embracing challenges as opportunities for growth

through openness to feedback and constructive problem-solving, motivating student staff through consistent practice, and strengthening skills through targeted exercises.

Adviser 4: Personal Experiential Themes

- Promote advocacy-driven reporting
- Guide skill development with expert-driven training and role-based assignments
- Embrace challenges as opportunities for growth by being open to feedback
- Motivate student staff through consistent practice
- Strengthen skills through targeted exercises



Adviser 5. To win in the national school paper competition Adviser 5 observed the following best practices: benchmarking the practices of successful school papers from top regions to ensure continuous improvement and competitiveness in the school paper, collaborating with peers and advisers on their best practices for continuous growth and development, implementing

structured, tailored training programs to enhance student skills and early preparation, motivate and build Student confidence through recognition and support, ensuring editorial integrity by maintaining balance, and fostering clear and responsible communication skills.

Adviser 5: Personal Experiential Themes

- Benchmark the practices of successful school papers from top regions to ensure continuous improvement and competitiveness in the school paper
- Collaborate with peers and advisers on their best practices for continuous growth and development
- Implement structured, tailored training programs to enhance student skills and early preparation
- Motivate and build student confidence through recognition and support
- Ensure editorial integrity by maintaining balance
- Foster clear and responsible communication skills

Adviser 6. Promoting advocacy-driven content with proactive reporting, conducting training for skill development, utilizing resources for school paper development, fostering a collaborative and supportive team environment, and encouraging continuous

learning and growth through reflection and feedback are some of the best practices of adviser 6 toward receiving national recognition.

Adviser 6: Personal Experiential Themes

- Promote advocacy-driven content with proactive reporting
- Conduct training for skill development
- Utilize resources for school paper development
- Foster a collaborative and supportive team environment
- Encouraging continuous learning and growth through reflection and feedback

Adviser 7. To be awarded at the national level for the school paper category, Adviser 7 observed the following practices: promoting student-driven innovation for school paper management, adapting to trends in school paper management,

fostering grammar mastery and foundational skills, creating a supportive and collaborative environment for team development, and leveraging personal and professional growth through resilient adaptation and mentorship.

Adviser 7: Personal Experiential Themes

- Promote student-driven innovation for school paper management
- Adapt to trends in school paper management
- Foster grammar mastery and foundational skills
- Create a supportive and collaborative environment for team development
- Leverage personal and professional growth through resilient adaptation and mentorship

Report of All Participant Findings

Upon completion of thematic analysis and interpretation of results, six super-ordinate themes emerged. These super-ordinate themes can be linked to the research questions of the study and can be connected to the literature about the best practices of teacher-advisers of award-winning school papers in the Philippine national competitions.

Super-ordinate Themes

1. Upon reflecting on their practices, the school paper advisers enhance student staff's skills through structured training.

2. Upon reflecting on their practices, the school paper advisers promote teamwork, peer learning, and collaboration for effective journalism.

3. Upon reflecting on their practices, the school paper advisers mentor student staff through tailored strategies, feedback, and reflection.

4. Upon reflecting on their practices, the school paper advisers incorporate digital tools to stay updated with trends in the school publication.

5. Upon reflecting on their practices, the school paper advisers focus on grammar and writing quality to enhance publication standards.



6. Upon reflecting on their practices, the school paper advisers promote advocacy-driven reporting in school publications.

CHAPTER 4 DISCUSSION

Upon reflecting on their practices, the school paper advisers enhance student staff's skills through structured training. The results of this study prove that conducting structured training enhances students' skills. School paper advisers emphasized the importance of structured training in developing their students' journalistic capabilities, where they design and implement targeted training sessions focusing on essential skills like writing, editing, photography, and layout design. Advisers' practices of providing frequent critiques and guidance, implementing enhancement programs, intense practice sessions, and early exposure to professional journalism standards relate to each other as they form a cohesive, structured training framework. This comprehensive structure ensures that students receive consistent feedback, rigorous practice, and targeted skill development. This finding is parallel to the assertion of Hawthorne (2021) that if the program is structured and strategically designed, its chances of success are significantly higher.

Advisers 1 and 2 employed personalized training to enhance students learning. They provide frequent critiques and guidance to address specific writing challenges. They deliver tailored feedback as necessary. Romero (2018) asserted that editors and advisers should carefully review the articles written by campus journalists. They might also want to talk directly with the writers whenever they see something that needs improvement. As supported by Muyengwa & Bukaliya (2016), the key role of editors and advisers is to provide detailed feedback and tutoring on articles written by campus journalists. This thorough feedback serves as a valuable learning experience for the journalists.

Advisers 3, 5, and 6 reinforce the value of structured training by implementing enhancement programs, intense practice sessions, and early exposure to professional journalism standards. This supported Roxas and Marasigan's (2019) result that continuous training and skill improvement for student journalists should be ensured through year-round activities. Mangompit (2022) revealed that regular training for student journalists is essential for enhancing their skills and creating high-quality school publications.

Upon reflecting on their practices, the school paper advisers promote teamwork, peer learning, and collaboration for effective journalism. School paper advisers promote teamwork, peer learning, and collaboration to optimize school paper production and journalistic excellence. Adviser 1, Adviser 2, and Adviser 7 encourage teamwork and peer learning as essential components of journalistic success. This result is congruent with the findings of Cagatan and Quirap (2024) that collaborative learning among students fosters learning and socializing. Teachers are encouraged to adopt a sense of shared purpose, positive attitude, and motivation among students.

Adviser 3 and Adviser 5 both highlight the importance of collaboration not only among students but also with co-teachers and peers outside the immediate team. This finding is related to the revelations of Zita et al. (2019) that fostering the sharing of best practices in school paper management and journalist training can be achieved through cooperating with seasoned and new School Paper Advisers (SPAs).

Adviser 6 complements these ideas by promoting a supportive team environment and encouraging a family-like culture among the students through unified development and teamwork. This result confirms the viewpoint of Kafer and Kuger (2018) that utilizing a supportive and constructive method to address student errors has been shown to improve individual motivation and academic performance among students.

Upon reflecting on their practices, the school paper advisers mentor student staff through tailored strategies, feedback, and reflection. The study revealed that advisers adopted tailored mentorship strategies to motivate students, foster resilience, and encourage continuous improvement through feedback and reflection. Advisers 1 and 5 focus on using tailored mentorship methods that boost student confidence and success. This idea is congruent to Advincula and Adtoon's (2024) result emphasizing the crucial mentorship role of advisers, showing how their guidance and encouragement positively impacted students' personal and professional development.

Adviser 3 and Adviser 6 share a similar belief in providing comprehensive support through moral, practical, and emotional guidance. This supported Pingol's (2018) notion that the biggest boost to successful school papers is not the rewards but the overall support of the school and the community. Training pupils and managing a school paper is not just the task of one or two teachers but the responsibility of stakeholders.

Through reflective practices and adaptable mentorship, Advisers 2 and 7 empower students to develop resilient mindsets, journalistic skills, and a growth-oriented approach to overcome challenges and thrive in their personal and professional lives. These accounts are congruent with the findings of (Balinas & Ibojo, 2023) that student journalists cope by turning mistakes into motivations.

Upon reflecting on their practices, the school paper advisers incorporate digital tools to stay updated with trends in the school publication. Participants mentioned that they are using digital tools and being updated with trends to improve publication quality. Moreover, these advisers underscore the necessity of incorporating digital tools to not only improve the quality of publications but to ensure students are well-prepared for the future of journalism. In this connection Bulusan (2016) underscores the significant influence of technological progressions on journalism in today's rapidly evolving landscape, leading to the obsolescence of traditional practices, especially



within educational environments where students interact with various forms of mass communication including print, online, and broadcast media. This is parallel to Baticulon et al. (2021) findings, noting that technology boosts advisers' engagement with students by providing better access to content, data, and networks.

Upon reflecting on their practices, the school paper advisers focus on grammar and writing quality to enhance publication standards. One of the findings of the study highlights the approach in prioritizing grammar and writing proficiency to improve the overall quality of the school publications. Adviser 1 emphasizes structured feedback and article reviews, focusing on correcting grammar and reinforcing language skills. This is also related to the results of Estella (2015) that writing a good article for school press conferences requires concurrent use of language skills. It starts from vocabulary and spelling to the ability to organize and convey ideas.

Similarly, Adviser 2 and Adviser 7 share a focus on foundational grammar skills, emphasizing the need to address grammar and structure challenges regularly. This aligns with the findings of Rosario and Ibojo (2024), which emphasize that developing foundational skills, such as basic grammar, is crucial for students to effectively address more complex topics.

Upon reflecting on their practices, the school paper advisers promote advocacy-driven reporting in school publications. Another result of the study indicated that school paper advisers encourage students to focus on meaningful, socially relevant, and advocacy-driven stories that go beyond mere reporting. Adviser 4 emphasizes advocacy-driven in creating news centered on important social issues while Adviser 6 also promotes advocacy-driven content through proactive reporting, where students are encouraged to cover stories that highlight significant social causes. This aligns with Peralta's (2014) findings that the school publication serves the immediate readership needs of its students. This aligns with the findings of Ladia (2015), who noted that campus journalism, particularly through editorials, often addresses issues such as budget cuts, tuition fee increases, and efforts to address institutional shortcomings, irregularities, and incompetence, which are primarily relevant to students.

Implication for Education Practice

School paper advisers play a crucial role in the success of student journalists by providing intensive training, fostering teamwork, and developing essential skills. They significantly contribute to the achievements of the publication and the growth of their student journalists. Best practices from award-winning advisers at the national level, including structured training, teamwork, peer learning, tailored mentoring, digital tool integration, focus on grammar and writing quality, and advocacy-driven reporting, are vital for nurturing skilled, socially aware, and impactful student journalists and publications.

These practices may influence future policies by promoting structured and collaborative training programs, ensuring students are proficient in both traditional and digital journalism, and promoting a culture of accountability and social responsibility. Insights from these practices not only enhance student success in journalism but also provide effective methods for improving instruction, encouraging student leadership, and maintaining high-quality student publications, thereby supporting students' overall academic and personal development.

This guidance is valuable for other school paper advisers, aspiring teacher advisers, students, and educational institutions aiming to improve their publications. By adopting these successful approaches, schools may enhance their journalistic output, strengthen mentoring, and cultivate a culture of excellence. School administrators can play a pivotal role by providing more funding, support, and recognition for student publications, creating a positive environment that nurtures aspiring journalists and elevates the standard of campus journalism.

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MULTIMODAL SOCIAL SEMIOTIC ANALYSIS OF FLAGSHIP SLOGANS IN THE NATIONAL OFFICES OF THE PHILIPPINE GOVERNMENT

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ABSTRACT

This study focused on the multimodal social semiotic analysis of the flagship poster slogans of the national agency in the Philippine government. The semiotic modes and their strategies, multimodal presentation and how do these elements influence the reception and interpretation of their target audiences were described. The research materials were 51 flagship poster slogans from the different national agencies in the Philippine government; 10 participants were also interviewed in In-depth interview and focus group discussion. Results revealed that the analyzed flagship poster slogans utilized semiotic modes specifically linguistic, visual, gestural, and spatial mode along with strategies involved in these modes to showcase their campaigns. Further, representational, interactional, compositional metafunctions of Visual Grammar were employed by the flagship poster slogans to boost the engagement, interpretation, and reception in their target audience. Lastly, the essential themes that emerged from the analysis of the interview regarding the reception and interpretation of multimodal composition of flagship poster slogans were vibrant imagery, familiarity of language, familiarity with concerned agency, arousal of viewers interest, and context dependent impressions; these essential themes are also found to be in connection with the baseline metafunction that were used in the flagship poster slogans of the national agencies in the Philippine government.

KEYWORDS: *multimodal social semiotics, multimodality, semiotic mode, metafunctions, flagship poster slogans, visual grammar, Philippines*

CHAPTER 1

INTRODUCTION

Poster slogans are a form of propaganda that attempt to influence peoples' opinions or behavior using specific images and words; they were a common way for governments to use to persuade their citizens (Dvalidze, 2023; Hartin & Sullivan, 2023). Poster slogans convey information and illicit feelings by combining text, color, and graphic elements which are very effective at drawing attention in public places and making an impression on a wide range of viewers (Caldwell, 2024). Recent studies highlight problems with slogans. Sardoč & Prebilič (2022) point out that branding slogans can be deceptive, ambiguous, trivializing, evasive, and manipulative, whereas Pobelo et al. (2021) emphasize how branding slogans might be misinterpreted. Further, Suhandoko and Farahdina (2023) pointed out that the posters that World Health Organization (WHO) on their Instagram account have an imbalance in various modes or a clear disconnect between verbal and visual elements.

In United Kingdom, During the pandemic, Ali (2020); McGuinness (2020) reported that medical practitioners expressed

concerns about the slogan use of the UK government in addressing the people in the seriousness of the Pandemic because it lacked clarity and was confusing, with fears it may lead to an increase in "risky behavior" from the public.

Meanwhile, In Korea, Song and Jeon (2017) reported that slogans in their different regions tend to be complicated in structure but simple in meaning which makes it hard for these areas to stand out and build unique identities as the slogans lack distinctiveness due to the intricate language used in communication.

In the Philippines, a number of agencies had encountered this issue. The data about GSIS, Intel (2024) found that the promotional campaigns provided by the GSIS turned out ineffective as seen in its lower reception of reactions and social media reach. Meanwhile, the Department of Tourism often receives criticism whenever they launch their tourism slogans (Lago, 2023). In the recent Tourism campaign of DOT, Makoy (2023) reported that critics have pointed out that the slogan lacks punctuation and clarity and could be interpreted as a command rather than an invitation. The Philippines Amusement and



Gaming Corp. also receives a backlash on their new logo, Malasig (2023) points that this new design of the PAGCOR does not resonate with the aim of the government agency. In addition, Guiao (2023) highlights a variety of responses to the "Bagong Pilipinas" motto and logo enforced by Memorandum Circular No. 24, revealing a wide range of opinions from social media users and government critics; these opinions imply difficulties in gaining general support or approval for such branding efforts. These branding efforts was tagged by Guidon (2023) as illusionary and braded it as a new pandemic which spread throughout the Philippine government as several departments have undergone rebranding attempts, ranging from new logos to new slogans.

In the local context, slogans are scrutinized in a number of areas. Jeff (2016) stresses how inadequate slogans are for solving complicated issues like poverty and environmental degradation, especially when it comes to NGOs' support of human rights. Further, Villegas (2017) had studied the tourism slogans in two cities in the Philippines which are Capiz and Intramuros; results of the study produced a misalignment of the slogans and images included in it, it was also concluded that the slogans and images does not encapsulate the destination presented. Meanwhile, John and Joy (2015) emphasize that the Department of Health Region XI uses traditional communication tools like posters and putting face-to-face communication have been an issue because the staff were not trained in this mode of communication.

With these ongoing issues, poster slogan analysis, particularly through social semiotic analysis, is critical for diving into the underlying meanings of phrases beyond surface-level interpretations, so aiding in comprehending the nuanced symbols impacting public perception, notably in government-sponsored campaigns. This technique promotes a better understanding of a country's language and cultural variety, giving campaigns a competitive advantage by allowing for changes that appeal to a wide range of audiences. By revealing hidden meanings, slogans can be customized to better engage and inform different groups, establishing stronger connections with the audience and increasing communication efficiency. Furthermore, the findings of such investigations may inspire future research on slogan generation, particularly in government organizations where effective campaigns are critical for conveying information. This study not only sheds light on the complexities of meaning-making in multimodal materials, but it also provides valuable insights into creating more persuasive slogans that resonate with the public by taking a multimodal social semiotic approach and considering the larger context of communication. Finally, the development of more meaningful slogans can engage with diverse audiences in a variety of social circumstances, assuring comprehensive and consistent messaging.

The urgency in analyzing these poster slogans in Multimodal Social Semiotics Approach is important. Aside from aiding the ongoing issues in the current state of poster slogans in the Philippine government, these posters have not been fully

explored. This research gap will be addressed by the study, the analysis of flagship poster slogans of the national offices in the Philippine Government will be using the multimodal social semiotics a novel approach to provide a new perspective in meaning-making not the conventional making meaning.

Moreover, this study's implications will reach beyond the domain of politics; linguistics students, research committees, panelists, and academic institutions which could all profit from it. The information acquired from this study may improve the design of curricula in linguistics programs, provide guidance for academic research procedures, and advance multidisciplinary discourse on semiotics and communication studies.

Purpose of the Study

The purpose of this qualitative research study utilizing multimodal social semiotic analysis will be to discover meaning of the flagship slogans in the national offices of the Philippine government. Particularly, this research endeavor will embark to explicate the modes of communication, meta function, Interaction representation, and text image connection in composition in the flagship slogans in the national offices of the Philippine government. Further, to determine if the components of the poster slogans resonate with the target their target audiences.

Research Questions

1. What are the key semiotic modes utilized in the construction of flagship slogans in the context of Philippine government offices?
2. How do these multimodal presentations support the creation of meaning in social context?
3. How do variations in multimodal composition shape the reception and interpretation of flagship slogans by different audiences?

Theoretical Lens

This study will employ the multimodality approach by Kress and van Leeuwen (2001). As a theoretical Lens, multimodality includes several elements that add to its all-encompassing comprehension of communication processes. Linguistic modes, like spoken or written language; visual modes, like pictures, graphs, or diagrams; gestural modes, like body language and facial expressions; spatial modes, like the arrangement of elements in real or virtual space; and auditory modes, like sound effects or music, are some examples of these components. In this study, this theory provides a basis in identifying the different modes of communication found in the flagship slogans of the national offices of the Philippine government.

The social semiotics theory of van Leeuwen and Kress (2001), that provides an in-depth basis for understanding how meaning is created, expressed, and interpreted in social and cultural contexts using a variety of semiotic tools like language, images, gestures, and symbols, will serve as the foundation for the study. It will specifically make use of Kress and van Leeuwen's (1996, 2006) grammar of visual design and social semiotics theory of



representation. According to this theory, visual components of communication are perceived similarly to textual constructions, serving as a socially created toolbox for meaning creation.

The theories presented would determine if the harmony of the different modes and the meaning created in the social semiotic perspective would coincide with the audiences of the poster slogans campaigned by the national offices of the Philippine Government.

CHAPTER 2 METHODOLOGY

Research Design

The study used a corpus-based approach employing multimodal social semiotic analysis. As defined by Streefkerk (2019), qualitative research involves gathering and analyzing non-numerical data, such as text, audio, or video, to comprehend ideas, viewpoints, or experiences. These allow for the extraction of detailed insights into an issue, which may inspire fresh study ideas. According to Creswell & Creswell (2022), qualitative research takes an interpretive, naturalistic approach and interprets a wide range of data or information. In a similar vein, qualitative research uses words or phrases to make concepts, ideas, or experiences understandable. To comprehend subjects that are poorly understood, comprehensive insights are gathered and examined.

Research Materials

This study used the flagship poster slogans in the national offices of the Philippine government. These poster slogans promote the flagship campaigns or programs of the specific national offices.

The materials of the study were slogans posted on the official Facebook pages of the national government and their official website. The poster slogans used are not infographics; they should only include the slogan of the specific campaign of the selected national offices of the Philippines governments. These slogan posters are posted or published within the years 2013-2023 to allow variety of the material analyzed in the research. 51 slogans were taken and analyzed in the duration of the research.

Research Participants

In addition, participants are also a part of the data source of the study. These participants are required to triangulate the analysis from the corpus of the study. There were 10 participants on this study. 5 participants for the in-depth interview and 1 Focused group with 5 participants. In terms of the research participants for

interview, a purposive sampling specifically maximum variation sampling was utilized.

Data Analysis

The process of analyzing the data follows the methods outlined by Miles and Huberman (1994). First, data reduction focusing on collecting and condensing slogans of the national offices of the Philippines government. Second, data display entails organizing and summarizing information in a way that facilitates drawing conclusions and acting. The data collected will be analyzed following the research questions. The flagship poster slogans were analyzed first on the different modes of communication as outlined by Kress and van Leeuwen (2001). The first research question was focused on the different modes in the poster slogan.

Secondly, the poster slogans were analyzed using the Visual Grammar of Kress and Van Leeuwen (1996:2006). This includes the analysis of meta functions of the visual images which include representational; interactional; and compositional. Representational includes processes, participants, circumstances; Interactional which includes contact; distance; and attitude; and composition which includes framing, salience, and information value. This analysis would entail the interaction between the different modes found in the poster slogans and determine if they have harmonized to create a meaning.

Finally, the data from the In-depth interviews and Focused group discussion were analyzed using thematic analysis. As explained Caulfield (2023) is the meticulously identifying recurring patterns, themes, and insights within the data. This analysis was directly linked to the research questions and determined if the different modes of the poster slogans shape the reception and interpretation of its target audience. The results would supplement the analysis of the data gathered from the research questions one and two.

CHAPTER 3

RESULTS

Profile of the Materials

The materials of this study were the flagship poster slogans in the national offices of the Philippine government. These posters contain flagship programs that the government agencies are implementing and campaigning. The data sources were from the official Facebook pages of the national government and their official website. 51 flagship poster slogans were gathered from different agencies of the government; these agencies are listed on the official gazette of the Philippine Republic.



Table 1.1
Profile of the Research Materials

Title of Flagship poster slogan	Description	Code
Bayang Digital	The flagship campaign of the Department of Information and Communication Technology about embracing the digital era	DICT_1
ICT New Normal	Flagship campaign of the DICT about maximizing the use of ICT in the new normal	DICT_2
TESDAmayan	Program of TESDA that aims to help communities who need assistance during crisis and natural calamities	TESDA_1
TESDAbot Lahat	TESDA campaign that communicates unity in battling COVID-19	TESDA_2
Tamang Buwis	This is a flagship poster slogan of the Bureau of Internal Revenue which encourages taxpayers to pay the correct amount for the progress of the country	BIR_1
Tulong Tulong sa Pagbangon	A flagship poster slogan of BIR emphasizing on unity of paying taxes for the Filipino people	BIR_2
Serbisyong Tapat	A poster slogan of the BIR which emphasizes honest service through paying taxes	BIR_3
PagbaBAGo	This a flagship program of the Office of the Vice President which aim to provide schools bags to children and encourage communities to plant trees.	OVP_1
#GlobalFilipino	A flagship campaign of the Department of Foreign Affairs which highlights different stories of Overseas Filipino Workers	DFA_1
Walang Masaya sa Nasusunugan	A campaign of the Bureau of Fire Protection which emphasizes the prevention of fire in households.	BFP_1
Kapaskuhan	A campaign of the Bureau of Fire Protection which emphasizes the prevention of fire in households especially during Christmas season	BFP_2
LOVE THE PHILIPPINES	This is the flagship poster slogan of the Department of Tourism started last June 2023	DOT_1
Keep the Fun Going	A flagship poster campaign of the DOT and Save the Seas which promotes responsible tourism.	DOT_2
Food Stamp Program	A flagship program of DSWD based on EO No. 44 which ensures food security and proper nutrition of Filipinos	DSWD_1
Tara, BASA!	A program of DSWD partnering with DepEd which promotes reading habits at school and at home.	DSWD_2
20 projects in 2020	A flagship program of DOST which aims to create 20 projects in the year 2020	DOST_1
Project Split	A flagship poster slogan of Department of Agrarian Reform which aims to distribute land titles to Filipino farmers	DAR_1
BIKE.HIKE.PLANT	A program of DENR which promotes healthy lifestyle and environment portection	DENR_1
Environment for Life	A poster slogan of DENR which promoted recycling for a cleaner environment	DENR_2
Palay Aralan	A school-on-the-air program of Department of Agriculture where farmers are being taught through radio broadcast.	DA_1
ALPAS	A rice resiliency project of the DA during the COVID-19 pandemic	DA_2
OneDA	A flagship program of the DA which promotes the strategies of farming that transforms Philippine Agriculture.	DA_3
Solar Power	This is a flagship poster slogan of the Department of Energy where they encourage different government agencies to use renewable sources of energy which is solar power.	DOE_1
You have the power	A flagship campaign of DOE which promotes energy efficiency.	DOE_2



Mangagawa at Mamayan	A flagship program of the Department of Labor and Employment promoting unity between labor force and the community to progress.	DOLE_1
Sagot ka ng DOLE	A program of DOLE which is an online complaint and assistance service for Filipino workers	DOLE_2
Batang Malaya	A flagship slogan of DOLE encourages the community to end child labor	DOLE_3
Economic Tranformity	Poster slogan of Department of Budget and Management about transforming economy towards their goal of economic inclusivity and sustainability	DBM_1
Sustainable Economy	Poster slogan of Department of Budget and Management for sustainable economy in the future	DBM_2
Maharlika Investment Fund	A flagship program of the Department of Finance which promotes the MIF as a sovereign wealth fund and to answer FAQ's about the MIF.	DOF_1
RTB3	A program of DOF which promotes cheap investment opportunities for small savers to secure their future.	DOF_2
Laging Handa	A poster slogan of the Presidential Communications Office that focuses on the crisis communication during the COVID-19 pandemic	PCO_1
Bagong Pilipinas	A campaign of the President which focuses on an all-inclusive plan for economic and social transformation.	PCO_2
Edukalidad	A flagship slogan of the Department of Education for quality education in response to the PISA 2018 results.	DEPED_1
Brigada Eskwela	A yearly program of DepEd which promotes unity of the stakeholders, community, teachers, students, and administrators in the preparation of the school for the upcoming school year.	DEPED_2
OPLAN Balik Eskwela	It is part of DepEd's effort to ensure that learners from public and private schools are properly enrolled and that problems, queries, and other concerns commonly encountered by the public at the start of the school year are promptly and properly addressed	DEPED_3
Learning Camp	A flagship poster slogan of DepEd aims to enhance student and teacher learning through interactive lessons based on prior educational content.	DEPED_4
Mentor Me	The Mentor ME program is a flagship program of DTI aims to: Help micro and small entrepreneurs scale up their enterprises; Spur economic activity and generate employment opportunities.	DTI_1
Zero to Hero	A program of DTI which captures the stories and the lives of regular citizens-turned-entrepreneurs to inspire Filipino citizens.	DTI_1
Bida Solusyon	This is a flagship poster slogan of DOH promoting protocols in battling the COVID-19 pandemic.	DOH_1
Pedestrian Lane	A flagship poster slogan of DOH encouraging to have more pedestrian lanes for commuters	DOH_3
Pinalakas	A flagship poster campaign of DOH promoting citizens to have a booster shot against the COVID-19 pandemic.	DOH_3
Clean Transport	A poster slogan of Department of Transportation promoting greener alternative of fuel in different modes of transportation	DOTr_1
Safety on the Road	A poster slogan of DOTr encouraging safety in roads and awareness of different traffic and road signs.	DOTr_1
Elections	This is a poster slogan of DILG promoting the 2018 SK and barangay elections.	DILG_1
Dagyaw	Dagyaw program of DILG which is a Government Virtual Town Hall Meetings is an initiative anchored on the mandates of the Participatory Governance Cluster of the Cabinet (PGC).	DILG_2



Tunay na Mahal	This is poster of the PNP which aims to lessen the Violence against women and children	PNP_1
DND	The Department of National Defense advocates for the protection against all forms of gender-based sexual harassment (#GBSH) committed in public spaces, educational or training institutions, workplace, as well as online space, pursuant to the Safe Spaces Act (Republic Act No. 11313).	DND_1
BALAI	A program of HUDCC which aims to establish a unified vision for shelter agencies	HUDCC_1
KAYA KO	‘Kaya Ko ang Pagbabago’ is an information and empowerment campaign that aims to communicate the change (pagbabago) of the DSWD’s beneficiaries experience through its programs and services, particularly the Pantawid Pamilya.	DSWD_3
It’s more fun	It’s More Fun in the Philippines! was the tourism marketing campaign of the Philippines from 2012 to 2023	DOT_3
Total		51

Table 1.2
Profile of the Participants

Interview Group	Participants	Description
In-depth Interview	IDI1	This participant is an educator of 8 years. She is teaching subjects that are related to arts and social issues in the country
In-depth Interview	IDI2	Participant 2 of the IDI is a student in his third year. A consistent academic achiever and school paper member of their school.
In-depth Interview	IDI3	This participant is a farmer and a housewife. She has 4 children and a beneficiary of government programs.
In-depth Interview	IDI4	This participant is a female administrator. She is closely connected in some of the agencies in our government
In-depth Interview	IDI5	The last participant of the IDI is a newly elected barangay official. He focuses on agricultural programs being implemented by the municipal mayor.
Focus Group Discussion	FGDParticipant1	This FGD participant is a college student taking up an education degree.
Focus Group Discussion	FGDParticipant2	participant 3 is a government official in charge of health workers in her office.
Focus Group Discussion	FGDParticipant3	Participant 3 is a school administrator for 12 years and an educator for 20 years.
Focus Group Discussion	FGDParticipant4	Participant 4 is a language teacher who is also teaching social sciences.
Focus Group Discussion	FGDParticipant5	Participant 5 is a parent of 2 children and a wife of a local official in her community

Table 1.2 presents the profile of the participants included in the interview process. The table provides what type of interview the participants have undergone. The first column shows the interview group of each participant. Coding of each participant are also based on their interview group; IDI code accompanied by a number is assigned to the in-depth interview participants based on the sequence they were interviewed. Meanwhile FGDParticipant with number is assigned to the participants included in the focus group discussion; the number are assigned based on how they were seated in the room. Brief description of each participant is provided in column 3.

Key semiotic modes utilized in the construction of flagship slogans in the context of Philippine government offices

Table 2 shows the semiotic modes present in the flagship poster slogans in the national offices of the Philippine government. The table also shows the frequency on each semiotic mode in the poster slogans. The codes assigned to each poster slogan are also shown to determine which of these poster slogans contains the identified semiotic modes; furthermore, the strategies employed in each of the semiotic modes in the poster slogan analyzed.



Table 2
Key semiotic modes utilized in the construction of flagship slogans in the context of Philippine government offices

Semiotic Modes	Strategies Utilized	Code	Frequency
Linguistic	Use clear and concise language	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_1, DENR_2, DA_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_2, PCOO_1, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	45
	Employ appropriate tone and register	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	48
	Incorporate rhetorical devices	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_2, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	49
	Structure information logically	DICT_1, DICT_2, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	46
Visual	Utilize color psychology	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	50
	Apply composition principles	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1,	51



		DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	
	Use symbolism and culturally relevant imagery	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2,, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, BIR_3	48
	Design for salience	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	51
Gesture	Use gestures	TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_1, DENR_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DOF_1, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_3, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, DOLE_3, DA_3, DSWD_3, BIR_3	39
	Use Gaze	TESDA_1, TESDA_2, OVP_1, DFA_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, DEPED_3, DEPED_4, DOH_1, DOH_2, DOH_3, DOTR_2, DILG_1, PNP_1, DND_1, DOLE_3, DA_3	28
	Use Body language	TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_2, DBM_1, DBM_2, DOF_1, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, BIR_3	36
	Use Facial expressions	OVP_1, DFA_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, DEPED_2, DEPED_3, DEPED_4, DTI_2,	29



		DOH_1, DOH_2, DOH_3, DOTR_2, DILG_1, PNP_1, DND_1, DOLE_3	
Spatial	Arrange elements to create a logical flow	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	51
	Use proximity and grouping	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	51
	Employing symmetry or asymmetry	DICT_1, DICT_2, TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_1, DENR_2, DA_1, DA_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_1, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3, DOT_3, BIR_3	51

Representational aspect of the flagship poster slogans in the national offices of the Philippine government

Table 3.1 presents the representational aspects of the flagship poster slogans in the national offices of the Philippine

government. The representational aspect is divided into three categories and each categories have sub-categories that define the representational elements that can be found in the flagship slogans that were analyzed.

Table 3.1
Representational aspect of the flagship poster slogans in the national offices of the Philippine government

Aspect of Narrative Representational	Distinctive Feature	Code	Frequency
Processes	Agentive Non-Projective	TESDA_1, TESDA_2, BIR_1, BIR_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_1, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, DOLE_3, DA_3, DSWD_3, BIR_3	39



Participants	Interactive	TESDA_1, TESDA_2, BIR_1, OVP_1, DFA_1, BFP_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_1, DBM_1, DBM_2, DOF_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, DOLE_3, DA_3, DSWD_3	35
	Representational	DICT_2, BIR_2, DA_1, DOLE_2, DTI_1, HUDDC_1, BIR_3	7
Circumstances	Setting Means	TESDA_1, TESDA_2, BIR_2, OVP_1, DEPED_3, DEPED_4, DOTR_1, DOTR_2, DILG_2	9
	Accompaniment	BIR_1, DSWD_2, DTI_1, DOH_3, PNP_1	5
	Setting	DICT_2, DFA_1, BFP_1, BFP_2, DOT_2, DSWD_1, DAR_1, DENR_2, DA_1, DOE_1, DOE_2, DOLE_1, DOLE_2, DBM_1, DBM_2, DOF_2, DEPED_1, DEPED_2, DTI_2, DOH_1, DOH_2, DILG_1, DND_1, HUDDC_1, DOLE_3, DA_3, DSWD_3	27

Interactional aspect of the flagship poster slogans in the national offices of the Philippine government

Table 3.2 presents the interactive aspects of the flagship poster slogans in the national offices of the Philippine government.

Under interactive aspect 3 categories were analyzed. These categories are contact, distance, and attitude. The categories have also sub-categories.

Table 3.2

Interactive aspect of the flagship poster slogans in the national offices of the Philippine government

Aspect of interaction	Distinctive Feature	Code	Frequency
Contact	Demand	OVP_1, DFA_1, BFP_2, DOT_2, DAR_1, DENR_2, DOE_2, DOF_2, DEPED_2, DEPED_4, DOH_1, DOH_3, DILG_1, PNP_1, DND_1	14
	Offer	TESDA_1, TESDA_2, BFP_1, DSWD_1, DSWD_2, DOE_1, DOE_2, DOLE_1, DBM_1, DBM_2, DOF_2, DEPED_1, DEPED_3, DTI_2, DOH_2, DOTR_2, DILG_2, PNP_1, DOLE_3, DA_3	20
Distance	Intimate/Personal	DFA_1, BFP_2, DA_1	3
	Social	BIR_2, OVP_1, DOT_2, DSWD_1, DSWD_2, DOST_1, DOE_1, DOE_2, DOLE_1, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, PNP_1, DOLE_3	15
	Impersonal	DICT_2, TESDA_1, TESDA_2, BFP_1, DAR_1, DENR_2, DBM_1, DBM_2, DOF_1, DOF_2, DEPED_1, DEPED_2, DEPED_3, DOTR_1, DOTR_2, DILG_1, DILG_2, DND_1, DA_3	18



Attitude	Subjective	TESDA_1, TESDA_2, OVP_1, DFA_1, BFP_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DENR_2, DOE_1, DOE_2, DOLE_1, DBM_1, DBM_2, DOF_1, DOF_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_2, DILG_1, DILG_2, PNP_1, DND_1, DOLE_3, DA_3	33
	Subjective-Involvement	DENR_2, DOH_1, DOH_2, DOH_3, DOTR_2, DILG_1, PNP_1, DND_1, DA_3	9
	Subjective-Detachment	BFP_1	1
	Subjective-Viewer Power	DAR_1, DOF_1, DILG_2	3
	Subjective-Equality	TESDA_1, TESDA_2, OVP_1, DFA_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DOST_1, DOLE_1, DBM_1, DEPED_4, DOLE_3	12
	Subjective - Represented Participant Power	DOE_1, DOE_2, DBM_2, DOF_2, DEPED_1, DEPED_2, DEPED_3, DTI_2,	8
	Objective	DICT_2, BIR_2, DA_1, DA_2, DOTR_1, HUDDC_1, BIR_3	7
	Objective-Knowledge Orientation	DICT_2, DA_1, DA_2, DOTR_1, HUDDC_1, BIR_3	6
	Objective-Action Orientation	BIR_2	1

Compositional aspect of the flagship poster slogans in the national offices of the Philippine government

Table 3.3 presents the compositional aspects of the flagship poster slogans in the national offices of the Philippine government. Under compositional aspects 3 categories were analyzed namely: information Value, salience and framing.

Table 3.3
Compositional aspect of the flagship poster slogans in the national offices of the Philippine government

Aspect of Composition		Code	Frequency
Information Value	Centered	DICT_1, TESDA_1, TESDA_2, BIR_1, BIR_2, DFA_1, DOT_1, DENR_1, DENR_2, DA_1, DOE_1, DOE_2, DOLE_1, DBM_2, PCOO_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_3, DOTR_1, PNP_1, HUDDC_1, DA_3, DSWD_3, DOT_3,	29
	Centered -Circular	DFA_1, DOTR_1	2
	Centered -Triptych	DICT_1, TESDA_1, BIR_1, BIR_2, DENR_2, DA_1, DOE_1, DOE_2, DOLE_1, PCOO_2, DEPED_1, DEPED_2, DEPED_3, DEPED_4, DOH_1, DOH_3, PNP_1, HUDDC_1, DA_3, DSWD_3	20
	Centered -Margin	TESDA_2, DOT_1	2
	Polarized	DICT_2, OVP_1, BFP_1, BFP_2, DOT_2, DSWD_1, DSWD_2, DOST_1, DAR_1, DA_2, DOLE_2, DBM_1, DOF_1, DOF_2, DTI_1, DOH_2, DOTR_2, DILG_1, DILG_2, DND_1, DOLE_3, BIR_3	22
	Polarized - Given/New	DICT_2, BFP_1, BFP_2, DOT_2, , DSWD_1, DSWD_2, DOLE_2, DBM_1,	15



		DOF_1, DOF_2, DTI_1, DOTR_2, DILG_1, DOLE_3, BIR_3	
	Polarized - Ideal/Real	OVP_1, , DOST_1, DAR_1, DA_2, DOH_2, DILG_2, DND_1	7
Salience	Minimum	DICT_1, DICT_2, BIR_1, BIR_2, OVP_1, BFP_1, BFP_2, DOT_1, DSWD_1, DSWD_2, , DOST_1, DAR_1, , DENR_1, DENR_2, DA_2, , DOE_1, DOE_2, DBM_2, PCOO_1, DEPED_1, DTI_1, DOTR_2, , DILG_2, PNP_1, DND_1, HUDDC_1, DSWD_3, DOT_3, BIR_3	28
	Maximum	TESDA_1, TESDA_2, DFA_1, DOT_2, DA_1, DOE_2, , DOLE_1, DOLE_2, DBM_1, DOF_1, DOF_2, PCOO_2, DEPED_2, DEPED_3, DEPED_4, DTI_2, DOH_1, DOH_2, DOH_3, DOTR_1, DILG_1, DOLE_3, DA_3	23
Framing	Connected	TESDA_1, OVP_1, DSWD_2, DENR_2, DA_1, DOE_2, DBM_1, DOF_1, DEPED_2, DEPED_3, DTI_2, DOH_1, DOH_2, DOTR_1, DOTR_2, DILG_1, PNP_1, DOLE_3	18
	Disconnected	DICT_1, DICT_2, TESDA_2, BIR_1, BIR_2, DFA_1, BFP_1, BFP_2, DOT_1, DOT_2, DSWD_1, DOST_1, DAR_1, DENR_1, DA_2, DOE_1, DOLE_1, DOLE_2, DBM_2, DOF_2, PCOO_1, PCOO_2, DEPED_1, DEPED_4, DTI_1, DOH_3, DILG_2, DND_1, HUDDC_1, DA_3, DSWD_3, DOT_3, BIR_3	33

Table 4

Reception and interpretation of different audiences in the Variation of Multimodal poster slogans

Essential Themes	Core Ideas
Vibrant Imagery	Color influences audience interpretation Gaze shapes audience reception Images enhance audience understanding Gestures affect interpretation Text boosts audience engagement Combined elements strengthen slogans
familiarity of language	Familiar words build connection Impactful use of familiar language Unfamiliar words create confusion Words lack attention appeal Slogan language is secondary Verbal delivery conveys slogans
Familiarity with concerned agency	Familiarity tied to personal interaction Agency familiarity aids understanding Top slogans blend multimodal elements and familiarity Slogans convey agency mission
Arousal of viewers interest	Multimodal elements inspire action Multimodal elements evoke emotions Emotions and experiences are triggered Multimodal elements prompt critical thinking Life choices reflected through elements Impact increases with audience benefits



CHAPTER 4 DISCUSSION

Multimodality of the flagship poster slogans in the national offices of the Philippine government

The results present that the flagship poster slogans of the national offices in the Philippine government have multiple modes in them which can be called multimodal. This has aligned to the notion of Multimodality as defined by Donaghy (2023) refers to the use of more than one mode of communication in a text to create meaning. In addition, Van Leeuwen (2015) describes multimodality as a term for the integration of different modes of communication into coherent texts and communicative events. The results also conform to the notion of Kress and Jewitt (2010): Ugagu-Dominic (2021) where modes are structured collection of semiotic elements, such as writing, gestures, and images, that are employed to construct meaning.

Metafunction of the flagship poster slogans in the national offices of the Philippine government

The results of the metafunction present in the flagship slogans of the national offices of the Philippine government provide a better understanding and reception to its viewers. This application coincides with the conclusion of Köksal and Erişen (2023) where they stated that compositional, interactional, and representational processes influence how the images are interpreted by society; Racman (2024) that representative, interactive, and compositional—that function as a semiotic mode of communication to comprehend and effectively communicate the intended meaning or message behind them; Deng (2023) we need the incorporation of various modes to provide a better meaning in the campaign we are developing; Alasmari and Almohammadi (2023) conclusion that understanding the three facets of meaning—representational, interactive, and compositional—is necessary in order to fully comprehend the implicit messages. In the context of the study, most of poster slogans manage to incorporate these metafunctions to boost the engagement, interpretation, and reception in their target audience.

Reception and interpretation of different audiences in the Variation of Multimodal poster slogans

The reception and interpretation of multimodal poster slogans by different audiences highlight the complexity of how visual and textual elements interact to deliver messages. Key themes from audience response reveal the significance of design choices, language, familiarity, and external influences on the effectiveness of these slogans. Vibrant imagery significantly enhances the impact of slogans by engaging various senses and encouraging interpretation. Simple language is another essential factor in how slogans are received. Using familiar and easy-to-understand words builds a connection with the audience, ensuring the message is accessible. The audience's familiarity with the agency also plays a significant role in their interpretation of slogans. Multimodal slogans are also powerful tools for the arousal of interest of the audiences. The combination of visuals, text, and other design elements can inspire action, evoke emotions, or trigger critical thinking. Social issues and trends further influence

how slogans are perceived; furthermore, personal preferences, backgrounds, all shape the way slogans are received

Implication for Educational Practice

The multimodal social semiotic analysis of flagship slogans from the national offices of the Philippine government provides critical insights into how language, images, and symbolism are used to convey values, ideologies, and goals. The use of multimodal elements in poster slogans capturing audiences' attention and providing varied responses had been an impactful knowledge that was provided by the results of this study.

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A CRITICAL METAPHOR ANALYSIS OF ENVIRONMENTAL DISCOURSES IN THE PHILIPPINE SETTING

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ABSTRACT

This research employed Critical Metaphor Analysis to examine the inaccuracies embedded in metaphors within the environmental discourses in the Philippines from a corpus of 30 documentary films. The study involved interviews with 5 science teachers and 5 senior high school students in the metaphor analyses. The pre-metaphor analysis level encompassed the discussions on pollution, climate change, biodiversity loss, and nature conservation. During the metaphor identification level, 35 conceptual metaphors containing inaccuracies were identified such as paradise, festival, treasure, refuge, landscape, society, patient, lungs, psychological disorder, sinking ship, waterworld, victims, battle, karma, last forest, symbols of freedom, burning, and simple solution domains. These are grouped into 12 conceptual keys such as ideal place, home, threat, interconnected system, living organism, monster, war, cause and effect, unrestricted movement, combustion, and simple solution source domains. At the metaphor interpretation phase, topics comprised conservation, preservation, and natural value; resource value and commodification of nature; waste and pollution; climate change and environmental degradation; and human influence and environmental ethics. The identified metaphors were characterized by orientational (5), ontological (17), and structural (13) mappings, with 23 metaphors conveying alarmist tones and 12 relational and hopeful tones. Purposes were found as ideological (9), empathetic (10), heuristic (7), and aesthetic (9). At the metaphor explanation level, ideologies such as human dominance, commodification, environmental ethics, sanctity of nature, and overwhelming burden were revealed reflecting modify (2), adapt (1), and depend (2) power dynamics. This study highlighted the cultural, ideological, and motivational underpinnings of metaphor usage in public media that can significantly shape public perception and environmental action.

KEYWORDS: environmental discourses; documentary films; critical metaphor analysis; applied linguistics; Philippines

CHAPTER 1 INTRODUCTION

Environmental discourses on issues like pollution, climate change, biodiversity loss, and nature conservation use metaphors to increase public understanding and engagement. However, Ji (2020) and Vermenych (2023) argued that metaphors contained inaccuracies and outdated misconceptions that hinder environmental conservation efforts. Forgács and Pléh (2022) added that the inaccuracies of metaphors were caused by mismatched emotional connotations and literal interpretations. For instance, *carbon sink* used a negative term to convey positive concept, and *greenhouse* used a positive term for negative effect (Lake, 2001). In the context of environmental documentaries, Zemanek (2022) stressed the inconsistency of environmental messages when a spectacular view of nature is verbally commented on with a narrative of decline.

In the United States, a study by Thibodeau et al. (2017) found the *bank* metaphor as inaccurate because it suggested that natural resources can be withdrawn without consequences which can promote unsustainable practices. In Sweden, Lidström et al. (2022) argued that *health* metaphor remained inaccurate and problematic in describing the state of ocean

ecosystem because it suggested a static ideal state that ignored its dynamic nature and the role of human activities, advocating instead for *the ocean we want* as a more fitting term as it emphasized the collective goal of achieving positive state of the ocean. Another study in Sweden showed how metaphors present incomplete views of climate change like the greenhouse which focuses solely on warming and neglecting other climate aspects (Asplund, 2011).

In the Philippines, Tome et al. (2017) exemplified how inaccurate metaphors negatively affected public's perception on agri-biotechnology using *fear* metaphors such as *cancer*, *homosexuality*, *physical deformities*, and *mental retardation*, and allusions scary creatures or objects like *Frankenfood*, *monster*, *poison*, and *bomb* in the early 2000s. However, in 2010-2016, metaphors improved and led public acceptance through depicting biotechnology and biotech crops as *new hope*, *answer to farmers' dreams*, *salvation of the cotton industry*, and *light of hope*. Their study emphasized the role of media in conveying the power of metaphors in shaping public perception on environmental concerns.

In light with the existing literatures, most studies on metaphor inaccuracies focused on foreign contexts like China, Hungary, Australia, United States, and Sweden (Ji, 2020; Forgács & Pléh



2022; Lake, 2001; Thibodeau et al., 2017; Lidström et al. 2022; Asplund, 2011). Moreover, metaphors analyses were generally taken from text-based analysis alone (Zhang, et al., 2021). To address these gaps, this study utilized critical metaphor analysis as methodology and expanded the limited yet growing research on the examination of metaphors in documentary films like the studies of Wei et al. (2024) and Vermenych (2020, 2021, 2023). Examining metaphors was crucial as they may be misleading and detrimental in environmental perceptions and actions.

Purpose of the Study

The purpose of this critical metaphor analysis was to identify the metaphors that contain inaccuracies in the environmental discourses on pollution, climate change, biodiversity loss, and nature conservation taken from the Philippine documentary films. **Research**

Questions

1. What elements of metaphors are evident in the environmental discourses in the Philippine setting?
2. How are the conceptual metaphors portrayed in these environmental discourses?
3. What are the ideologies and power behind these metaphors?

Theoretical Lens

This study used the concepts of critical metaphor analysis which incorporated the conceptual metaphor theory. Conceptual Metaphor Theory was pioneered by Lakoff and Johnson (1980). CMT asserts that metaphors are not just mere figures of speech, but fundamental tools in thought processing. CMT is a theory in cognitive linguistics that involves mapping where abstract concepts (target domain) are mapped onto more concrete concepts (source domain). In other words, it involves a source domain (a familiar concept) and a target domain (the concept being explained). Furthermore, CMT is grounded in the concepts of embodied cognition, which suggests that these mappings are deeply influenced by our bodily experiences that shaped our understanding of the world.

While CMT focuses on identifying the common patterns and structures that underlie metaphorical thought across individuals and cultures, Critical Metaphor Analysis proposed by Charteris-Black (2004) focuses on the ideological and social implications of metaphors. CMA is a powerful tool for analyzing metaphors that integrates Critical Discourse Analysis. It goes beyond just identifying metaphors. It analyzes the underlying assumptions, values, and potentially hidden agendas of the metaphors in a text or discourse. It also questions whose interests are served by metaphors used and how they might shape public understanding of an issue. Therefore, CMA focused on how metaphors can be used to reinforce or challenge existing power structures and social norms.

The framework of critical metaphor analysis crafted by Charteris-Black (2004) originally contains three levels: metaphor identification, metaphor interpretation, and metaphor explanation. However, Imani (2022) added pre-metaphor analysis as the first level. Therefore, this study had four levels of metaphor analyses.

CHAPTER 2

METHODS

Research Design

This study employed qualitative research design specifically Critical Metaphor Analysis (Charteris-Black 2004; Imani, 2022). The goal of this research was to examine the inaccuracies of environmental metaphors found in Philippine documentary films.

Research Material

The environmental documentaries were taken from the documentary-oriented shows produced by GMA Public Affairs between 2014-2024. Particularly, 10 films were from I-Witness, six from Born to be Wild, four from Reporter's Notebook, four from The Atom Araullo Specials, two from Kapuso Mo, Jessica Soho, two from Brigada, one from DigiDokyu, and one from GMA Public Affairs Special. Overall, 30 documentary films were analyzed in this study, ranging from 9:12 minutes to 1 hour and 19:29 minutes and 1027 to 8667 words.

Research Participants

The research participants in this study were 5 science teachers and 5 students from the secondary schools of Davao de Oro division. They were selected using purposive sampling.

For the five secondary science teachers, the participants were at least a bachelor's degree graduate in environmental science or biological science with 3 or more years of teaching experience in Davao de Oro division. For the five secondary students, the participants were senior high school students, Grade 11 and 12, who took Science-related subjects like Earth and Life Science and Physical Science under the General Academic Strand (GAS) and Humanities and Social Sciences (HUMSS) Strand in the school year 2023-2024 in the division of Davao de Oro

Data Analysis

This study used the framework of critical metaphor analysis by Charteris-Black (2004) involving three levels – metaphor identification, metaphor interpretation, and metaphor explanation. Also, this study added the pre-metaphor analysis introduced by Imani (2022) to highlight the research materials used. Therefore, the analyses contain four levels.

In establishing the research corpora and selecting research materials, the Pre-Metaphor Analysis was conducted involving the identification of seven key features of the documentary films such as the producer, intended audience, context, length, main topics, the overall tone, and the purposes. In addressing Research Question 1 of this study, the processes involved in Metaphor Identification were carried out such as the identification of metaphorical expressions or words, source and target, conceptual metaphors, and conceptual keys. Research Question 2 followed the four stages of Metaphor Interpretation such as interpreting conceptual metaphor tones, purposes, mappings, and topics. Research Question 3 was based on Metaphor Explanation which delved into the deepest level of analysis as it examined the ideological motivations and power dynamics embedded within the conceptual metaphors.



CHAPTER 3

RESULTS

PRE-METAPHOR ANALYSIS

The 30 documentary films are grouped into four categories encompassing the topics on pollution, climate change, biodiversity loss, and nature conservation.

Table 1 shows the six environmental documentaries discussing environmental pollution. Pollution is the introduction of harmful substances or contaminants into the environment that affects the air, water, and soil quality (Maurya, 2018).

Table 1
Pre-Metaphor Analysis of Environmental Documentaries about Pollution

Code	Title	Producer	Length	Date of Airing
A	Plastic Republic	I-Witness	26:56 minutes; 2450 words	June 23, 2018
B	Mask Land	I-Witness	26:10 minutes; 2568 words	June 9, 2022
C	Trash Divers	Reporter's Notebook	24:57 minutes; 2314 words	September 23, 2021
D	Basura in the City	Reporter's Notebook	24:57 minutes; 2314 words	April 19, 2018
E	Banta ng Gulong	Brigada	17:35 minutes; 2219 words	March 18, 2023
F	Ang Plastic Mo! The Philippine Plastic Problem	DigiDokyu	23:29 minutes; 2385 words	May 07, 2024

Table 2 presents the 4 environmental documentaries highlighting the issue of climate change. Climate change is an environmental challenge that causes increase in the average

global temperature, rainfall decrease, widespread melting of snow and ice, rising sea levels, air pollution, droughts and floods, etc. (Hanus et al., 2024).

Table 2
Pre-Metaphor Analysis of Environmental Documentaries about Climate Change

Code	Title	Producer	Length	Date of Airing
G	Climate Justice	I-Witness	27:26 minutes; 2631 words	April 02, 2016
H	The Town is Sinking	Reporter's Notebook	20:43 minutes; 2320 words	April 08, 2019
I	Waterworld	I-Witness	25:09 minutes; 2343 words	October 18, 2014
J	Mga taga-Batasan Island, Ramdam na raw ang Paglubog ng kanilang Isla	Kapuso Mo, Jessica Soho	25:10 minutes; 2854 words	May 15, 2024

Table 3 displays the 5 environmental documentaries highlighting the issue on biodiversity loss. Biodiversity loss

refers to rapid animal and plant extinctions, putting species and ecosystems at risk of vanishing (T et al., 2024),

Table 3
Pre-Metaphor Analysis of Environmental Documentaries about Biodiversity Loss

Code	Title	Producer	Length	Date of Airing
K	Corals sa Escoda Shoal, Patay na ayon sa Pag-aaral	Reporter's Notebook	9:12 minutes; 1027 words	June 24, 2024
L	Bird Hunt	The Atom Araullo Specials	41:51 minutes; 4110 words	May 26, 2019
M	A Dive in the Time of Pandemic	Born to be Wild	13:51 minutes; 1122 words	August 17, 2020
N	Banta saTawilis	Brigada	16:26 minutes; 1736 words	January 29, 2019
O	The Dangers of Bird Imprinting	Born to be Wild	11:16 minutes; 1251 words	January 31, 2021



Table 4 shows the 15 environmental documentaries ecosystems essential for ecological health (Maurya et al., 2024). highlighting nature conservation. Nature conservation focuses on preserving biodiversity, which includes various species and

Table 4
Pre-Metaphor Analysis of Environmental Documentaries about Nature Conservation

Code	Title	Producer	Length	Date of Airing
P	Reclamation Nation	I-Witness	28:52 minutes; 2709 words	February 15, 2023
Q	Lupang Hiram	I-Witness	29:25 minutes; 2538 words	July 13, 2019
R	Hamon sa Caramoan	I-Witness	26:41 minutes; 2407 words	March 14, 2015
S	DAMBuhalang Proyekto	I-Witness	30:13 minutes; 3105 words	April 13, 2019
T	Ang Huling Gubat sa Maynila	I-Witness	29:26 minutes; 2545 words	April 27, 2019
U	Philippine Seas	The Atom Araullo Specials	42:19 minutes; 7129 words	November 17, 2017
V	Pag-asa	The Atom Araullo Specials	44:14 minutes; 3777 words	November 19, 2023
W	Ang Langaw na Hindi Binubugaw	I-Witness	27:24 minutes; 2511 words	March 19, 2022
X	Effects of Deforestation in the Philippines	Born to be Wild	7:13 minutes; 777 words	May 12, 2019
Y	Breaking Territories 1	Born to be Wild	20:26 minutes; 1756 words	November 23, 2021
Z	Wildlife Encounters in Human-Inhabited Places: Sabang Wardens and Saviing Pawikan	Born to be Wild	19:41 minutes; 1369 words	May 12, 2024
A1	Wildlife Encounters in Human-Inhabited Places: Bizarre Wildlife Hideouts and Sa Pag-uwi ng Agila	Born to be Wild	18:29 minutes; 1786 words	April 21, 2024
B1	Jessica Soho, inimestigahan ang isyu ng pagmimna sa Homonhon Island	Kapuso Mo, Jessica Soho	28:57 minutes; 3554 words	April 17, 2024
B2	Pamana: Saving our Heritage	GMA Public Affairs	1 hr.19:29 minutes; 8667 words	September 06, 2020
B3	Saving Paradise	The Atom Araullo Specials	39:55 minutes; 4227 words	March 31, 2019

METAPHOR IDENTIFICATION

There are 35 conceptual metaphors that contain potential inaccuracies which are grouped in 12 conceptual keys.

Conceptual Key 1: Nature is an Ideal Place

Conceptual Metaphors: Nature is paradise, Natural habitat is paradise, Abundance is a festival, Valuable resource is a treasure

Conceptual Key 2: Nature is a Home

Conceptual Metaphors: Natural habitat is a sanctuary, Parks are refuge

Conceptual Key 3: Pollution/ Deforestation is a Threat

Conceptual Metaphors: Plastic waste is a mountain, Pile of tires is a mountain

Conceptual Key 4: Nature as Interconnected System

Conceptual Metaphors: Nature is a society (Wildlife as resident/ guardian, friend/ neighbor, invaders, intruder, evacuees, patient

Conceptual Key 5: Nature is a Living Organism

Conceptual Metaphors: Sea is resting, Nature is a sick patient, Parks are Lungs of the City, Bird Imprinting is a psychological disorder



Conceptual Key 6: Climate Change is a monster

Conceptual Metaphors: Climate change is a destruction, Coastal areas are food, Islands are drowning, Sea is an intruder, Country is a sinking ship, Flooded area is a waterworld, Interactions are Boundary Breaking

Conceptual Key 7: Climate Action is War

Conceptual Metaphor: Environmental rehabilitation is a battle

Conceptual Key 8: Cause and Effect

Conceptual Metaphors: Environmental Impact is Karma, Human Interference in Birds' Lives is a Death Sentence to their Freedom, Environmental Changes are Erasure, Garbage is Endless, No Trash means Fish Return

Conceptual Key 9: Urbanization is an Environmental Threat

Conceptual Metaphor: Arroceros Park is the Last Forest

Conceptual Key 10: Freedom is an unrestricted movement

Conceptual Metaphor: Birds are symbols of freedom

Conceptual Key 11: Pyrolysis is combustion

Conceptual Metaphor: Pyrolysis is burning

Conceptual Key 12: Solutions are simple

Conceptual Metaphor: Water management is a simple solution

METAPHOR INTERPRETATION

This level is composed of four processes involving the interpretation of the conceptual metaphor tones, purposes, mappings, and topics. Interviews with 5 science teachers and 5 senior high school students were conducted to aid the analysis.

Table 6.1

Participant Profiles – Teacher-Participants

Code	Current Grade Levels	Years of Teaching	Level of Education	Study Group
1	7-12	11	MAED – Teaching Science (with units)	In-depth interview
2	10-12	11	MAED – Teaching Science (with units)	Focus Group
3	7,11-12	8	MAED – Educational Administration BSED – Biological Science	In-depth interview
4	7-8, 11-12	6	MAED – Teaching Science (with units)	Focus Group
5	8-9, 11-12	6	MAED – Educational Administration (with units) BSED – Biological Science	Focus Group

Table 6.2

Participant Profiles – Student-Participants

Code	Current Grade Level	Track / Strand	Study Group
6	11	Academic Track / Humanities and Social Sciences Strand	Focus Group
7	11	Academic Track / Humanities and Social Sciences Strand	Focus Group
8	11	Academic Track / Humanities and Social Sciences Strand	In-depth interview
9	12	Academic Track / General Academic Strand	In-depth interview
10	12	Academic Track / General Academic Strand	In-depth interview

Table 6 shows the conceptual metaphor tones derived from study of Bellehumeur and Carignan (2024). Accordingly, alarmist tones appealed to fear and emphasized the urgent need to address environmental issues which were effective in

conveying the serious consequences if actions were not taken. On the other hand, relational tones conveyed a sense of hope and optimism, reflecting positive outlook on environmental



preservation, recovery, and potential for human action to restore balance.

Table 6
Conceptual Metaphor Tones

Conceptual Metaphor Tones	Conceptual Metaphors
Alarmist	Plastic waste is a mountain Pile of tires is a mountain Garbage is a river Pollution is a sea of mud Plastic pollution is a flood Degradation is desert Sea is resting Nature is a sick patient Bird Imprinting is a psychological disorder Climate change is a destruction Coastal areas are food Islands are drowning Sea is an intruder Country is a sinking ship Flooded area is a waterworld People are victims Environmental rehabilitation is a battle Environmental impact is karma Human interference in birds' lives is a death Sentence to their freedom Environmental changes are erasure Garbage is endless Arroceros Park is the last forest Pyrolysis is burning
Relational	Nature is paradise Natural habitat is paradise Abundance is a festival Valuable resource is a treasure Natural habitat is a sanctuary Parks are refuge Nature is a society Parks are lungs of the city No trash means fish return Birds are symbols of freedom Interactions are boundary breaking Water management is a simple solution

Table 7 presents the conceptual metaphor purposes based on Charteris-Black (2018). Metaphors with ideological purpose promoted specific ideologies or worldviews, either reinforcing existing beliefs or challenging dominant systems. Metaphors with empathetic purpose evoked emotional responses and building empathy with the audience, creating a sense of shared experience and understanding. Heuristic purpose of metaphors

simplified complex issues into relatable imagery, fostering innovative and deeper understanding of environmental concepts. Metaphors with aesthetic purpose created striking visual images that highlight the severity of environmental challenges, evoking strong emotional responses such as feelings of awe, wonder, and nostalgia.



Table 7
Conceptual Metaphor Purposes

Conceptual Metaphor Purposes	Conceptual Metaphors
Ideological	Plastic waste/pile of tires is a mountain Nature is a society Country is a sinking ship Flooded area is a waterworld Environmental rehabilitation is a battle Environmental impact is karma Environmental changes are erasure Human interference in birds' lives is a death sentence to their freedom
Empathetic	Natural habitat is paradise Natural habitat is a sanctuary Parks are refuge Sea is resting Nature is a sick patient Climate change is destruction Coastal areas are food Islands are drowning People are victims Arroceros Park is the last forest
Heuristic	Abundance is a festival Sea is an intruder No trash means fish return Bird imprinting is a psychological disorder Interactions are boundary breaking Water management is a simple solution Pyrolysis is burning
Aesthetic	Garbage is a river Pollution is a sea of mud Plastic pollution is a flood Garbage is endless Degradation is desert Nature is paradise Valuable resource is a treasure Parks are lungs of the city Birds are symbols of freedom

Table 8 shows the conceptual metaphor mappings. Mappings involved the process of how one got from point 1 (the source) to point 2 (the target). In this research, based on the classifications of Lakoff and Johnson (1980), the mappings were divided into three, namely, orientational metaphors, ontological metaphors, and structural metaphors. Orientational metaphors map abstract object into spatial and physical terms

like up/down, in/out, front/back, and center/periphery. Ontological metaphors involve the mapping of abstract or intangible concepts into concrete ones such as entity, container, and personification. Structural metaphors are the mapping of complex structures onto simple ones, relating complex concepts to more familiar ones.

Table 8
Conceptual Metaphor Mappings

Conceptual Metaphor Mappings	Conceptual Metaphors
Orientational Metaphors	Country is a sinking ship Flooded area is a waterworld Islands are drowning Sea is resting Degradation is desert
Ontological Metaphors	Plastic waste is a mountain Pile of tires are mountains Pollution is a sea of mud Plastic pollution is a flood Garbage is a river Garbage is endless



	Valuable resource is a treasure Environmental changes are erasure Natural habitat is a sanctuary Nature is a sick patient Climate change is destruction Sea is an intruder Arroceros Park is the last forest Interactions are boundary breaking Human interference in birds' lives is a death sentence to their freedom Bird imprinting is a psychological disorder Birds are symbols of freedom
Structural Metaphors	Nature is paradise Natural habitat is paradise Abundance is a festival Nature is a society Environmental rehabilitation is a battle Environmental impact is karma Parks are refuge Coastal areas are food People are victims Parks are lungs of the city No trash means fish return Pyrolysis is burning Water management is a simple solution

Table 9 presents the conceptual metaphor topics underling each conceptual metaphor. In the thematic categorization, the topics are Conservation, Preservation, and Natural Value (8), Resource Value and Commodification of Nature (4), Waste and

Pollution (9), Climate Change and Environmental Degradation (8), and Human Influence and Environmental Ethics (6). These conceptual topics grouped conceptual metaphors according to the topics and messages they convey.

Table 9
Conceptual Metaphor Topics

Conceptual Metaphor Topic	Conceptual Metaphors
Conservation, Preservation, and Natural Value	Nature is paradise Natural habitat is paradise Natural habitat is a sanctuary Parks are refuge Parks are lungs of the city Environmental rehabilitation is a battle Birds are symbols of freedom Arroceros Park is the last forest
Resource Value and Commodification of Nature	Abundance is a festival Valuable resource is a treasure No trash means fish return Water management is a simple solution
Waste and Pollution	Plastic waste is a mountain Pile of tires is a mountain Garbage is a river Pollution is a sea of mud Plastic pollution is a flood Garbage is endless Sea is resting Nature is a sick patient Pyrolysis is burning
Climate Change and Environmental Degradation	Degradation is desert Climate change is destruction Coastal areas are food Islands are drowning Sea is an intruder Country is a sinking ship Flooded area is a waterworld



	Environmental changes are erasure
Human Influence and Environmental Ethics	Nature is a society People are victims Environmental impact is karma Bird imprinting is a psychological disorder Human interference in birds' lives is a death sentence to their freedom Interactions are boundary breaking

METAPHOR EXPLANTION

This stage delved into the examination of ideological motivations and power dynamics embedded within the metaphors.

Table 10 presents the ideologies and power dynamics behind the metaphors. Human dominance pertained to the tendency of humans to assert control over natural processes, positioning them as having power over nature which results to the consequences involving the shaping of natural environments and wildlife. Commodification framed natural resources as commodities for human consumption, placing nature as subordinate to human economic needs and framing resources as assets to be managed, consumed, or controlled for human benefit. Environmental Ethics theme reflected the ethical responsibilities human hold toward nature as well as the moral consequences of environmental harm, portraying humans as perpetrators of harm and nature or society as bearing the costs.

Sanctity of Nature illustrated nature as inherently valuable, thus worthy of admiration and deserving of protection. This positioned nature as something sacred and valuable in its own right, independent of human utility. Overwhelming Burden framed environmental issues as a vast and powerful force that overwhelmed both humans and nature, stressing their unmanageable and inevitable nature.

Using the human-environment interactions framework, in power dynamics, human dominance and commodification depicted how humans modify the environment to suit their needs and desire. Environmental ethics showed how humans adjusted their behaviors to align with moral principles regarding the environment. Lastly, sanctity of nature and overwhelming burden exemplified how humans relied on nature's inherent value and underscored the limits of human capacity to cope with environmental consequences without systemic change.

Table 10
Ideology and Power Dynamics behind the Metaphors

Ideology	Conceptual Metaphors	Power Dynamics
Human Dominance	Human interference in birds' lives is a death sentence to their freedom Bird imprinting is a psychological disorder Pyrolysis is burning Interactions are boundary breaking Environmental rehabilitation is a battle	Modify
Commodification	Valuable resource is a treasure Abundance is a festival Natural habitat is a sanctuary Parks are refuge No trash means fish return Water management is a simple solution	
Environmental Ethics	Environmental impact is karma Country is a sinking ship Climate change is destruction Coastal areas are food Islands are drowning Sea is an intruder People are victims Environmental changes are erasure Sea is resting Nature is a sick patient	Adapt
Sanctity of Nature	Nature is paradise Natural habitat is paradise Nature is a society Parks are lungs of the city Arroceros Park is the last forest Birds are symbols of freedom	Depend



Overwhelming Burden	Plastic waste is a mountain Pile of tires is a mountain Garbage is a river Garbage is endless Pollution is a sea of mud Plastic pollution is a flood Flooded area is a waterworld Degradation is desert	

Summary

Through the framework of Critical Metaphor Analysis (CMA), the study results scrutinized the beneficial aspects of the 35 identified conceptual metaphors and their potential inaccuracies. The development of these metaphors was rooted from the historical and cultural background and personal experiences of people in local communities. Correspondingly, the ideologies and power dynamics governing the metaphors reflected humans' relationship with nature and their pursuit for maintaining ecological balance.

In particular, the analyses revealed how environmental themes such as pollution, climate change, biodiversity loss, and nature conservation were conceptualized metaphorically along with human impacts to nature. Majority of the metaphors suggested a mixed of positive and negative evaluation of nature and environmental issues through the source domains like *ideal place*, *home*, *interconnected system*, *living organism*, *unrestricted movement*, and *simple solution* as well as *threat*, *monster*, *war*, *combustion*, and *cause-and-effect framework* respectively.

The teacher-participants of this research asserted that the identified conceptual metaphors were seldom used in the classroom settings because they often prioritized straightforward explanation of scientific concepts. Unlike popular environmental discourses, like environmental documentaries, metaphors were used to evoke emotions to encourage environmental accountability. On the other hand, through the lens of the student-participants, they expressed those metaphors contributed to the clarification of environmental concepts and enhanced their critical thinking skills.

Implications for Educational Practices

The findings of this study revealed how Filipino popular media used metaphors in environmental communication. Being a prominent source of environmental information, metaphors in environmental documentaries may present an opportunity for students to cultivate environmental literacy by providing them with relatable language to understand ecological concepts, foster critical thinking and media literacy as they learn to interpret and question the metaphors they encounter in media, and encourage action-oriented mindsets by using metaphors that empower and encourage collective efforts in addressing global ecological challenges.

Educators/ teachers may be equipped with effective instructional tools, especially in adopting metaphors as aid to bridge the gap between scientific content and students' everyday experiences and simplify complex ideas and intricate

topics like climate change, waste management, and biodiversity loss. Moreover, they may allow for interdisciplinary teaching, where concepts may be explored in science classes for their ecological implication, in language arts for metaphor analysis, and in social studies for its societal impact.

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THE EMANCIPATORY APPROACH TO EDUCATION AS REFLECTED IN LES MISÉRABLES MOVIE: A CRITICAL ANALYSIS

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ABSTRACT

The study explores the emancipatory approach to education as reflected in the 2012 film adaptation of *Les Misérables*. Employing qualitative research with a critical analysis, the study examines the linguistics features under Systemic Functional Linguistics (SFL) and the components of emancipatory education. Results revealed that the film's dialogues embody all three metafunctions of language – ideational, interpersonal, and textual. Under the ideational metafunction, material, mental, relational, existential, and verbal processes were identified, showcasing how the character's actions, thoughts, relationships, and existential realities highlight their struggle for justice, freedom, and redemption. The interpersonal metafunction, through mood systems such as declarative, imperative, interrogative, and exclamative moods were also identified. Meanwhile, the textual metafunction uncovers how themes and rhemes structure information coherently. The study also reveals how the films align with the five components of emancipatory education, making the students engage, educate, experience, empower, and enact on societal issues, fostering critical consciousness, empathy, and social transformation.

KEYWORDS: Linguistics, emancipatory education, *les misérables*, metafunctions, Philippines

CHAPTER 1

INTRODUCTION

Background of the Study

Emancipatory education is a transformative approach that seeks to liberate learners from the limitations of oppressive systems by fostering critical consciousness, dialogical learning, and active engagement in the creation of knowledge. Despite its transformative potential, traditional systems often fail to empower students to question societal structures, analyze their realities, or challenge inequalities. These setting often fail to provide opportunities for learners to develop critical thinking skills in meaningful discussion about societal issues.

Globally, the persistence of traditional, rote-based education methods has hindered the development of students' critical consciousness and ability to challenge oppressive structures (Freire, 2005). In Spain, the study of Mesa (2019) revealed the issue that revolves around the traditional compartmentalization of knowledge in educational systems, which hinders the development of a truly emancipatory education. This issue extends beyond the borders of the United Kingdom to Europe and Asia, where Antonova et al. (2020) discovered a lack of adequate knowledge on incorporating critical thinking skills in classrooms. Moreover, the issue is particularly visible in the United States, where critical thinking abilities are inconsistently taught in classrooms and are frequently overlooked (Bouygues, 2022).

In the Philippines, the education system reflects many of the global issues concerning the need for emancipatory education. Despite various reforms, the Philippine education system

continues to grapple with problems related to quality and equity. Research by David (2018) points out that many schools still rely heavily on rote learning and standardized testing, which do not encourage critical thinking or creativity among students (Tan, 2020). Despite the incorporation of critical thinking in the syllabi of numerous disciplines in basic and higher education, many "educated" Filipinos still lack critical thinking abilities (Gomez, 2022). The National Achievement Test (NAT) found that Critical Thinking Skills had the lowest mean score among students in Grades 6, 10, and 12, indicating poor performance in this area. Furthermore, Taguiam, (2022) highlighted the results of their Diagnostic Test which revealed that MELC-Based competencies, which describe critical thinking skills, seemed to be the least mastered ability, accounting for 23% of total scores.

At the local level, the challenges are even more pronounced. In many rural and underprivileged areas in Davao Region, critical thinking skills in the classroom setting remains a significant challenge. Students often struggle with evaluating information critically, leading to susceptibility in receiving information without evaluating its accuracy (Rosello et al., 2023). On the other hand, the story of Victor Hugo's *Les Misérables* is included in the English 10 book used by the Department of Education. However, little emphasis has been made to examining the movie's emancipatory approach to education by digging deeply into the language elements and pedagogical issues. The study of Cotton (2018) revealed that implementing emancipatory education inspired by *Les Misérables* requires innovative pedagogical strategies that align with the movie's themes. Additionally, the study found that dialogic methods and



collective problem-solving were effective in building relationality and solidarity among learners, suggesting practical approaches for implementing emancipatory education.

The pressing issue on the emancipatory approach education has been understudied leading to data scarcity. Although there are related studies to the investigation such as the study of Lekule (2022) who utilized critical and systematic analysis to discuss the concept of emancipatory education; the study of Omodan (2022) who utilized emancipatory pedagogy as a tool for a democratic classroom; and the study of Puspita et al. (2014) who utilized stylistic analysis of figures of speech in *Les Misérables* Movie. However, this study focused on how the dialogue in *Les Misérables* reflected on the potentials of the emancipatory education. Using critical analysis, the study sought to demonstrate how education may emancipate individuals and communities, empowering students to think critically and autonomously.

The results of the study will help a variety of groups, including linguistics students, research committees, academic institutions, and government agencies. The findings shall be presented in a national or international research forum, leading to publication in a reputable journal.

Purpose of the Study

The purpose of this qualitative study utilizing critical analysis was to delve deeply into the linguistic features and educational themes embedded in *Les Misérables* movie. Moreover, this research investigated how the interplay of language and narrative fosters critical awareness among students, encouraging them to reflect on their own contexts and roles within power structures. *Les Misérables*, as the corpora of this study, was generally described as a rich narrative medium that portrays struggles against systemic oppression, societal inequalities, and moral dilemmas.

Research Questions

1. What are the linguistic features embedded in *les Misérables* Movie?
2. How does the portrayal of educational themes in the *Les Misérables* movie reflect the potential for emancipatory education?

Theoretical Lens

This study was seen from the lens of Halliday (2004) on Systemic Functional Linguistics (SFL). This SFL which encompassed the metafunctions of language such as ideational function, interpersonal function, and textual metafunction was utilized to determine linguistic features embedded in the movie. Through systematic analysis of language functions, this research sought to elucidate how language shapes and reflects the dynamics of emancipatory pedagogy depicted in the movie.

Moreover, this critical analysis was grounded on the components of emancipatory education as proposed by Tan (2009). This approach has also been deeply influenced by critical educational theories and Tan's own notions of social justice. To describe the approach that has resulted from these various influences, Tan created the "5 E's of Emancipatory

Education": engage, educate (enable), experience (through exposure), empower (through knowledge of self), and enact.

CHAPTER 2 METHODOLOGY

This chapter comprises the research design, research materials, data collection, data analysis, role of the researcher, trustworthiness of the study, and ethical consideration. These research parts expound a detailed description on how the research process will be carried out.

Research Designs

The study employed qualitative research employing the framework of critical analysis with emancipatory approaches in focus. The goal of qualitative research is to thoroughly examine, comprehend, and explain social phenomena in their natural environment (Creswell, 2013 as cited in Aspers & Corte, 2019). The reason the researcher chose this methodology was because it allowed him to gather more data and create more detailed images of problems, situations, or events. Naderifar et al. (2017) stated that, through data collection, qualitative research offers a detailed and profound summary of occurrences and offers abundant explanations utilizing a versatile research process. The approach provides qualitative evidence, which is obtained in the form of non-numerical data.

Research Material

The primary data for this study was the 2012 film adaptation of "*Les Misérables*," directed by Tom Hooper. This film provided a rich source of data for analyzing the portrayal of educational themes and their potential for emancipatory education. The analysis was conducted using a systemic functional linguistics (SFL) framework, which helped unlock the ideational, interpersonal, and textual functions within the film's narrative.

Given the film's length of 2 hours and 38 minutes, data saturation is expected to be achieved through a comprehensive analysis of its content.

Data Collection

In the completion of the study, a series of steps will be undertaken. The researcher obtained permission from the University of Immaculate Conception through the Dean of the Graduate School then from the Review Ethics Committee (REC).

The primary data for this study was the 2012 film adaptation of "*Les Misérables*," directed by Tom Hooper. This film is not in the public domain, and it is crucial to access it through legal and ethical means. Hence, the researcher rented a copy to legally stream on platforms such as Amazon video

The concept of data saturation as discussed by Braun and Clarke (2013) and Hennik and Kaiser (2022) was applied.

Data Analysis

Relevant steps were followed in order to obtain the answer of research questions in this study. Analyzed in this research was



the emancipatory approach to education as reflected in Les Misérables Movie.

Moreover, the data analysis was guided by the principles of qualitative research, particularly thematic analysis as outlined by Braun and Clarke (2013). This involves identifying, analyzing, and reporting patterns within the data. Thematic analysis will focus on the frequency of patterns and repeated themes present in the film's dialogue and scenes.

In accordance with Braun and Clarke (2013) and Hennink and Kaiser (2022), the data saturation process in this study focused on identifying and analyzing the frequency of patterns and recurring themes present in the corpus.

Through SFL, the data was further dissected into material, mental, relational, existential, and verbal processes, highlighting how these linguistic elements contribute to the portrayal of emancipation. In this study, the grammatical structure of material processes is studied using the formula: Participant: Actor + Process (doing verb) + Participant: Goal + Circumstance/Circumstantial components.

Meanwhile, the mental process comprises two individuals: the sender and the phenomenon. The linguistic structure utilized was Participant: Sender + Process (sensing verb) + Participant: Phenomenon.

On the other hand, the relational process used the grammatical formula Participant: Carrier + Process (be verb) + Participant: Attribute.

The existential process goes like this: Expletive "there" (empty subject) + Process (be verb) + Existent + Circumstances or contextual elements.

The person in charge of speaking or communicating during this process is represented by the Sayer. While the verbiage contains the content or message being conveyed, the receiver is the entity or individual to whom the communication is addressed. Participant (Sayer) + Process (verbal verb) + Participant (Receiver) + Verbiage/Context is a common structure for the verbal process.

In verifying the analysis, peer debriefing will be employed in this study. Experts in the field of critical pedagogy will be sought to review, correct, and validate the research findings then provide suggestions or recommendation for the improvement of this research.

CHAPTER 3 RESULTS

Linguistic Features Embedded in Les Misérables Movie

Reflected in Table 1 was the metafunctions of language and the type of system corresponding each function found in the movie. Specifically, the metafunctions of language constitute ideational function, interpersonal function, and textual function. The ideational function comprised the transitivity system which includes processes like materials, mental, relational, existential, and verbal processes types. On the other hand, the interpersonal function revolved on the mood system which enumerates declarative, imperative, interrogative, and exclamative mood types. Whereas, the textual function focused on the thematic system which stipulates combination of the theme and the rheme

Table 1
Linguistic Features Embedded in Les Misérables Movie

Metafunctions of Language	System of Analysis	Sub-types	Sample Statements
Ideational Metafunction	Transitivity	Material Process	"We fight for bread!" – Gavroche "I've hunted you across the years." – Javert "You must use this precious silver to become an honest man." – The Bishop of Digne
		Mental Process	"I feel my shame inside me like a knife." – Valjean "You forgot I gave these also." – The Bishop "I do believe this woman's tale." – Valjean "She needs a doctor, not a jail." – Valjean
		Relational Process	"You'll always be a slave." – Javert "My life was a war that could never be won." – Valjean "He's the answer to anyone's prayer." – Cosette
		Existential Process	"Here is the thing about equality." – Enjolras "There is wine here to revive you." – The Bishop of Digne "There is bread to make you strong." – The Bishop of Digne



		Verbal Process	"I commend you for your duty." – The Bishop "He told me that I have a soul." – Fantine "I have spoken the truth." – Valjean
Interpersonal Metafunction	Mood	Declarative Mood	"I am the master of hundred of workers" – Valjean "I do believe this woman's tale." – Valjean "She needs a doctor, not a jail." – Valjean
		Imperative Mood	"Let no forgiveness be shown." – Javert "Don't let the wine go to your brains." – Enjolras "Look down and see the beggars at your feet." – Prisoners
		Interrogative Mood	"Who am I?" – Valjean "Will you join in our crusade?" – Revolutionaries "Do you hear the people sing?" – Revolutionaries
		Exclamative Mood	"Sweet Jesus, hear my Prayer!" – Convict 2 "Become a thief in the night Become a dog on the run!" – Javert "Lord, let me find him That I may see him Safe behind bars!" – Javert
Textual Function	Theme and Rheme		"With justice in our hands, no man's beyond our reach." – Javert "In this nest of whores and vipers, let one speak who saw it all." – Javert "If I stay silent, I am damned!" – Valjean

Ideational Metafunction

The ideational metafunction is concerned with the use of language to articulate viewpoints or perceptions about world events. In doing so, it incorporates the transitivity system, which asserts that a statement must include a subject followed by a transitive verb in order to specify, show, or prove something about another person or thing.

The transitivity system under material process was exemplified in the following utterances:

"We fight for bread!" – Gavroche

We fight for bread!
PP: Actor + Process (*material*) + PP: Goal

"I've hunted you across the years." – Javert

I hunted you across the years
PP: Actor + Process (*material*) + PP: Goal + Circumstantial element

"You must use this precious silver to become an honest man." – The Bishop of Digne

You use this precious silver to become an honest man
PP: Actor + Process (*material*) + PP: Goal + circumstantial element

Mental Process. Another form of transitivity system activity noticed in the characters' discourse in Les Misérables was mental process. Mental Process enabled the characters to convey their ideas, feelings, perceptions, and reactions to the complicated and emotional experiences they encountered, such

as betrayal, love, fear, and optimism. The mental process enabled the characters to express their inner ideas and psychological reactions to external themes such as revolution, justice, and personal turmoil.

The mental process described in the transitivity system of ideational metafunction is as follows:

"I feel my shame inside me like a knife." – Valjean

I feel my shame inside me like a knife
PP: Senser + Process (*mental*) + PP: Phenomenon



"I do believe this woman's tale." – Valjean
I believe this woman's tale
PP: Senser + Process (*mental*) + PP: Phenomenon

"She needs a doctor, not a jail." – Valjean
She needs a doctor, not a jail
PP: Senser + Process (*mental*) + PP: Phenomenon

Relational Process. In addition to the other process types described in this study, the narratives in *Les Misérables* demonstrated the relational process of the transitivity system. The characters used the relational process to transmit states of being or possession, providing a more specific or descriptive

account of their circumstances and experiences, especially in the context of oppression and personal struggle. In this way, the characters in the movie are able to express their identities, assets, and traits.

Sample utterances utilizing relational process are evinced below:

"You'll always be a slave." – Javert
You be a slave.
PP: Carrier + Attributive Process + PP: Attribute
(*relational*)

"My life was a war that could never be won." – Valjean
My life was a war that could never be won.
PP: Carrier + Identifying Process + PP: Attribute + circumstantial element
(*relational*)

Existential Process. The existential process is another form of transitivity process described in this study. This process allowed characters to express the existence of many events, emotions, or states associated with the significant moments of the story. These are evinced hereunder:

In *Les Misérables*, existential process indicated the language means confirming the truth of an essential element necessary to drive characters' perception and reactions.

"Here is the thing about equality." – Enjolras
Here is the thing about equality
Expletive (empty) + Process (*Existential*) + Existent

"There is wine here to revive you." – The Bishop of Digne
There is a wine here to revive you.
Expletive (empty) + Process (*Existential*) + Existent + circumstantial element

Verbal Process. Other instances of transitivity in *Les Misérables* plot development are verbal processes. This style depicts the conversation or verbal exchange between characters and holds importance in how they express, reveal, and react to critical events. In *Les Misérables*, this process is used by heroes

in order to express opinions, intentions, and emotions whether it be revolutionary declarations, begs for mercy, or emotional revelations.

"I commend you for your duty." – The Bishop
I commend you for your duty.
PP: Sayer + Process (*Verbal*) + PP: Receiver + Circumstantial element

"He told me that I have a soul." – Fantine
He told me that I have a soul.
PP: Sayer + Process (*Verbal*) + PP: Receiver + Circumstantial element

Interpersonal Metafunction

The interpersonal metafunction concerns how characters relate and develop relationships through language-especially through utterance and exchange. It is because of this feature that characters are able to convey to one another, express emotions, and develop authority; it affects interpersonal relationships and wider social relations.

claims, and pronounce robust beliefs with the use of the declarative mood concerning justice, freedom, and individual expiation. This attitude allows the characters, amidst the moral and social struggle, to state utterances that are factual, judgmental, and observant.

Declarative Mood. The declarative mood is commonly used by characters in expressing opinions, beliefs, and observations, especially in the most important dialogues that have much to do with the plot. Jean Valjean, Javert, and Enjolras are just a few of the characters who provide information, prove argumentative

Imperative Mood. *Les Misérables'* conversations mirror the imperative mood. Characters can influence the behaviors of others in an imperative mood by delivering commands, persuading them to commit certain activities, or pressing them to choose a specific course of action. In the context of the story's societal tensions, the urgent mood is regularly utilized to impose moral duty, motivate action, or enforce authority.



Characters use this emotion to motivate others to take revolutionary action, make moral decisions, or undergo personal reforms in the face of repressive surroundings.

Interrogative Mood. Additionally, the dialogues in *Les Misérables* exhibited the interrogative mood type of the interpersonal function. Characters were able to address urgent concerns regarding the moral and societal issues they encountered, elicit important information, and dispel uncertainties thanks to the interrogative attitude. In this atmosphere, the protagonists, often in search of knowledge and resolution, questioned the existing social order, looked for reasons for injustice, and delved into the intentions and actions of others.

Exclamative Mood. The exclamative mood, which is another mood type seen in *Les Misérables* dialogue, is crucial for conveying the characters' intense feelings and beliefs. Strong emotions are expressed through the exclamative mood, and these often reflect the characters' responses to ethical quandaries, personal issues, and social injustices. Exclamative clauses are used by characters in *Les Misérables* to convey emotions such as anger, despair, frustration, and passion, particularly when confronted with overwhelming injustice, unfairness, and personal issues. The characters' varied experiences and responses to their environment are reflected in these emotional outbursts.

Textual Metafunction

The textual metafunction of language encompasses pre-prepared text that creates and conveys intelligible messages.

Likewise, its textual function aimed at clearly defining its theme, which is considered the central point of a communication. This, in turn, is related to the rheme, wherein details or information supporting the theme are presented. When these two components-the theme and rheme-are put together, an intelligible and understandable message is established.

Theme and Rheme. As it was noted in the dialogues of the characters in *Les Misérables*, the clauses were embedded with the theme and rheme. Through the use of textual function, the characters in the movie clearly and understandably conveyed their message as they stressed their point and supported these with appropriate information. Sample utterances with the theme and rheme are reflected under:

Emancipatory Education in *Les Misérables* Movie

Shown in Table 2 are the sample statements from the *Les Misérables* movie which are potential for emancipatory education. The utterances/dialogues were classified into the five Es: engage, educate, experience, empower, and enact. In the analysis of emancipatory education, the focus lies in how the audience or students perceive and internalize emancipation through these dimensions. Specifically, it examines whether the dialogues prompt engagement with critical issues, provide educational insight into systemic injustices, offer experiential connections to lived realities, empower individuals, or inspire actionable steps toward transformation. This framework bridges the dialogues' thematic intent with their practical influence on fostering liberation in social and educational contexts.

Table 2
Emancipatory Education in Les Misérables Movie

Components of Emancipatory Education	Sample Statements
Engage	"Let others rise to take our place!" – Enjolras "Will you join in our crusade?" – Revolutionaries "There's a new world to be won!" – Revolutionaries "With justice in our hands, no man's beyond our reach." – Javert "Let us take to the street with no doubt in our hearts." – Revolutionaries
Educate	"The law is inside out. The world is upside down." – Valjean "You must think I'm some kind of stranger to you, but I had dreams once like you." – Fantine "Let us take to the streets with no doubt in our hearts." – Marius
Experience	"I dreamed a dream in time gone by, when hope was high and life worth living... But the tigers come at night, with their voices soft as thunder." – Fantine "Here in the slums of St. Michel, we live on crumbs of humble piety. Tough on the teeth – but what the hell! Think you're poor? Think you're free? Follow me! Follow me!" – Marius and the Revolutionaries "I was born inside a jail. I was born with scum like you." – Javert
Empower	"You must use this precious silver to become an honest man. By the witness of the martyrs, by the passion and the blood, God has raised you out of darkness. I have bought your soul for God!" – The Bishop "Let us take to the street with no doubt in our hearts!" – Marius "There is power in me yet! My race is not yet run!" – Valjean
Enact	"Raise the flag of freedom high! There's a new world to be won!" – The Revolutionaries "I will pay what I must pay to take Cosette away. I will save her love." – Valjean



Emancipatory Education

Emancipatory education emphasizes education as a tool of emancipation from oppressive conditions and cultivating critical consciousness in individuals. It encourages students to engage critically with their surroundings, challenging society institutions, cultural conventions, and power dynamics rather than passively absorbing knowledge.

This type of education consists of five critical components that support a progressive path toward empowerment: engage, educate, experience, empower, and enact. These components ensure that education is participatory, reflective, and action-focused.

Engage. Engage in emancipatory education is about sparking curiosity, emotional connection, and critical reflection in learners, prompting them to actively participate in understanding and challenging societal systems. In *Les Misérables* (2012), the concept of engagement shines through its powerful dialogues and emotional moments that highlight themes of justice, sacrifice, and humanity. The lines captivate students, drawing them into the lived experiences of the oppressed and inviting them to question systemic inequalities. The film becomes a tool for fostering empathy, dialogue, and the drive to enact change, embodying the essence of engagement in emancipatory education.

Educate. Educate, as a cornerstone of emancipatory education, centers on providing learners with the tools to critically analyze societal structures, historical inequities, and personal roles in challenging oppression. Through dialogues and narratives, *Les Misérables* (2012) educates audiences by illuminating the lived realities of systemic injustice and the moral dilemmas faced by individuals. Dialogues from characters like Valjean, Javert, and the revolutionaries act as moral and intellectual lessons, urging students to understand the world's complexities and inspiring them to envision and pursue change.

Experience. Experience in emancipatory education emphasizes immersing students in the realities of social struggles, allowing them to emotionally connect and critically analyze systemic injustices. Through vivid depictions of lived experiences, *Les Misérables* (2012) brings students into the lives of its characters, exposing them to the harsh realities of poverty, systemic oppression, and resistance. The emotional depth and raw honesty in the movie's dialogues allow audiences to experience the cost of injustice and the power of resilience.

Empower. Empowerment is important to emancipatory education, as it provides individuals with the tools, confidence, and self-awareness they need to take control of their lives and transform them. The dialogues in *Les Misérables* (2012) serve as profound reflections of human resilience, social justice, and moral awakening, making them a powerful tool for empowering students within the framework of emancipatory education. The movie's dialogue encapsulates themes of liberation, self-discovery, and collective action, offering students a narrative lens through which they can critically evaluate their own contexts and embrace transformative possibilities.

Enact. This phase of emancipatory education focuses on turning understanding, consciousness, and empowerment into action. This phase focuses on utilizing what has been taught to effect real-world change, whether through activism, resistance, or personal development. In *Les Misérables*, characters such as Valjean, Marius, and the fighters for liberty put their ideas into action by taking tangible efforts to combat injustice and fight for freedom. The dialogues in *Les Misérables* are not only a call to reflect but also a direct impetus for action, making them ideal for fostering the principle of enactment in emancipatory education. These lines illustrate how transformative actions—rooted in courage, empathy, and collective resolve—can inspire students to become agents of change, both within and outside the classroom.

Implications for Educational Practices

These findings have significant implications for teaching strategies. More specifically, these implications show how language, represented through various process types, can be an efficient tool for critical analysis, communication, and expression of social reality.

By integrating the analysis of linguistic processes—such as material, mental, relational, existential, and verbal elements—into the teaching of literature, educators can guide students toward a deeper understanding of how language constructs meaning in various contexts.

The representation of *Les Misérables* about educational themes offers a compelling model for emancipatory education. By engaging with the social and moral dilemmas depicted in the story, students can learn to recognize systemic oppression and understand the lived experiences of others. Teachers can implement the five pillars of emancipatory education—engage, educate, experience, empower, and enact—to create a learning environment that nurtures these skills. For example, classroom activities that challenge students to critically analyze social hierarchies, role-play situations of inequality, and reflect on the experiences of those affected by oppression can build both intellectual and emotional engagement.

Recommendations for Future Research

Future research into linguistic elements and emancipatory education within film analysis, such as in *Les Misérables*, could be further extended beyond the current study's scope, methodology, and emphasis. Given the limitations of this thematic analysis and the fact that it involves only one film, several alternatives of future research could serve to extend and support the findings of this study. Future researchers can conduct a comparative study of multiple films dealing with educational themes in diverse socioeconomic backgrounds. Second, the study of the influence of films such as *Les Misérables* on viewers could employ a mixed-methods approach, incorporating both qualitative and quantitative data. Third, future research should look into how specific constituents of emancipatory education, such as the 5Es, namely, Engage, Educate, Experience, Empower, and Enact, emerge from other literature, plays, or social movements. Finally, a next step in studies could investigate how linguistic



features interact with social justice education in a natural class setting

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TEACHING COMPETENCIES OF GRADE 6 TEACHERS OF CAN-AVID DISTRICT AND ITS IMPACT ON LEARNERS' ACADEMIC PERFORMANCE: A CORRELATIONAL STUDY

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ABSTRACT

This study explored the relationship between Grade 6 teachers' competencies and the academic performance of Grade 6 learners in 13 elementary schools in the Can-avid District, Schools Division of Eastern Samar. Teaching competencies, encompassing subject mastery, pedagogical strategies, classroom management, and adaptability, were evaluated for their role in facilitating learning and improving pupil outcomes. The academic performance of learners, measured through grades and standardized assessments, was examined in relation to these competencies, taking into account factors such as teaching quality, resources, and individual learner characteristics. Findings revealed that classroom management competency demonstrated a significant positive correlation with teaching performance ($r = .539$, $p = .007$), highlighting its crucial role in fostering a conducive learning environment and enhancing student outcomes. Conversely, no significant relationships were observed between teaching performance and competencies in instruction ($p = .502$), assessment ($p = .744$), or technology integration ($p = .275$), suggesting a need for improved application of these competencies. The study underscored the importance of foundational knowledge and skills at the Grade 6 level, as these serve as a bridge to advanced education, while emphasizing the influence of external factors such as socioeconomic background and parental support. The research concludes that effective classroom management is vital to student success, whereas other competencies require targeted professional development and strategic implementation to optimize their impact on academic performance. Recommendations include enhancing teacher training in classroom management, aligning assessments with instructional goals, fostering innovative instructional practices, and integrating technology more effectively into teaching.

KEY WORDS: Teaching Competencies, Classroom Management, Academic Performance

INTRODUCTION

Background of the Study

Education, as a fundamental pillar of societal advancement, places immense importance on the competencies of both teachers and learners. This study seeks to explore the complex relationship between the competencies of Department of Education (DepEd) elementary teachers and the academic performance of Grade 6 pupils. While a substantial body of literature highlights the importance of teacher competencies in influencing student achievement, there is a critical gap in understanding how these competencies specifically affect reading outcomes within the Philippine educational system.

The role of teacher competencies in shaping student outcomes has consistently been a central theme in educational research. Darling-Hammond (2019) emphasizes the transformative power of effective teaching, noting that it is crucial for student success. A broad array of competencies, ranging from subject matter expertise to classroom management and interpersonal skills, forms the foundation of effective teaching. These competencies enable teachers not only to deliver content but also to engage students, promote critical thinking, and cultivate an inclusive and dynamic learning environment.

However, while the impact of teacher competencies on student achievement is well-documented globally, there is a distinct need for localized studies that examine these dynamics in the context of the Philippine education system. The unique



challenges and opportunities within this context necessitate research that addresses the specific competencies required for effective reading instruction and their correlation to academic performance in Grade 6 pupils.

The connection between teacher competencies and student academic performance is not only supported by empirical evidence but also highlights the potential for transformative change in education. Teachers who continuously develop their competencies can become catalysts for positive change, fostering an educational ecosystem that supports students' cognitive development, critical thinking skills, and overall academic success. This underscores the necessity for ongoing professional development to ensure that educators remain equipped to meet the evolving demands of modern education.

The ripple effect of effective literacy instruction extends beyond reading skills, influencing broader educational outcomes. As Allington and Gabriel (2019) suggest, skilled elementary teachers who are well-versed in reading instruction can have a transformative impact on students' academic performance across multiple subjects, contributing to the development of critical thinking and analytical skills. Thus, the ability of elementary teachers to provide effective reading instruction is foundational not only to literacy development but also to the overall educational journey of their students.

Focusing on Grade 6 pupils, the transition to this grade level is a critical juncture as students prepare for more challenging academic demands. Hattie (2020) highlights the substantial impact that effective teaching practices have on student achievement, particularly in the upper elementary grades. The DepEd in the Philippines recognizes the importance of teacher competencies in enhancing student learning, as evidenced by the emphasis on professional development within the K to 12 Basic Education Program. This program aims to ensure that teachers acquire the necessary competencies to meet the curriculum's demands.

The link between reading proficiency and overall academic success is well-established (National Reading Panel, 2020). Students who develop strong reading skills during their elementary years are better equipped to excel in other subjects, demonstrating enhanced comprehension, critical thinking, and academic performance. However, while international research offers valuable insights, there is a pressing need for studies that focus on the specific context of the Philippines. Research by Pianta et al. (2019) suggests that effective reading instruction now requires a holistic approach that considers individualized needs and differentiated strategies. In this light, research that explores the competencies of DepEd elementary teachers and their direct correlation to the academic performance of Grade 6 pupils is urgently needed.

Given this gap, it is clear that the competencies of elementary teachers are crucial in shaping the academic trajectories of Grade 6 pupils. To enhance the reading performance of learners, this study seeks to contribute to the existing body of knowledge by investigating the specific competencies that significantly influence reading and overall academic performance within the Philippine educational context. By addressing this

gap, the research aims to provide insights that can inform policy and practice, ultimately improving educational outcomes for students in the Philippines.

Objectives of the Study

This research delved into the relationship between the competencies of DepEd elementary teachers and the academic performance of Grade 6 pupils in Can-avid District. Specifically, the study aimed to achieve the following research questions:

1. What is the level of teaching competencies of Grade 6 teachers of Can-avid District in terms of:
 - 1.1 Instructional planning and preparation;
 - 1.2 Classroom management;
 - 1.3 Instructional delivery
 - 1.4 Assessment
 - 1.5 Use of educational technology?
2. What is the level of academic performance of Grade 6 learners in elementary schools?
3. Is there a significant relationship between the level of teaching competencies of Grade 6 teachers of Can-avid District and the level of academic performance of Grade 6 learners in elementary schools of Can-avid District?

METHODOLOGY

Research Design

This quantitative study utilized a descriptive and correlational design. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research is a research approach that focuses on quantifying the collection and analysis of data. It is formed from a deductive approach where the emphasis is placed on the testing of theory, shaped by empiricist and positivist philosophies (Bhandari, 2020).

In this study, the use of descriptive-correlational was appropriate since the researchers looked into the relationship between the competencies of DepEd elementary teachers and the academic performance of Grade 6 pupils among elementary schools Can-avid District in the Schools Division of Eastern Samar.

Locale of the Study

The study was conducted at the 13 schools of Can-avid District, Eastern Samar Division. The choice of Can-avid District as the locale for the study on the competencies of Grade 6 teachers and the academic performance of Grade 6 pupils holds particular significance. Can-avid District serves as an ideal setting for several reasons. The selection of Can-avid District aligns with the broader objective of the study to gain insights into the competencies of DepEd elementary teachers within a specific local context specifically on the presence of struggling readers as posted by M and E data. By focusing on these particular schools, the research aimed to provide a deeper understanding of the challenges and successes faced by teachers and learners with the end view of improving the reading proficiency of learners of Can-avid District.



Respondents of the Study

The respondents of this study were the Grade 6 Teachers from different elementary schools of Can-avid District in the Schools Division of Eastern Samar. Inclusion of the respondents was based on the following criteria: 1. Must be a regular permanent teacher stationed in Can-avid District, Schools Division of Eastern Samar, 2. Must be currently handling Grade 6 subjects, and 3. Must be willing to participate in the study by voluntarily answering the survey.

Research Instruments

In this study, an adopted survey questionnaire from a similar study of Laurito (2022) was the main instrument for data collection. As the material was borrowed from a published study of similar focus to this proposed study, no validation was conducted before the use of the instrument. The adopted questionnaire was a self-report assessment for Grade 6 teachers. The survey was divided into five parts of self assessment namely; instructional planning and preparation, classroom management, instructional delivery, assessment and use of educational technology. The Likert scale options was provided from the highest to the lowest levels: (5) Strongly Agree, (4) Agree, (3) Uncertain, (2) Disagree, and (1) Strongly Disagree. The respondents chose the option scales to represent their perceptions of the statements.

Data Gathering

This study started on the last week of November 2024. Grade 6 teachers were made to answer a printed survey questionnaire with complete enumeration as sampling technique. Prior to the fielding of the survey questionnaire, approval from the research panel was secured, then, permit was solicited from the Can-avid District Principal In-Charge through communication letters stating the request to conduct the online survey and the promise to adhere to the confidentiality protocols.\

Analysis of Data

Data was tabulated, tallied, organized, statistically treated and analyzed. Descriptive statistics was used to give attributes of the respondents' level of competency and learners' academic performance in English in terms of the mean scores, gain scores, and standard deviation. Since this study used a correlational design, data was also analyzed and treated using correlation analysis specifically in finding out any relationships level of competencies of Grade 6 Teachers among elementary schools and the level of academic performance of Grade 6 learners in Can-avid District, Schools Division of Eastern Samar.

Ethical Considerations

The ethical framework of this research underscored a commitment to the highest standards of integrity, confidentiality, and respect for the rights and welfare of the participants. In alignment with Republic Act 10173, the Data Privacy Act of 2012, participants were assured that their information was handled with utmost confidentiality and respect.

In the conduct of this study, informed consent was obtained from all participants, ensuring they were fully aware of the study's purpose, procedures, and their right to withdraw at any time without penalty. Confidentiality was strictly maintained, with all personal data anonymized to protect participants' privacy. The study avoided any form of bias or coercion, ensuring that participation was voluntary and that the data collected was accurate and unbiased.

RESULTS

The evaluation of Grade 6 teachers' instructional planning and preparation, as shown in Table 1.1, reveals a consistently high level of competence across all indicators, with a grand mean of 4.00.

Table 1.1 Teaching competencies of the Grade 6 teachers in terms of instructional planning and preparation:

Statement	Mean	Interpretation
I am confident in setting clear and achievable learning goals for my lessons.	4.18	High Competence
I consistently align my lesson plans with grade-level standards and curriculum requirements.	4.20	High Competence
I regularly use student performance data to guide my instructional planning.	4.10	High Competence
I design lesson plans that effectively address the diverse learning needs and abilities of my students.	3.82	High Competence
I create lesson sequences that build upon students' prior knowledge to enhance learning.	4.19	High Competence
I effectively integrate various teaching methods and instructional materials to make my lessons engaging.	4.10	High Competence
I am skilled in preparing assessment tools that align with my lesson objectives.	4.04	High Competence
I manage time efficiently within my lessons to cover all planned activities.	4.08	High Competence
I prepare alternative plans for addressing unexpected challenges in my instruction.	3.50	High Competence
I am competent in selecting and using digital resources and technology to enhance my lesson preparation.	3.79	High Competence
Grand Mean	4.00	High Competence

The data on the teaching competencies of Grade 6 teachers particularly instructional planning and preparation highlights a consistent level of high competence across various instructional practices, as indicated by a grand mean score of 4.000. This signifies that teachers are effectively utilizing instructional

strategies to enhance teaching competencies among their students.

The highest mean score was observed in the integration of literacy instruction across the curriculum (4.20). This aligns



with current educational best practices, which emphasize the importance of integrating literacy skills into all subject areas to promote comprehensive learning (Shanahan & Shanahan, 2019; International Literacy Association, 2020). Teachers appear well-equipped to implement these strategies effectively, which is crucial for student success in teaching.

Leadership in professional learning and preparing supplementary teaching materials both scored 4.18, underscoring the importance of continuous professional development and resource preparation. Engaging in professional learning communities helps teachers stay updated on the latest instructional techniques and educational research (Darling-Hammond et al., 2017).

However, areas such as conducting oral teaching tests through home visitation and capability building for parents scored slightly lower (3.79). While these areas still indicate high competence, there is room for growth. Enhancing parent involvement and conducting home visits can significantly

impact student teaching development (Jeynes, 2018). Providing additional support and resources to parents can empower them to better assist their children's teaching practices at home.

Regular monitoring of pupils at home had the lowest mean score (3.50). Although this score falls within the high competence range, it indicates a potential area for targeted improvement. Regular and systematic monitoring of student progress is vital for identifying and addressing teaching difficulties early (Connor et al., 2014). Schools might consider implementing more structured monitoring systems to ensure consistent follow-up on student progress.

Table 1.2 presents the detailed assessment on classroom management, showcasing the competencies through various indicators rated on a standardized scale. The mean scores for each indicator reflect a high level of proficiency, with an overall grand mean of 4.092, categorizing the teachers' classroom management skills as highly competent.

Table 1.2 Teaching competencies of the Grade 6 teachers in terms of Classroom management:

Statement	Mean	Interpretation
Prepares learning activities accomplished on a time allotted for the teaching subject.	4.12	High Competence
Uses different teaching methods and strategies on the activities provided in the teaching materials.	4.17	High Competence
Creates valuable learning experiences through the activities provided for the learners in the teaching materials.	4.08	High Competence
Draws learners' attention through the activities in the teaching class.	4.04	High Competence
Analyzes answers of pupils on the activities provided on the modules and prepare innovative projects to enhance learning.	4.12	High Competence
Treats students as individuals by maintaining a learning environment that conveys high expectations of every student.	4.13	High Competence
Works collaboratively with families of students and other significant adults by communicating and collaborating with the home and community for the benefit of students.	3.96	High Competence
Provides an environment in which each child has a positive, nurturing relationship with caring adults by maintaining a positive and nurturing learning environment.	4.08	High Competence
Embraces diversity in the school community and in the world by using materials or lessons that counteract stereotypes and acknowledge the contributions of all cultures.	4.08	High Competence
Leads in the classroom by positive management of student behavior, effective communication to defuse and deescalate disruptive or dangerous behavior, and safe and appropriate seclusion and restraint techniques.	4.12	High Competence
Grand Mean	4.092	High Competence

The highest score was observed in the use of different teaching methods and strategies (4.17), indicating that teachers are particularly adept at diversifying their instructional approaches. This is crucial for catering to diverse learner needs and enhancing engagement and comprehension in teaching activities. Current literature supports the efficacy of varied instructional strategies in improving teaching skills and overall student performance (Begeny, 2019; Jones & Conradi, 2020).

However, the slightly lower mean score in collaborating with families and the community (3.96) suggests room for improvement. Strengthening these partnerships could further enhance the learning experience and provide a more holistic support system for students (Epstein & Sheldon, 2016). Effective communication and collaboration with families can

lead to better educational outcomes and a more supportive learning environment (Van Voorhis et al., 2013).

Maintaining a positive and nurturing environment scored a mean of 4.08, reflecting high competence but also highlighting an area that requires continuous effort. Research indicates that a positive classroom climate significantly contributes to student learning and well-being (Hamre & Pianta, 2006; Marzano, 2017). Therefore, ongoing professional development focusing on emotional and social support strategies could be beneficial.

Embracing diversity and leading the classroom with effective management techniques also scored high, which aligns with the current educational emphasis on inclusivity and positive behavior support (Gay, 2018; Sugai & Horner, 2020). These



competencies are essential for fostering an environment where all students feel valued and capable of achieving success.

Table 1.3 Teaching competencies of the Grade 6 teachers in terms of instructional delivery:

Statement	Mean	Interpretation
I demonstrate leadership by engaging in collaborative and collegial professional learning activities and identifying the characteristics or critical elements of a school improvement plan.	4.17	High Competence
I develop and applies lessons based on an effective course of study by integrating effective literacy instruction throughout the curriculum and across content areas to enhance student learning.	4.21	High Competence
I make their instructions relevant to students by integrating 21st -century skills and content in instruction	4.13	High Competence
I conduct oral teaching test through home visitation	3.79	High Competence
I prepare teaching materials to supplement the modules.	4.17	High Competence
I provide intervention to pupils with difficulty in teaching.	4.12	High Competence
I provide other supplementary learning materials to the pupils to enhance their teaching ability.	4.08	High Competence
I provide video clips for the pupils to use in the production of sounds of the letters of the alphabet.	4.04	High Competence
I provide capability building to parents to help in assisting and guiding the pupils improve their teaching ability.	3.79	High Competence
I conduct regular monitoring to pupils at home.	3.50	High Competence
Grand Mean	4.000	High Competence

Table 1.2 presents the teaching competencies of Grade 6 teachers concerning instructional strategies. The data on the teaching competencies of Grade 6 teachers highlights a consistent level of high competence across various instructional practices, as indicated by a grand mean score of 4.000. This signifies that teachers are effectively utilizing instructional strategies to enhance teaching competencies among their students.

The highest mean score was observed in the integration of literacy instruction across the curriculum (4.21). This aligns with current educational best practices, which emphasize the importance of integrating literacy skills into all subject areas to promote comprehensive learning (Shanahan & Shanahan, 2019; International Literacy Association, 2020). Teachers appear well-equipped to implement these strategies effectively, which is crucial for student success in teaching.

Leadership in professional learning and preparing supplementary teaching materials both scored 4.17, underscoring the importance of continuous professional development and resource preparation. Engaging in

professional learning communities helps teachers stay updated on the latest instructional techniques and educational research (Darling-Hammond et al., 2017).

However, areas such as conducting oral teaching tests through home visitation and capability building for parents scored slightly lower (3.79). While these areas still indicate high competence, there is room for growth. Enhancing parent involvement and conducting home visits can significantly impact student teaching development (Jeynes, 2018). Providing additional support and resources to parents can empower them to better assist their children's teaching practices at home.

Regular monitoring of pupils at home had the lowest mean score (3.50). Although this score falls within the high competence range, it indicates a potential area for targeted improvement. Regular and systematic monitoring of student progress is vital for identifying and addressing teaching difficulties early (Connor et al., 2014). Schools might consider implementing more structured monitoring systems to ensure consistent follow-up on student progress.

Table 1.4 Teaching competencies of the Grade 6 teachers in terms of Assessment:

Statement	Mean	Interpretation
Demonstrate leadership by engaging in collaborative and collegial professional learning activities and identifying the characteristics or critical elements of a school improvement plan	4.00	High Competence
Develop and apply lessons based on an effective course of study by integrating effective literacy instruction throughout the curriculum and across content areas to enhance student learning.	4.12	High Competence
Make their instructions relevant to students by integrating 21st -century skills and content in instruction	4.00	High Competence
Conducts oral teaching test through home visitation	3.87	High Competence
Prepare teaching materials to supplement the modules.	4.00	High Competence



Provide intervention to pupils with difficulty in teaching.	4.17	High Competence
Provide other supplementary learning materials to the pupils to enhance their teaching ability.	4.12	High Competence
Provide video clips for the pupils to use in the production of sounds of the letters of the alphabet.	4.00	High Competence
Provide capability building to parents to help in assisting and guiding the pupils improve their teaching ability.	3.79	High Competence
Conduct regular monitoring to pupils at home.	3.63	High Competence
Grand Mean	3.971	High Competence

The data on the teaching competencies of Grade 6 teachers regarding assessment practices as seen on Table 1.4 highlights a generally high level of competence, as evidenced by the grand mean score of 3.971. This suggests that teachers are effectively employing assessment strategies to enhance student teaching skills.

The highest mean score was observed in the provision of interventions for pupils with teaching difficulties (4.17). This aligns with best practices in education, which emphasize the importance of timely and effective interventions to support struggling readers (Wanzek & Vaughn, 2018). Teachers appear proficient in identifying and addressing the needs of students who require additional support in teaching.

Leadership in professional learning and the preparation of supplementary teaching materials both scored 4.00, indicating that teachers are actively engaging in professional development and resource preparation. Engaging in professional learning communities allows teachers to stay informed about the latest educational research and strategies, which is crucial for continuous improvement (Hattie, 2015).

The slightly lower scores in conducting oral teaching tests through home visitation (3.87) and capability building for parents (3.79) indicate areas where further enhancement could be beneficial. Research has shown that parental involvement and home-based assessments can significantly impact student teaching achievement (Goodall, 2017). Providing additional support and resources to parents can empower them to assist their children more effectively at home

Table 1.5 Teaching competencies of the Grade 6 teachers in terms of Use of educational technology

Statement	Mean	Interpretation
Displays awareness of technology's potential to enhance learning by integrating technology into their instruction to maximize student learning.	4.04	High Competence
Introduces the use of technology to the pupils	4.04	High Competence
Uses technology in producing learning materials.	4.08	High Competence
Produces video lessons to supplement teaching materials provided to the pupils.	4.08	High Competence
Uses different platforms in teaching teaching.	4.08	High Competence
Creates valuable experiences to pupils using technology in teaching teaching.	4.00	High Competence
Displays awareness of technology's potential to enhance learning by integrating technology into their instruction to maximize student learning.	4.04	High Competence
Reaches pupils best using technology-based communication.	4.00	High Competence
Uses technology in monitoring the pupils.	3.83	High Competence
Participates trainings and seminars using technology for professional development.	4.04	High Competence
Grand Mean	4.03	High Competence

Table 1.5 presents the teaching competencies of Grade 6 teachers concerning the integration of information technology (IT) in their instructional practices. Each competency was evaluated based on various statements, with the mean scores indicating the level of competence. The overall grand mean score was 4.03, signifying high competence in utilizing IT to enhance teaching instruction.

The highest scores were observed in using technology for producing learning materials, creating video lessons, and using various platforms (all 4.08). This reflects current educational trends that emphasize the importance of multimedia and diverse digital tools in engaging students and enhancing their learning experiences (Mayer, 2021; OECD, 2020). The proficiency in these areas suggests that teachers are well-equipped to leverage technology to make teaching instruction more interactive and effective.

The consistent scores of 4.04 in multiple areas, such as integrating technology to enhance learning, introducing technology to pupils, and participating in technology-based professional development, indicate a broad understanding and application of IT in education. Teachers' engagement in professional development through technology is particularly noteworthy as it ensures they remain updated with the latest educational technologies and pedagogical strategies (Darling-Hammond et al., 2017).

However, the slightly lower score in using technology for monitoring pupils (3.83) suggests a potential area for improvement. Effective use of technology for student monitoring can provide real-time insights into student progress and help in timely interventions (Means et al., 2016). Schools



might consider providing additional training or resources to enhance teachers' skills in this area.

The use of technology-based communication scored 4.00, indicating high competence but also highlighting the importance of continuous improvement in maintaining effective communication channels with students, especially in remote or hybrid learning environments (Schwartz et al., 2020).

Overall, the high competence levels across various IT-related competencies suggest that Grade 6 teachers in Policarpo District are effectively integrating technology into their teaching instruction. Continued focus on professional development and addressing specific areas like technology-based student monitoring can further enhance their instructional practices and student outcomes.

Academic Performance of Grade 6 Learners of Can-avid District

Academic performance as an indicator of quality of education can be evaluated based on the grades on the performance of learners. Table 2 illustrates the academic performance of Grade 6 learners in Can-avid District. The data indicates that the majority of learners performed exceptionally well during the

assessed period. Specifically, 25.94% (n=89) achieved an Outstanding rating (90-100), while the largest group, 50.15% (n=172), earned a Very Satisfactory rating (85-89). Combined, these categories account for over three-fourths of the learners (76.09%), reflecting a strong overall academic performance.

A smaller proportion of learners demonstrated Satisfactory performance (80-84), comprising 11.08% (n=38). Meanwhile, 12.83% (n=44) were categorized under Fairly Satisfactory (75-79). Significantly, no learners were classified under the Did Not Meet Expectation category, suggesting that all students achieved at least the minimum learning competencies.

These results are consistent with recent research emphasizing the effectiveness of targeted instructional strategies and adaptive learning modalities in promoting academic success among elementary learners (Garcia & Mendoza, 2023). The high percentage of learners in the Outstanding and Very Satisfactory categories reflects the successful implementation of teaching methods tailored to the needs of the learners. However, the presence of a notable proportion of students in the Fairly Satisfactory range highlights the need for enhanced interventions to address individual learning gaps and ensure equitable academic achievement.

Table 2. Academic performance of Grade 6 Learners of Can-avid District

Academic Performance	Frequency (n=343)	Percent
Outstanding (90-100)	89	25.94
Very satisfactory (85-89)	172	50.15
Satisfactory (80-84)	38	11.08
Fairly Satisfactory (75-79)	44	12.83
Did not Meet Expectation	0	0

Relationship Between the Teaching Competencies of Teachers and the Level of Academic Performance of Grade 6 Learners

This section examined the significant relationship between the teaching competencies of Grade 6 teachers and the academic performance levels of their students in elementary schools, as presented in Table 3. The findings indicate varying degrees of correlation between specific teaching competencies and learner performance.

A significant positive relationship was found between Instructional Planning and Preparation and the Level of Academic Performance ($r = .432, p = .007$). Similarly, Classroom Management demonstrated a stronger significant relationship ($r = .539, p = .007$). These results suggest that effective instructional planning and preparation, as well as sound classroom management practices, play a crucial role in enhancing the academic performance of learners. These

findings align with recent studies emphasizing that well-structured lesson plans and a conducive learning environment significantly influence students' learning outcomes (Lopez et al., 2023).

Conversely, no significant relationships were observed for other competencies. Specifically, Instructional Delivery ($r = .144, p = .502$), Assessment ($r = .070, p = .744$), and the Use of Educational Technology ($r = .232, p = .275$) did not show statistically significant correlations with learner performance. These findings imply that while these competencies are important, their direct influence on academic performance may be less pronounced in the context of the Can-avid District. It is also possible that factors beyond these competencies, such as learner motivation, parental involvement, or socio-economic conditions, contributed to the learners' academic performance.



Table 3. Test on significant relationship between the teaching competencies of the teachers and the level of academic performance of Grade 6 learners in elementary schools of Can-avid District

Independent Variable	Dependent Variable	r-value	p-value	decision	Interpretation
Instructional planning and preparation	Level of academic performance	.432	.007	Reject H ₀	Significant
Classroom Management		.539	.007	Reject H ₀	Significant
Instructional delivery		.144	.502	Fail to reject H ₀	Not significant
Assessment		.070	.744	Fail to reject H ₀	Not significant
Use of educational Tech-nology		.232	.275	Fail to reject H ₀	Not significant

Level of significance is set at 0.05

The findings of this study underscore the nuanced and multifaceted relationship between teaching competencies and student academic performance in the Can-avid District. The significant positive correlations between Instructional Planning and Preparation and Classroom Management with learners' academic performance highlight these competencies as critical pillars of effective teaching. These results emphasize that meticulous lesson planning and a well-organized classroom environment provide the foundation for meaningful learning experiences, enabling students to reach higher levels of achievement. However, the lack of significant relationships observed for Instructional Delivery, Assessment, and Use of Educational Technology suggests that these areas may require further attention and support. It is possible that instructional delivery methods lack the necessary dynamism or alignment with diverse learner needs, assessment practices are not being effectively utilized to guide and improve learning, and technology is underutilized or not fully integrated into the instructional process. These gaps point to opportunities for targeted interventions, such as professional development focused on innovative teaching methods, more robust assessment strategies, and effective technology integration. The absence of a significant impact in these areas also invites further exploration of contextual factors, such as resource availability, learner engagement, and external influences like parental support or socio-economic conditions, which may mediate the relationship between teaching competencies and academic performance.

Overall, while the results affirm the importance of certain core teaching competencies, they also highlight the need for a comprehensive and balanced approach to teacher development, ensuring that all aspects of instruction are optimized to address the diverse needs of learners and foster equitable academic success.

CONCLUSIONS

Based on the study conducted in 13 elementary schools in the Can-avid District of the Schools Division of Eastern Samar regarding the relationship between teaching competencies and the academic performance of Grade 6 pupils, the following are the conclusions of this research:

1. On teaching competencies—comprising skills, knowledge, and attitudes such as subject mastery, pedagogical strategies, classroom management, and adaptability—are critical in facilitating effective learning. Among these, classroom management emerged as a significant factor influencing academic outcomes,

underscoring its importance in fostering a conducive learning environment.

2. The level of academic performance among Grade 6 learners varies due to factors such as teaching quality, resources, and individual characteristics, the findings emphasize the need for foundational skills and knowledge at this stage. Effective teaching, coupled with support from parents and a positive school environment, plays a significant role in preparing learners for higher education. Academic performance, typically assessed through grades and standardized tests, is reflective of both teacher input and broader contextual influences.
3. The study revealed a significant positive correlation between classroom management and teaching performance, indicating its critical role in student success ($r = .539$, $p = .007$). However, no significant relationships were observed between teaching performance and competencies in instruction, assessment, or information technology, suggesting that while these areas are vital, their impact may be dependent on more effective application or integration within the teaching process. This highlights the need for targeted professional development to optimize the influence of these competencies on student outcomes.

RECOMMENDATIONS

Based on the findings of the study exploring the relationship between the competencies of Grade 6 teachers and the level of academic performance of Grade VI pupils in Can-avid District, the following recommendations are provided:

1. Focus on Classroom Management: Given the significant impact of classroom management on student teaching performance, professional development for teachers should prioritize effective classroom management strategies.
2. Enhancing Instructional Practices: Although instruction did not show a significant correlation with teaching performance, continuous improvement and innovative instructional strategies should be encouraged to support student learning.
3. Effective Use of Assessments: The non-significant correlation between assessment practices and student performance suggests a need for better alignment of assessment methods with instructional goals and formative use of assessment data.
4. Leveraging Technology: While technology competencies were high, their non-significant impact on teaching performance indicates a need for more effective



integration of technology in teaching instruction to fully realize its potential benefits.

Conflict of Interest

The authors declare no conflict of interest regarding the conduct of this study. All efforts were made to ensure the objectivity and integrity of the research process, and the findings were derived independently without any influence from external entities or stakeholders.

No external funding, sponsorships, or affiliations have compromised the objectivity of this research process or its findings. The authors declare full transparency in the development, execution, and reporting of this study, ensuring that the conclusions drawn are free from bias and solely grounded in the data collected and analyzed. This statement reflects the authors' commitment to maintaining ethical research practices and upholding the integrity of academic inquiry.

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THE RELATIONSHIP BETWEEN ATTITUDES AND PROFICIENCY OF JUNIOR HIGH SCHOOL STUDENTS AS MEDIATED BY READING SELF-EFFICACY: AN EXPLANATORY SEQUENTIAL DESIGN

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ABSTRACT

This study explores the intricate relationships between reading attitudes, reading proficiency, and reading self-efficacy among junior high school students in Region XII, Philippines, using an explanatory sequential mixed-method design. Quantitative data were collected from 350 students through validated instruments, including the SARA questionnaire and Preliminary English Test (PET), while qualitative insights were gathered from interviews and focus group discussions with 17 participants.

The quantitative findings reveal a strong positive correlation between reading attitudes and proficiency ($r = .650$), as well as between attitudes and self-efficacy ($r = .478$). Despite this, mediation analysis showed that reading self-efficacy did not significantly mediate the relationship between reading attitudes and proficiency (Sobel $z = 0.825$, $p = .409$). The results highlight that while self-efficacy contributes to confidence in reading tasks, its mediating influence is minimal, with attitudes playing the dominant role in influencing proficiency.

The qualitative phase underscores critical themes: students with positive attitudes actively seek challenging texts, showing persistence and adaptive strategies when confronted with difficult materials. Participants highlighted the role of personal interest, intellectual growth, and consistent engagement in shaping positive reading attitudes. Moreover, exposure to various academic and recreational reading formats (print and digital) fosters motivation and skill improvement.

This study emphasizes the direct impact of reading attitudes on proficiency and suggests interventions that prioritize fostering positive attitudes and creating engaging reading experiences. The findings offer actionable insights for educators and policymakers aiming to address literacy challenges among Filipino students.

KEYWORDS: *Reading Attitudes, Reading Proficiency, Reading Self-Efficacy, Junior High School Students, Mixed-Methods Research*

CHAPTER 1

INTRODUCTION

Proficient reading is an active process of comprehending authentic text and its purpose (Clifford & Cox, 2013). As cited by Connors-Tadros (2014); Cox et al. (2019); Mclean, et al. (2020) reading proficiency refers to the skills needed to understand the written text, interpret meaning, and utilize that meaning based on the purpose and situation.

However, the problem on reading proficiency is evident in the worldwide landscape. In the report of United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS) in 2017, globally, 61 percent of those in the age range of 12-15 years old show inability to understand the literal meaning of sentences within a single short passage. Similarly, Spencer and Wagner (2018) cited that in the United States, there are students who have problems in making inferences beyond the text.

World Bank's 2022 data on learning poverty show that nine (9) out of 10 Filipino children aged 10 struggle to read or understand simple text. Studies conducted related to reading like that of Tomas et al. (2021); and Caraig, and Quimbo (2022) also show that students belonged to frustration level of reading proficiency which means they only recognize some words in the reading text but they lack understanding of what they read.

Furthermore, the Philippine – Informal Reading Inventory (Phil-IRI) English Post-Test result in the secondary schools revealed that most of the readers belong to frustrated and instructional reading levels and only few are considered independent readers. Readers classified in the frustration and instructional level in reading have difficulties in understanding the texts read. The Regional Standardized Assessment conducted to Region XII schools revealed that Grade 10 students have low proficiency in



English, numeracy and literacy, and in information literacy (Learning Recovery and Continuity Plan, 2022).

With the readings done by the research it was found out that there are two variables that are proved to be relevant and related to reading proficiency. These variables are reading attitude and reading self-efficacy. For Tisa et al. (2021), reading attitude is the feeling that causes someone to read or avoid reading. Meanwhile, reading self-efficacy is described by Unrau et al. (2018) as the reader's perception of their competence to comply a reading task.

There are studies pointing out the correlation of reading self-efficacy with reading proficiency (Graham et al., 2020). Self-efficacious readers are not only performing better but also more likely to persist through difficult reading tasks (Dadandi, & Dadandi, 2022). Similarly, Shehzad et al. (2020) posited that those who perceived higher self efficacy learners are more likely to persist in their reading tasks, thus, improving proficiency.

As pointed out by Hassan (2024), a study can have several research gaps. This study filled the population and knowledge gaps as the pathway through which reading attitude, proficiency and self-efficacy interact and influence each other, particularly in the context of Filipino junior high school students, remains underexplored. Most of the studies, particularly foreign studies (like studies of Wade, 2012; Shelley, 2012) are focused on the elementary level since reading should be strengthened in the formative years and teachers should be aware of the interplay of these factors so immediate intervention could be implemented. Moreover, it addressed the methodical gap since in the Philippines, studies on reading proficiency (like Bacong & An, 2020; Navarra, 2023) focused on quantitative designs, while this study had three variables to be investigated through sequential explanatory mixed method design. This mixed-methods approach allowed a comprehensive exploration of how reading attitudes and self-efficacy collectively influence reading proficiency, providing empirical evidence to inform targeted interventions aimed at enhancing reading outcomes.

This study investigated the mediating role of reading self-efficacy between reading attitudes and reading proficiency among junior high school students in Region XII and served as a baseline data for an intervention program designed to increase the reading proficiency of the students as informed by their reading attitude and self-efficacy. For the concerned individuals such as reading teachers, school heads and other education leaders to be informed about the study, this was presented during the school, district and division learning action cell and in-service trainings. This was also presented during the regional research forum for wider audience.

Purpose Statement

The goal of this mixed-method explanatory sequential design was to determine the reading attitude, reading proficiency, and the mediating effect of reading self-efficacy on the relationship between reading attitude and reading proficiency of Junior High

School students from different public schools in Region XII. From the quantitative phase, qualitative phase followed. This was done to gather data after the statistical analysis of the relationships of the variables; and to validate the mediation model derived from the quantitative results.

Research Questions

1. What is the level of reading attitudes, reading proficiency and reading self-efficacy, and among junior high school students across various public schools in Region XII?
2. What is the significance of the mediating effect of reading self-efficacy on the relationship between reading attitudes and reading performance among junior high school students across various public schools in Region XII?
3. What are the standpoints of the participants on the significant points of the quantitative results?
4. How do the qualitative results explain the quantitative results of the study?

CHAPTER 2 METHODOLOGY

Research Design

The study utilized explanatory sequential mixed methods with mediation analysis and phenomenology. Mixed method research design is defined by Dawadi et al. (2021) as principled complementary research method combining quantitative and qualitative research approaches. For Ary et al. (2010), this design integrates the advantages of quantitative and qualitative methodologies to address research inquiries. This approach encompasses distinct quantitative and qualitative stages, each pursued autonomously. The quantitative outcomes and qualitative discoveries are merged to achieve a comprehensive exploration and deeper comprehension of the phenomena (Ivankova et al., 2006).

Sequential explanatory mixed-methods approach, according to Creswell and Guetterman, (2018) starts with collecting quantitative data from participants, which will be supplemented with qualitative insights. During the first phase of the study, the quantitative phase, descriptive-correlation, a design for calculating relationships (Schmitz, 2012) was employed as it will investigate the relationship between the reading attitude and reading proficiency. As pointed out by Hayes and Preacher (2014), mediating analysis is used to help in clarifying the relationship between an variables via a mediator variable. In this study, the use of mediating analysis was appropriate since this investigated how two the relationship of two identified variables is mediated by another variable. Mediating analysis was also employed to find out the mediating effect of self-efficacy to the relationship of reading attitude and performance.

Moreover, in the second stage, phenomenology was utilized. Phenomenological research gathers data about the shared in the phenomenon (Christensen et al., 2017; Creswell, 2013). When applied to researches in education, Alhazmi, and Kaufmann (2022) claimed that the use of phenomenology through,



participant observation, and reflective analysis, phenomenological inquiry facilitates a nuanced exploration of the complexities inherent in educational contexts. By employing phenomenology, researchers can gain deeper insights into the subjective realities of individuals.

In this study, mixed sequential explanatory design was utilized since it first investigated the reading self-efficacy towards the relationship between reading attitude and proficiency; then, a qualitative phase followed in order to gather more data to substantiate the quantitative results. The researcher chose sequential explanatory design to have a narrative data that will explain the relationship and the mediating effects of the variables.

Research Participants

Quantitative

In the quantitative phase, the respondents of the study were 350 Grade 10 students from the Junior High school of the public schools in the whole Region XII - SOCCSKSARGEN. This sample size is considered by White (2023) as higher sample size but can be justifiable since students are easy to access and they are numerous. As cited by Memon et al. (2020) sample size can be justified depending on the statistical analysis to be used and pointed out that 200 or more sample size is considered for correlation analysis.

As an inclusion criteria, these students must have been enrolled during the school year 2024-2025; a bonafide Grade 10 students of a public school in Region XII; and have given the assent form to participate in this study. Excluded in the study are grade 10 students who are not enrolled in the public schools. Stratified random sampling was utilized to choose the sample. The random selection aimed to ensure a representative sample of the population under study, minimizing selection bias.

Qualitative

Following the quantitative analysis, a purposive random sampling technique was used to identify and select 17 participants for deeper exploration through focus group discussions and interviews. These participants were chosen from the quantitative

respondents who responded low and high to the items in the questionnaires. There were 5 participants whose ratings are low; and 5 participants whose rating are high to be included in the qualitative data gathering particularly for the interviews. For focused group discussion (FGD), there were two groups with 3 and 4 participants. Setting the participants for FGD with 3 and 4 members for each group is based on the idea of Mishra (2016) that focus grouped discussion can be successfully done with 3 and when having more than 3 participants, it should be ensured manageable.

Data Analysis

Quantitative

Descriptive statistics, such as mean and standard deviation, provided a summary of the data points, offering insights into the central tendency and variability of the dataset about the reading attitude, proficiency and self-efficacy. Inferential statistics, including Pearson's R (for correlation analysis) and linear regression (for predicting relationships between variables), were employed to draw conclusions about the population from the sample data. Additionally, the Sobel Ztest was utilized in creating Medgraph analysis of the mediating effect of self-efficacy to the relationship of reading attitude and proficiency.

Qualitative

The qualitative data from FGDs and IDIs were transcribed and subjected to thematic analysis. Thematic analysis was conducted to extract themes that encapsulate the underlying patterns and insights from the qualitative data.

Research Instrument

Quantitative Strand

The SARA questionnaire, developed by McKenna et al. in 2012, was utilized to gauge the reading attitudes of adolescent students. This survey is structured to explore adolescent learners' attitudes towards reading across four distinct aspects: academic print, academic digital, recreational print, and recreational digital. The following rating scale was used in the interpretation of the respondent's responses in the survey:

Range of Means	Description	Interpretation
4.20-5.00	Very High	Reading self-efficacy is always manifested
3.40-4.19	High	Reading self-efficacy is most of the time manifested
2.60-3.39	Moderate	Reading self-efficacy is sometimes manifested
1.80-2.59	Low	Reading self-efficacy is very seldom manifested
1.00-1.79	Very Low	Reading self-efficacy is not manifested

Previous researches by Conradi et al., (2013); Wang and Jin (2020) have confirmed the SARA's validity and reliability in evaluating adolescents' reading attitudes, with Cronbach's alpha demonstrating strong reliability for both individual components and the overall scale.

Preliminary English Test (PET). Cambridge English Language Assessment (2014) was employed to determine students' reading

proficiency levels. The PET evaluates intermediate B1-B2 level reading skills according to the framework for Languages.

Reading Self-efficacy Questionnaire. This instrument developed and validated by Koşar et al. (2022) was used to measure the reading self-efficacy of the Junior High School students under study. The authors claimed that this is a 16-item tool is designed to measure the variables.



Qualitative Strand

Semi-structured interviews offer researchers the flexibility to delve deeper into topics by requesting further details from participants, steering the dialogue toward areas relevant to their study. This method enriches the comprehension of quantitative data collected from adolescent learners. The interview framework will consist of primary questions that target specific findings obtained through the SARA and the QESE reading assessment. These inquiries aim to explore the various factors that affect reading behaviors (e.g., "What experiences have negatively or positively impacted the way you feel when you read? Why?").

CHAPTER 3 RESULTS

Quantitative Results

Level of Reading Attitudes, Reading Proficiency and Reading Self-efficacy

Reading attitudes. Table 1.1 shows the data on reading attitudes and reading self-efficacy. The data reveal that the students demonstrate a high level of reading attitude, with a mean score of 4.08. When broken down by the type of material, students exhibit the highest reading attitude towards recreational print materials, with a mean score of 4.28, categorized as Very High. In contrast,

their attitudes towards academic print and academic digital materials are slightly lower but still rated as High (with mean scores of 3.91 and 3.96, respectively). Their attitude towards recreational digital materials also falls within the High category, with a mean score of 4.17.

Meanwhile, the standard deviations for all categories are moderate, suggesting that while most students share similar attitudes to reading, there is still a noticeable amount of variability in individual responses. The highest SD values appear in areas related to recreational reading, both in print and digital formats, suggesting that preferences and attitudes toward leisure reading materials are more diverse compared to academic materials.

Reading Self-efficacy. The data on *reading self-efficacy* show that students scored a mean of 4.00, indicating a High level of self-confidence in their reading abilities. The SD values 0.56 for reading self-efficacy also suggest that while most students feel confident in their reading abilities, there are still some students who may feel less certain about their reading self-efficacy. These results suggest that junior high school students not only enjoy reading, particularly for recreational purposes, but also feel confident in their reading capabilities, which likely contributes to their motivation and overall reading success.

Table 1.1
Level of Reading Attitudes and Reading Self-Efficacy of Junior High School Students

Main Variables/Indicators	SD	Mean	Descriptive Level
Reading Attitudes	0.42	4.08	High
Reading Attitude towards Academic Print	0.54	3.91	High
Reading Attitude towards Academic Digital	0.58	3.96	High
Reading Attitude Towards Recreational Print	0.59	4.28	Very High
Reading Attitude Towards Recreational Digital	0.63	4.17	High
Reading Self-Efficacy	0.56	4.00	High

Reading Proficiency. On table 2.1 are the data of the mediating variable, the *reading proficiency* with different types of reading tasks and comprehension skills assessed.

Table 1.2
Level of Reading Proficiency of Junior High School Students

Indicators	SD	Mean Percentage	Descriptive Level	Mean (Average)	Descriptive Level
Reading for Short Notices	14.56	79.54	Developing Proficiency	3.98	High
Reading for Special Information	15.09	77.80	Developing Proficiency	3.89	High



Processing Factual Texts	17.39	70.72	Developing Proficiency	3.76	High
Reading for Detailed Comprehension	14.93	88.44	Proficient	4.42	Very High
Understanding Vocabulary and Grammar	17.40	70.82	Developing Proficiency	3.76	High
OVERALL	9.41	77.46	Developing Proficiency	3.96	High

The overall reading proficiency of junior high school students is categorized as Developing Proficiency, with a mean percentage of 77.46%. This indicates that, on average, students are still working towards mastering their reading skills but demonstrate competence in several areas. The overall mean score of 3.96, which falls within the High, suggests that students generally rated their reading abilities high, but there is still room for improvement.

Specifically, reading for short notices has a mean percentage of 79.54%, which falls under Developing Proficiency. For reading for special information, the mean percentage is 77.80%, which is within the Developing Proficiency range. When it comes to processing factual texts, the mean percentage is 70.72%, categorized as Developing Proficiency. This shows that students are still developing their abilities on these mentioned aspects.

For reading for detailed comprehension, students excelled, with a mean percentage of 88.44%, placing them in the Proficient category. This indicates that they are highly skilled at understanding texts in detail. The mean score of 4.42, classified as Very High, reflects strong self-confidence in their ability to comprehend the texts.

In the last indicator, understanding vocabulary and grammar, the mean percentage is 70.82%, categorized as Developing Proficiency. This shows that students are still working to improve their understanding of vocabulary and grammar in texts.

Mediating effect of reading self-efficacy on the relationship between reading attitudes and reading performance
Before generating the mediation model, correlation between variables were computed. In the case of the three variables- the reading attitude, proficiency and self-efficacy, the correlations of the three variables are all significant as shown in table 2.1.

Table 2.1
Correlation between Measures

Variable	Reading Proficiency			Reading Self-Efficacy		
	r-value	p-value	Sig. level	r-value	p-value	Sig. Level
Reading Attitudes	.650	.000	Sig	.478	0.000	Sig
Reading Self-Efficacy	.339	.000	Sig			

As shown in the data, there is a significant relationship between reading attitudes and reading proficiency with the generated p-value of less than 0.05 and correlation coefficient, $r=.650$. It was also reflected that reading self-efficacy and reading performance are significantly linked as indicated in the p-value of .000 and the correlation value of .339. In addition, reading attitude has a significant relationship with reading self-efficacy as manifested in the p-value of 0.000 and correlation value of .478.

Presented in table 2.2 is the result of the regression analysis which was conducted to explore the interrelationships between the variables and to validate the beta coefficients in the context of mediation analysis. Mediation refers to the process by which a third variable influences the relationship between two other variables. For a true mediation effect to exist, three conditions must be met by the third variable.



Table 2.2 - Data Entry for the Different Paths

Independent Variable	(IV)	Reading Attitudes	
Dependent Variable	(DV)	Reading Proficiency	
Mediating Variable	(MV)	Reading Self-Efficacy	
STEPS			
1. Path C (IV and DV)			
Reading Proficiency Regressed on Reading Attitudes			
B (Unstandardized regression coefficient)			0.649
e (Standard error)			0.034
Significance			0.000
2. Path B (MV and DV)			
Reading Proficiency Regressed on Reading Self-Efficacy			
B (Unstandardized regression coefficient)			0.036
e (Standard error)			0.029
Significance			0.409
3. Path A (IV and MV)			
Reading Self-Efficacy Regressed on Reading Attitudes			
B (Unstandardized regression coefficient)			0.478
e (Standard error)			0.060
Significance			0.000
4. Combined Influence of MV and IV on DV			
Reading Proficiency Regressed on Reading Self-Efficacy and Reading Attitudes			
Reading Self-Efficacy:			
B (Unstandardized regression coefficient)			0.024
SE (Standard error)			0.029
Beta (Standardized regression coefficient)			0.036
Part Correlation			0.339
Reading Attitudes:			
B (Unstandardized regression coefficient)			0.564
SE (Standard error)			0.039
Beta (Standardized regression coefficient)			0.633
Part Correlation			0.650
Total r Square			0.423

Results:

Significance of Mediation		Not Significant
Sobel z-value	0.8251295	p=0.409
95% Symmetrical Confidence Interval		
Lower	0.646	
Upper	0.512	
Unstandardized indirect effect		
a * b	0.015	
se	0.028	
Effect size Measures		
Standardized Coefficients		
Total:	0.580	
Direct:	0.564	
Indirect:	0.015	
Indirect to Total Ratio:	0.027	

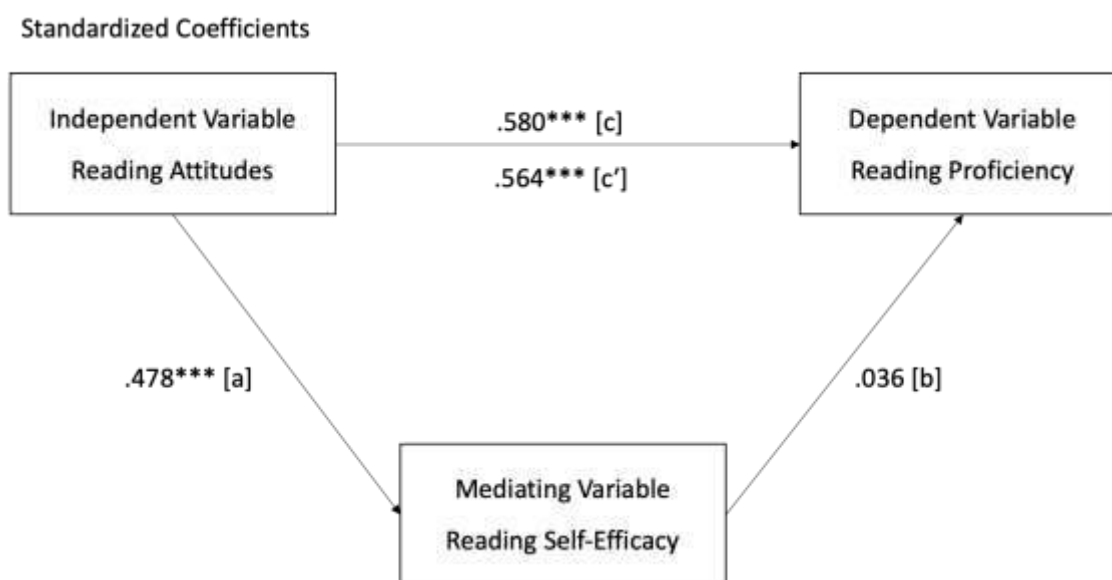


Figure 3: Regression Paths among Three Variables

The mediation analysis results indicate that Reading Self-Efficacy (MV) does not significantly mediate the relationship between Reading Attitudes (IV) and Reading Proficiency (DV). The Sobel test results show a z-value of 0.825 with a p -value of 0.409. Since the p -value is greater than 0.05, this indicates that the mediation effect is not statistically significant. Therefore, there is no significant indirect effect of Reading Attitudes on Reading Proficiency through Reading Self-Efficacy. The unstandardized indirect effect is 0.015 with a standard error of 0.028. This small effect, combined with its lack of statistical significance, suggests that the impact of Reading Attitudes on Reading Proficiency through Reading Self-Efficacy is minimal.

The standardized direct effect (c path) of Reading Attitudes on Reading Proficiency is 0.564, which is significant, indicating a strong direct relationship between the two variables. The total effect of Reading Attitudes on Reading Proficiency is 0.580, which includes both direct and indirect effects. Since the indirect effect is minimal, the total effect is almost entirely due to the direct effect. The Indirect to Total Ratio is 0.027, suggesting that only about 2.7% of the total effect of Reading Attitudes on Reading Proficiency is accounted for by the indirect pathway through Reading Self-Efficacy. This is a very small proportion, reinforcing that the mediation effect is negligible.

Specifically, Figure # also shows that in *Path a* ($IV \rightarrow MV$), the standardized coefficient for the effect of the independent variable (Reading Attitudes) on the mediating variable (Reading Self-Efficacy) is 0.478, which is significant. This suggests that Reading Attitudes has a strong, positive influence on Reading Self-Efficacy.

On the *Path b* ($MV \rightarrow DV$), the standardized coefficient for the effect of the mediating variable (Reading Self-Efficacy) on the

dependent variable (Reading Proficiency) is 0.036, which is not significant. This indicates that Reading Self-Efficacy does not significantly affect Reading Proficiency when Reading Attitudes is taken into account. The small and non-significant coefficient suggests that Reading Self-Efficacy is not a meaningful contributor to Reading Proficiency in this model.

Path c (Total Effect of $IV \rightarrow DV$) showed that the total effect of Reading Attitudes on Reading Proficiency (before accounting for mediation) is 0.580 and is significant. This indicates that Reading Attitudes has a strong, direct relationship with Reading Proficiency.

Also, *Path c'* (Direct Effect of $IV \rightarrow DV$ with MV as a mediator) showed that when Reading Self-Efficacy is included in the model as a mediator, the direct effect of Reading Attitudes on Reading Proficiency is 0.564, which remains significant and close to the total effect. The slight reduction from 0.580 to 0.564 suggests that a very small part of the relationship between Reading Attitudes and Reading Proficiency is explained by Reading Self-Efficacy, but this indirect effect is minimal.

Since path b ($MV \rightarrow DV$) is not significant and the indirect effect is very small (only about 2.7% of the total effect), Reading Self-Efficacy does not meaningfully mediate the relationship between Reading Attitudes and Reading Proficiency. The effect of Reading Attitudes on Reading Proficiency is mostly direct (path c'), with minimal influence from the indirect pathway ($a \times b$).

Therefore, the results indicate that Reading Attitudes has a significant direct effect on Reading Proficiency. However, Reading Self-Efficacy does not serve as a significant mediator in this relationship. The mediation effect is minimal and statistically non-significant, with only a tiny portion of the effect occurring



through Reading Self-Efficacy. This suggests that interventions aimed at improving Reading Proficiency may benefit more from directly enhancing Reading Attitudes rather than focusing on Reading Self-Efficacy as a mediator.

Qualitative Results

Standpoints of the Participants on the Quantitative Results Regarding the Level of Reading Attitude, Reading Proficiency, and Reading Self-efficacy

Confirmed High Rating of Reading Attitude. The data from the interviews and focused group discussions among junior high school students reveal that they formed positive reading attitude towards academic print, academic digital, recreational print, and recreational digital reading materials.

The students are shaping attitudes towards academic print by selecting materials that align with personal interest, perceived value, and curiosity about the topic. Students express a strong connection between their reading motivation and the alignment of academic materials with their personal interests.

Confirmed High Rating of Reading Proficiency. Confirmed high rating of reading proficiency is evident on students' proficiency when reading for short notices, special information, processing factual texts, reading for detailed comprehension, and when understanding vocabulary and grammar. Reading proficiency is clearly manifested in the way students engage with short notices.

Students share that use skimming and scanning techniques to quickly identify key points, which enhances efficiency, especially when time is limited.

Standpoints of the Participants on the Mediating Effect of Reading Self-efficacy on the Relationship between Reading Attitude and Reading Proficiency

Table 5 reveals the standpoints of the participants on the mediating effect of reading self-efficacy on the relationship between reading attitude and reading proficiency of junior high school students in Region XII. The table further reveals essential themes such as: confirmed importance of reading attitude to reading performance, confirmed absence of the Mediating Effect of Reading Self-Efficacy (RSE) on the Relationship between Reading Attitudes (RA) and Reading Proficiency (RP), and the Acceptance of the Mediating Effect of Reading Self-Efficacy (RSE).

Confirmed importance of reading attitude to reading performance. The importance of reading attitudes (RA) to reading proficiency (RP) is clearly confirmed, as positive reading attitudes are shown to significantly enhance engagement with reading materials, ultimately leading to improved reading proficiency.

Confirmed the Absence of the Mediating Effect of Reading Self-Efficacy (RSE) on the Relationship between Reading Attitudes (RA) and Reading Proficiency (RP). The absence of a mediating effect of reading self-efficacy (RSE) on the relationship between reading attitudes (RA) and reading proficiency (RP) is clearly confirmed. Participants consistently emphasize that the connection between reading attitudes and reading proficiency remains strong, irrespective of their levels of reading self-efficacy.

Data Integration of Quantitative and Qualitative Results

Since this study adopts a mixed methods design with an explanatory sequential approach, Table 6 presents a joint display of the quantitative and qualitative results. The joint display integrates quantitative and qualitative data to enhance the understanding of the research results, showing how the qualitative insights elaborate on or explain the quantitative results.

Status of Reading Attitudes (RA), Reading Proficiency (RP) and Reading Self-Efficacy (RSE). The Reading Attitudes (RA) of students were rated high to very high (3.91 to 4.28) across four indicators: academic print, academic digital, recreational print, and recreational digital. The overall mean rating of 4.08 reflects a generally positive attitude towards reading in both academic and recreational contexts. The quantitative results (Table 1) confirm these positive attitudes, while the qualitative data (Table 4) supports this by highlighting four themes with positive core ideas, such as students' enjoyment and value of reading in different formats. Both quantitative and qualitative results align, showing that the nature of integration is merging or connecting.

The five indicators of Reading Proficiency: reading for short notices, reading for special information, processing factual texts, reading for detailed comprehension, and understanding vocabulary and grammar obtained high to very high-level ratings ranging from 3.76 to 4.42, indicating that students' reading proficiency is oftentimes evident as also shown in the overall mean rating of 3.96 or high (Refer to Table 1). The five indicators appeared as positive a priori themes in the qualitative results, based on the core ideas of participants generated from their responses. The nature of integration of both types of data is merging-connecting confirmation.

Status of Reading Self-Efficacy (RSE) has an overall mean of 4.00 or a high level, indicating that respondents often manifested this variable (Refer to Table 1). Informants/participants confirmed the presence of RSE, as shown in the core ideas generated from their responses (Refer to Table 5). The nature of integration of both types of data is merging-connecting confirmation.

Relationship between Reading Attitudes (RA) and Reading Proficiency (RP). A significant relationship ($p < 0.05$) was found between Reading Attitudes (RA) and Reading Proficiency (RP), with a correlation value (r -value) of 0.650. This indicates a moderate positive correlation between students' attitudes towards



reading and their proficiency levels. The quantitative results (Table 2.1) confirm this significant relationship. Additionally, qualitative data (Table 5) from informants/participants further emphasizes the importance of Reading Attitudes (RA) in improving Reading Proficiency (RP). Both quantitative and qualitative findings confirm that a positive reading attitude contributes significantly to higher reading proficiency as manifested in the nature of integration which is merging-connecting confirmation.

Mediating Effect of Reading Self-Efficacy (RSE) on the Relationship between Reading Attitudes (RA) and Reading Proficiency (RP). The mediating effect of Reading Self-Efficacy (RSE) on the relationship between Reading Attitudes (RA) and Reading Proficiency (RP) was found to be not significant ($p > 0.05$) with a z-value of 0.8251295. This indicates that Reading Self-Efficacy (RSE) does not significantly mediate the relationship between RA and RP. While some informants/participants suggested a potential mediating effect of RSE, the majority of informants confirmed that RSE does not significantly contribute to the influence of RA on RP. In summary, the quantitative data (Figure 3) and qualitative feedback (Table 5) both confirm that RSE does not serve as a significant mediator in the relationship between RA and RP. The nature of integration of both types of data is merging-connecting confirmation.

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UNDERSTANDING THE ROLE OF TERATOGENS AS GARBHOPAGATHAKARA BHAVAS IN CAUSING THE FETAL ANOMALIES

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ABSTRACT

Around the globe, birth defects are the primary reason why many infants don't make it through their first year, and those who do survive often face enduring physical and mental challenges throughout their lives. Ayurveda explains 4 garbha sambhava samagris (factors essential for conception); Ritu, Kshetra, Ambu, and Beeja. The Ksetra and Ambu play important roles throughout the gestation period. Congenital anomalies can occur during the developmental stages of the embryo, from abnormal genetics passed on from the parents, or from vivid environmental factors. Teratogens are one of the major contributors causing fetal anomalies by affecting the prenatal environment which can be understood as Garbhopagathakara Bhavas (factors responsible for Damaging a fetus). A human teratogen is an agent that alters the growth or structure of the developing embryo or fetus, thereby causing birth defects. examples Alcohol, Tobacco (smoking), Thalidomide, Cocaine, Rubella, X-rays (ionizing radiation), Lead, Mercury, and Pesticides. Acharyas have mentioned Garbhini Paricharya and Garbhopagathakara Bhavas highlighting their importance during pregnancy. Teratogens are significant contributors to fetal anomalies, and their prevention is of paramount importance. By understanding the mechanisms by which teratogens operate and by implementing integrated effective prevention strategies, it is possible to reduce the incidence of birth defects and promote healthier pregnancies. Public awareness, guidance, and governmental regulations all play a vital role in safeguarding the developing fetus from the harmful effects of teratogenic exposures.

KEY WORDS- Garbhopagathakara Bhavas, Teratogens, fetal anomalies.

INTRODUCTION

Teratogenesis can impact the developing fetus in a spectrum of severity, influenced by timing and intensity. The World Health Organization (WHO) reports that around 240,000 newborns globally succumb to congenital disorders within the first 28 days of life annually. In India, the incidence of live birth defects ranges from 61 to 69.9 per 1,000 live births.^[1] Teratogenic defects pose a significant public health challenge, given their potential to affect individuals and their families throughout their lives. Ayurveda, a comprehensive approach to health, underscores the importance of maintaining balance and harmony in all facets of life. The Acharyas, have provided a thorough and systematic guide outlining a month-wise regimen and a set of recommendations for the Antenatal Period. Pregnant women aspiring to have a child with optimal qualities are advised to abandon unfavorable dietary habits and lifestyle choices. Even seemingly minor unhealthy practices that may not have significant consequences for the mother can lead to substantial adverse effects on the developing fetus. The 'Garbhopagathakara Bhavas' concept addresses factors that threaten or harm the growing embryo. To prevent complications arising from these factors, this analysis aims to explore the rationale behind the Teratogens and Garbhopagathakara Bhavas.

TERATOGENESIS

Teratogenesis refers to the process by which abnormal development occurs in a fetus, leading to congenital anomalies or birth defects. This phenomenon is a complex interplay of

genetic and environmental factors during the critical stages of embryonic and fetal development.^[2]

TERATOGENS

Teratogens are substances or agents that can cause birth defects. These may include drugs, chemicals, infections, or physical factors. Common teratogens include certain medications, alcohol, tobacco, and infections such as rubella. The impact of teratogens varies depending on the timing, duration, and intensity of exposure.^[3]

Broadly Classified into,

- Chemical agents (Alcohol, Retinoids, Tobacco smoke, Lead)
- Infectious agents (Rubella, CMV, HIV)
- Physical agents (Radiation, Hyperthermia)
- Nutritional factor (folic acid deficiency, vitamin A deficiency etc)
- Maternal condition (Diabetes, Phenylketonuria)

Teratogen Drugs include- 'TERATOWA'
Thalidomide
Epileptic drugs
Retinoid (Vit A)
ACE inhibitors, ARB's
Third Element- Lead
Oral contraceptives, Hormones
Warfarin
Alcohol



TERATOGENESIS IN AYURVEDA

Ayurveda recognizes that certain birth defects can be inherited through the sperm or egg (*Beeja*)^[4], while others are caused by factors during pregnancy (*Garbha Vighatakar Bhava*). *Beeja*, *Atmakarma*, *aashaya*, *Kaala*, and *Maturahara-vihara*^[5] play a very important role in pregnancy. Inheritable defects are related to imbalances in the genetic material (*Beeja Dosha*), and can lead to conditions like cleft lip, cleft palate, and congenital heart diseases. Non-inheritable defects, on the other hand, arise from metabolic disturbances during pregnancy and can cause conditions like neural tube defects. These metabolic

disturbances can be triggered by various factors, including the mother's diet and lifestyle. Ayurveda recognizes that genetic factors and environmental factors play a role in the development of birth defects.

Garbhpagatakara Bhavas (Teratogens)

In ancient Ayurvedic texts, the concept of Garbhpagatakara Bhava^[6] outlines specific factors that can harm or hinder a healthy pregnancy. To better understand these guidelines established by Ayurvedic Acharyas, we can categorize *Garbhpagatakara Bhavas* into three main categories: *Aaharaja Bhava*, *Viharaja Bhava*, and *Manasika Bhava*.

AHARAJA BHAVAS	
Charaka ^[7]	<i>Ushna, Teekshna, Guru Padartha Sevana, Madakara Aahara Sevana, Madya Sevana, Mamsa Sevana</i>
Sushruta ^[8]	<i>Shushka, Paryushita, Kuthita, Klinna Anna</i>
Ashtangasangraha ^[9]	<i>Ati Ushna, Guru, Teekshna, Rooksha anna</i>
Astanga hrudaya ^[10]	<i>Ati Ushna, Teekshna, Guru, Vishtambhi Bhojana</i>
Bhavamishra ^[11]	<i>Devakhatodaka, Mamsa Bhojana</i>
Kashyapa ^[12]	<i>Sheetala Jala, Lashuna Prayoga</i>
Harita ^[13]	<i>Dvidala Anna Sevana, Vidahi Vastu, Amla Padartha, Mruttika, Soorana Kanda, Rasona, Palandu, Ushna Ksheera</i>
Yogaratanakara ^[14]	<i>Kshara Sevana, Dooshita Vishama Anna Sevana</i>

Teekshna Ushna Padartha- sevana during pregnancy is associated with potential risks such as miscarriage (*Garbha Srava*), depletion of the fetus (*Garbha Shushka*), premature delivery (*Akala Prasava*), and foetal death (*Garbha Marana*). The disturbance of *Vatadi Doshas* is believed to result in the constriction of blood vessels, disrupting the proper supply of nutrients to the fetus and causing conditions like *Garbha Shosha* or *Akala Prasava*. These foods, characterized by their intense properties, contain chemicals and nitrates that may negatively interact with red blood cells (RBCs), diminishing their oxygen-carrying capacity and consequently reducing utero-placental blood flow.

Shushka, Ruksha, Paryushita Anna Sevana- can result in adverse outcomes such as *Garbha Shushka*, *Akala Prasava*, and *Garbha Marana*. When a pregnant woman consumes these types of food after the fetus attains *sara* (essential nutrients), inadequate flow of *Rasa* (nutrient essence) to the fetus occurs. This insufficient nutrient supply impedes proper fetal growth, leading to *Garbha Shosha*. Additionally, inadequate calorie intake exacerbates the impact of malnutrition during pregnancy

and is associated with lower birth weight in infants, ultimately impairing fetal growth.^[15]

Vidahi Anna Sevana- can result in adverse effects such as *Garbha Shosha* and *Akala Prasava*. For instance, beverages containing caffeine, like tea, coffee, and chocolates, act as stimulants and are advised to be avoided during pregnancy. Caffeine, known for crossing the placenta and entering the fetal circulation, can have detrimental effects.^[16] Additionally, the tannin in tea can interfere with iron absorption.

Madya Nityata- leads to symptoms such as the foetus being thirsty (*Trishnalu*), having short memory (*Alpa Smriti*), and displaying fickle-mindedness (*Anavasthita Chitta*). Consumption of alcohol during pregnancy poses a risk of abnormal fetal development and can result in Foetal Alcohol Syndrome (FAS). The toxic effects of alcohol are particularly pronounced in the first trimester, leading to fetal abnormalities.^[17] It is crucial to avoid alcohol during pregnancy to safeguard the well-being of the developing fetus.

Rasa as Garbhpagatakara Bhava	
Madhura Nitya	<i>Prameha, Ati Stoola</i>
Amla Nitya	<i>Rakta Pitta, Tvak Roga, Akshi Roga</i>
Lavana Nitya	<i>Sheeghra Vali palita Khalitya</i>
Katu Nitya	<i>Shosha, Alpa Shukra, Anapatya</i>
Tikta Nitya	<i>Shosha, Balaheenatva, Daurbalya</i>
Kashaya Nitya	<i>Shyama Varna, Anaha, Udavarta</i>

Madhura Nitya- There is a direct relationship between the level of maternal glucose & macrosomia (>4kgs). The carbohydrate

surplus available to the fetus leads to increased insulin secretion & fetal hyperinsulinemia (diabetes).



Lavana Nitya- Excessive consumption of salt leads to water accumulation, and causes Hypertension.

Katu Nitya- Contains irritants, chemicals, and nitrates that work adversely with RBC and thereby reduce the oxygen-carrying role leading to reduced uteroplacental flow.

Viharaja bhavas	
Charaka ^[1]	<i>Vyavaya, Vyayama, Daruna Cheshta, Uccha Bhashana, Utkata Vishama Kathina Asana, Vegadharana, Abhighata, Koopa Avalokana, Snehadi Kriya, Rakta Vastra Dharana, Yana</i>
Sushruta ^[2]	<i>Vyavaya, Vyayama, Atitarpana, Atikarshana, Divaswapna, Ratri Jagarana, Yana, Utkutukasana, Ekantata, Snehadi Kriya, Vegadharana, Sparshana of Malina vikruta heena gatra person, Durgandha, Durdarshana, Udvejaniya Katha, Uchai Bhasha, Travelling to Shoonyagara, Chaitya, Smashana alone</i>
Ashtanga sangraha ^[3]	<i>Vyavaya, Vyayama, Karshana, Abhighata, Yana, Ratri Jagarana, Divaswapna, Vegavidharana, Atapa Sevana, Utkataka, Vishama KATHINA Asana, Koopa Prapata, Apriya Avalokana, Darunashcha Cheshta</i>
Astanga hrudaya ^[4]	<i>Vyavaya, Ayasa, Bhara, Guru Pravaraana, Akala Jagara Swapna, Kathina Utkata Asana, Rakta Vastra, Uttana Shayana, Shodana Karma</i>
Kashyapa ^[6]	<i>Looking at declining moon, setting sun, Rahu Darshana, Grahana, Hasya, wearing tight garments, Looking at Ghruta filled pot</i>
Harita ^[7]	<i>Vyayama, Maithuna, Chankramana</i>
Bhavamishra ^[5]	<i>Vyayama, Apatarpana, Vyavaya, Atitarpana, Ratri Jagarana, Yana, Vegadharana, Utkatasana, Touching Malina, Vikrutakara, Heenangi, Apriya Katha, Bahirnishkramana, Uchai Bhasha, Taila abhyanga, Udvartana, Atyuccha shayanasana</i>
Yogaratanakara ^[8]	<i>Swedana, Vamana</i>

Uttana Shayana- Choosing to rest in a lateral recumbent position is beneficial for promoting optimal uteroplacental blood flow. Prolonged periods of sleep in other positions may potentially decrease uteroplacental blood flow, resulting in fetal hypoxia. The risk of complications arises when the umbilical cord becomes entangled around the fetus's neck. Additionally, adopting a supine position can lead to issues such as low back pain, swelling of the feet, and pressure on the intestine and large veins, including the inferior vena cava. These factors can disrupt fetal circulation, impacting the mother's blood pressure. Elevated blood pressure may contribute to conditions like pre-eclampsia and fetal distress, ultimately increasing the risk of abortion or intrauterine fetal death. Therefore, the choice of resting position during pregnancy is crucial for maternal and fetal well-being.

Vyavaya- While normal sexual activity and exercise are generally beneficial during pregnancy, excessive engagement in these activities or subjecting the body to undue physical strain can potentially trigger abortion, particularly in women with a predisposition to such risks. Engaging in sexual intercourse during pregnancy carries the potential threat of abortion or premature delivery. This is attributed to orgasms causing uterine contractions, specifically Braxton- Hick's contractions, which, though not causing cervical dilation, can elevate intrauterine pressure, leading to fetal distress and intrauterine death. ^[18] In the later stages of pregnancy, there is a possibility of early rupture of membranes during sexual activity, increasing the risk of infection due to the absence of a protective barrier. It's essential to exercise caution and

moderation in these activities to safeguard both maternal and fetal well-being during pregnancy.

Yana- Causes *Akala Prasava* (premature delivery) or *Garbha Srava* (abortion). Travel as a whole should be abstained by the pregnant lady, but if inevitable should be strictly avoided in 1st and 3rd trimester. A long-distance journey on 2 or 4-wheelers or long flights is discouraged due to the risk of venous stasis and thromboembolism. Vehicle riding may precipitate abortion due to a sudden increase in intra-abdominal pressure. Travel in pressurized aircraft is safe for up to 36 weeks. It is contraindicated in cases with placenta previa, pre-eclampsia, severe anemia, and sickle cell disease.

Vegadharana- Maintaining the normal functioning of *Apana Vayu* is crucial for a healthy pregnancy. Disruption in this balance, known as Vegadharana, can result in the imbalance of *Vata Dosha*, leading to various *Vata*-related disorders such as *Garbha Srava*, *Garbha Shosha*, and *Akala Prasava*.

Ratri jagarana and Diwaswapna- Engaging in nighttime wakefulness (*Ratri Jagarana*) contributes to the vitiation of *Vata Dosha*, potentially causing issues like *Garbha Srava*, *Garbha Shosha*, and *Akala Prasava*. Prolonged daytime sleep (*Ati Divaswapna*) induces *Kapha Prakopa*, creating blockages in the *Rasavaha Nadi*, which, in turn, reduces nourishment to the fetus and results in Intrauterine Growth Restriction (IUGR).



Manasika bhavas	Effect on fetus
<i>kalahasheela</i>	<i>Apasmarini Santana</i>
<i>Shoka Nitya</i>	<i>Bheeru, Apachita, Alpayusha Santana</i>
<i>Abhidhyayini</i>	<i>Paropatapi, Irshalu Santana</i>
<i>Stena</i>	<i>Ayasa Bahula, AtiDrohini, Akarmasheela</i>
<i>Amarshini</i>	<i>Chanda, Aupadika, Asuyaka</i>

STRESS- Negative emotional states or stress can trigger heightened activity or overstimulation of the autonomic nervous system, potentially resulting in abortion. Stress disrupts the usual functioning of the hypothalamic-pituitary axis through the excessive release of the stress hormone cortisol. Additionally, stress can compromise the immune system, reducing its effectiveness.

Dauhradini

There may arise a question as *Dauhradini* should not say no to what she asks for, but giving everything without a second will harm both the mother and fetus. The commentator says the mother should be provided with things that are not harmful in any way to the fetus. Ayurveda's concept of *Dauhrida* highlights the connection between the mother's mind (Manah) and the fetus's sense organs (*Indriya*'s). This connection, established during pregnancy, allows the fetus to express its desires (*Spandana*) based on experiences from previous lives. The *Rasavahini Nadi*, a conduit connecting the mother's heart (*MatruHridaya*) to the fetus's heart (*Hridaya*), enables the mother to perceive the fetus's aspirations. These desires should be recognized and addressed appropriately, as neglecting them could potentially harm the fetus's development.^[20]

Pregnancy-related physiological and hormonal changes can influence the mother's cravings and food preferences. For instance, a greater energy demand might lead to cravings for sweet foods, particularly in women with gestational diabetes mellitus. Consuming excessive calories during pregnancy can contribute to excessive weight gain in both the mother and the child, increasing the risk of future obesity.^[21] Therefore, pregnant women must maintain a healthy diet and lifestyle, incorporating nutritious foods and mindfully addressing the fetus's desires, to promote optimal fetal development.

DISCUSSION

Ayurveda delves into teratogenesis, studying factors affecting birth abnormalities like maternal health, lifestyle, diet, and environmental exposures during pregnancy. Ayurvedic guidance underscores balancing one's *Dosha* and maintaining a harmonious *AharaVihara*. Those with a genetic disorder history are recommended Shodhana therapies and conservative treatments per Acharyas. *Garbhini Paricharya* prioritizes check-ups, a nutritious diet, lifestyle adjustments, and natural therapies for optimal prenatal care. Ayurvedic principles aim to minimize teratogenic risks. Ancient Ayurvedic texts highlight Acharya's profound knowledge of embryogenesis, teratogens, and congenital malformations, particularly the significant influence of *Vata* and *Agni* on fetal development. Rising incidents of IUGR, habitual abortions, and LSCS may stem from *Garbhini*'s neglect of *Garbhini Paricharya*. One should analyze and advise against such influences, deepening the

understanding of teratogens such as *Garbhopaghatakara Bhavas* in fetal anomaly causation.

CONCLUSION

Ensuring maternal well-being through a healthy lifestyle and avoiding *Garbhopaghatakara Bhava* is crucial for maternal and fetal health. Treating a *Garbhini* with the utmost care, educating mothers on *Garbhini Paricharya*, and steering clear of harmful influences during pregnancy are vital steps to cultivate a healthy generation and foster a prosperous society. Safeguarding the fetus from teratogens is essential for preventing congenital disabilities. Open communication with healthcare providers about medications, alcohol consumption, and environmental conditions is key to ensuring a safe pregnancy and reducing the risk of birth abnormalities. Increased public awareness, guidance, and regulatory measures are pivotal in shielding developing fetuses from teratogenic harm, contributing to healthier pregnancies and diminished birth defects.

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AN AYURVEDIC MANAGEMENT OF THUNDIKERI (CHRONIC TONSILITIS)-CASE REPORT

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ABSTRACT

Thundikeri compared with tonsillitis mentioned by susruta in talugata roga and Vagbhatacharya in kanta roga. The recurrent attack of tonsillitis make disease chronic and timely treatment is essential. The conventional line of treatment of thundikeri includes use of antibiotics and tonsillectomy. To overcome this we have pratisaraniya kshara karma. Kshara has the property of bedana and lekana and help to reduce the inflammation.

KEY WORDS-Thundikeri, kshara karma, tonsillitis

INTRODUCTION

Tonsillitis, or inflammation of tonsils is a common disease which affects the children and young people and make up 1.3% of opd visits. It is predominantly result of a viral or bacterial infection. In acute tonsillitis patient may suffer sore throat, fever, dysphagia. Repeated occurrences may lead to chronic tonsillitis which impact severely on patient's life. Chronic tonsillitis may be a complication of acute tonsillitis. Pathologically, micro abscess walled off by fibrous tissue have been seen in lymphoid follicles of tonsils.

Thundikeri is one among urdha jatrugata roga mentioned by Susruta in talugata roga and Vagbhatacharya in kanta roga. Susruta mentioned that it is due to vitiation of kapha raktha and resembles karpasa phala situated at talu. It is a bhedyā Sadhya roga and drugs like shothahara, kapha raktha hara, Vedana hara can be used for its treatment.

The recurrent attack of tonsillitis make disease chronic and timely treatment is essential. The conventional line of treatment of thundikeri includes use of antibiotics and tonsillectomy. To overcome this we have pratisaraniya kshara karma. Kshara has the property of bedana and lekana and help to reduce the inflammation.

Basic information of the patient

Age: 33 years

Gender: Male

Religion: Hindu

Occupation: Business

status: Middle class

CHIEF COMPLAINTS

C/O throat pain, cough and difficulty in swallowing since 15 days

ASSOCIATED COMPLAINTS

C/O, anorexia and mild pain in neck since 15 days

History of Present Illness

Patient was apparently normal 6 years ago, gradually developed fever, throat pain, cough took antibiotic therapy and got relief, but had on and off symptoms, since 15 days the symptoms aggravated could not find any relief, so for further management he consulted Shalakya tantra opd of sdm hassan

PAST HISTORY

No/Ho/ DM, Asthma, Tuberculosis

Drug History or Medical history

Nothing specific

-systemic examination

Respiratory system, Cardiovascular system, Gastro intestinal system, Central nervous system and Musculoskeletal system has shown no abnormality.

Soft palate	Congestion
Movement of soft palate	Normal
Uvula	Congestion
Tonsils	Right -Congestion-+++ Left-++

TONSILAR HYPERTROPHY GRADING SCALE

Tonsils fit within tonsillar fossa	Grade-0
Tonsils <25% of space between pillars	Grade-1
Tonsils <50% of space between pillars	Grade-2
Tonsils <75% of space between pillars	Grade-3
Tonsils >75% of space between pillars	Grade-4

GALA TODA

Signs And Symptoms	Grade
No Pain in Throat	0
Mild Pain in Throat	1
Moderate Pain in Throat	2
Severe Pain in Throat	3



GALA DAHA

Signs And Symptoms	Grade
No Burning Sensation in Throat	0
Mild Burning Sensation in Throat	1
Moderate Burning Sensation in Throat	2
Severe Burning Sensation in Throat	3

DISCUSSION

The word meaning of pratisarana is gharsana/rubbing. Here pratisarana of palasa kshara is performed over tonsils.. Palasha -lekhana, shodha hara, kapha -raktha hara Ksharaneeya Dravya and lekhana property-act as chemical cauterizing agent over tonsils. Chedana, bhedana-size of tonsils decrease. Ushna guna-minute burns and coagulation of micro lymphoid tissues, reduces intra cellular space and aggregates lymphoid tissue and reduce the size of tonsils.

RESULT

Complete reduction in size of enlarged tonsils was observed on 2nd day. Along with pain ,irritation of throat also reduced. With a follow up period of 6 months patient didn't had even a single time sore throat.

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THE ROLE OF WORD-OF-MOUTH MARKETING IN POPULARIZING TRADITIONAL EYE DISEASE REMEDIES- A STUDY WITH SPECIAL REFERENCE TO KERALA

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ABSTRACT

Word-of-mouth (WOM) marketing has emerged as a powerful tool in influencing consumer behavior, particularly in the healthcare sector. This study examines the role of WOM marketing in popularizing traditional remedies for eye diseases, focusing on consumer trust, perceived effectiveness, and cultural relevance. Traditional medicine, including Ayurvedic and herbal remedies, has long been relied upon for treating various eye conditions due to its affordability, accessibility, and minimal side effects.

The research explores how interpersonal communication, including recommendations from friends, family, and community influencers, impacts consumer awareness and decision-making. It also highlights the influence of digital WOM through online reviews, social media discussions, and testimonials in expanding the reach of traditional eye care solutions. Using a mixed-methods approach, data was collected through surveys and interviews with users of traditional remedies and analyzed to determine the factors driving WOM effectiveness.

Findings reveal that trust in the source of information, alignment with cultural beliefs, and personal experiences significantly enhance the credibility and acceptance of WOM marketing. Additionally, positive experiences shared by trusted individuals encourage trial and adoption of traditional remedies. The study underscores the importance of leveraging both offline and online WOM to strengthen marketing efforts for traditional medicine.

This research offers valuable insights for healthcare marketers and policymakers in designing strategies that amplify the reach and acceptance of traditional eye care remedies. It also calls for ethical practices to ensure the promotion of safe and effective solutions, fostering sustainable growth for the traditional medicine industry.

KEYWORDS: Word-of-Mouth Marketing, Traditional Eye Remedies, Consumer Behavior, Cultural Beliefs, Healthcare Marketing

1.1 INTRODUCTION

Word-of-mouth (WOM) marketing has long been recognized as one of the most influential forms of communication, particularly in the healthcare sector, where trust and credibility are critical factors in decision-making. In the context of traditional medicine for eye diseases, WOM plays an even more significant role, as it often bridges the gap between modern medical practices and culturally rooted healing traditions. Traditional remedies, such as Ayurvedic and herbal treatments, have been used for centuries to address various eye conditions, offering natural and often cost-effective solutions. However, their widespread adoption often depends on the positive experiences and endorsements shared by users within their communities.

With the advent of digital platforms, WOM marketing has evolved to include online reviews, social media discussions, and influencer testimonials, extending its reach beyond local communities to a global audience. This transformation has created opportunities for traditional eye remedies to gain broader recognition and acceptance. At the same time, it has posed challenges in ensuring the authenticity and accuracy of shared information.

This study explores the role of WOM marketing—both offline and online—in popularizing traditional remedies for eye diseases. It examines how factors such as trust, cultural relevance, and personal experiences influence consumer perceptions and adoption of these remedies. By analyzing consumer behavior and identifying key drivers of WOM effectiveness, this research aims to provide insights for marketers and policymakers to design strategies that amplify the reach and credibility of traditional eye care solutions. This study also emphasizes the need for ethical marketing practices to promote safe and effective remedies responsibly.

1.2 REVIEW OF LITERATURE

Kumar, S., & Sharma, R. (2021) -The Role of Ayurveda in Treating Chronic Eye Conditions This study highlights Ayurveda's principles in managing eye diseases, particularly its emphasis on balancing doshas for eye health. It also examines key treatments like netra basti and herbal formulations, showcasing their efficacy in addressing conditions like cataracts and dry eye syndrome.

Smith, J. L. (2020) - Traditional Medicine and Eye Care: A Global Perspective. This paper explores traditional medicine practices across cultures, including herbal and plant-based remedies for eye disorders. The research underscores the



growing acceptance of traditional medicine in complementing modern ophthalmology.

Gupta, R. (2018) - Herbal Eye Treatments in Ayurveda: An Evidence-Based Review. This review examines clinical evidence supporting the use of herbal remedies like Triphala and Amalaki in improving visual acuity and treating common eye ailments. It highlights Ayurveda's reliance on plant-based formulations for safe and sustainable eye care.

Chen, X., & Wang, L. (2020) - Traditional Chinese Medicine for Ophthalmology: Insights and Advances. The study delves into Traditional Chinese Medicine's (TCM) approach to eye diseases, such as acupuncture and herbal decoctions. It compares these methods with Ayurveda, identifying commonalities and differences in their approaches to holistic eye care.

Singh, A., & Verma, P. (2022) - Consumer Trust in Ayurvedic Eye Care Products

This research investigates the factors driving consumer trust in Ayurvedic remedies for eye health. It highlights the role of positive testimonials and word-of-mouth marketing in fostering trust and adoption.

Wang, Z., & Lee, Y. (2019) - Digital Media and the Promotion of Traditional Medicine

This study explores how digital platforms are reshaping the marketing of traditional eye care remedies. It emphasizes the role of social media influencers in increasing awareness and adoption of these treatments.

Mohan, K., & Rajesh, V. (2021) - A Review of Ayurvedic Interventions for Glaucoma

The paper evaluates Ayurvedic interventions for glaucoma, including therapies like nasya and herbal eye drops, highlighting their potential as complementary treatments alongside modern medicine.

Patel, N., & Mehta, S. (2020) - Marketing Traditional Medicine in Modern Times

This study focuses on the marketing challenges and strategies for traditional medicine, particularly for eye diseases, emphasizing the importance of trust, transparency, and cultural relevance.

Park, S., & Kim, J. (2021) - Comparative Effectiveness of Herbal and Synthetic Eye Drops

The research compares the efficacy of herbal and synthetic eye drops, concluding that traditional remedies can be equally effective in treating mild to moderate eye conditions when used appropriately.

Desai, R. (2019) - Public Perception of Ayurveda in Ophthalmology

This study examines public attitudes toward Ayurvedic eye care solutions, identifying key factors influencing their adoption, including cultural beliefs and word-of-mouth recommendations.

Bala, P., & Chandra, S. (2022) - Ethical Marketing Practices in Ayurvedic Medicine

This paper discusses the importance of ethical marketing in promoting traditional eye remedies, ensuring accurate claims and preventing misinformation.

Liu, Q., & Zhang, M. (2021) - The Role of TCM in Eye Disease Prevention

This study highlights the preventive measures offered by Traditional Chinese Medicine for maintaining eye health, focusing on diet, exercises, and herbal formulations.

Sharma, V., & Singh, D. (2020) - The Impact of Word-of-Mouth Marketing on Ayurvedic Products

The research explores how WOM marketing influences consumer decisions regarding Ayurvedic remedies, with a focus on eye care products.

Chen, Y., & Tan, H. (2018) - Consumer Perceptions of Herbal Medicine for Eye Diseases

This study analyzes consumer perceptions of herbal eye treatments, identifying trust and cultural familiarity as key factors in their acceptance.

Joshi, A., & Nair, P. (2019) - Role of Panchakarma in Treating Eye Diseases

The paper reviews Panchakarma therapies, such as netra basti, as part of Ayurvedic treatments for chronic eye conditions, emphasizing their therapeutic potential.

Zhao, H., & Lin, W. (2020) - Integration of TCM and Modern Ophthalmology

This research discusses the integration of Traditional Chinese Medicine with modern ophthalmology, focusing on combined approaches for treating complex eye disorders.

Kaur, S., & Malhotra, P. (2021) - Marketing Challenges for Ayurvedic Eye Care Brands

The study explores the challenges Ayurvedic brands face in marketing their eye care products, including competition, consumer skepticism, and regulatory hurdles.

Lee, S., & Kim, H. (2019) - The Role of Acupuncture in Treating Eye Diseases

This paper reviews acupuncture as a TCM technique for managing eye conditions, such as glaucoma and dry eye syndrome, and its growing acceptance in holistic care.

Thomas, J., & Jacob, S. (2021) - Cultural Relevance in Marketing Ayurvedic Eye Treatments

This study examines how aligning marketing strategies with cultural beliefs enhances the acceptance of Ayurvedic eye remedies.

Singh, R., & Patel, A. (2022) - The Future of Traditional Medicine in Eye Care

This paper discusses the potential of traditional remedies to complement modern ophthalmology, emphasizing the need for rigorous clinical validation and innovative marketing strategies.

1.3 OBJECTIVES

- To examine the influence of word-of-mouth marketing in enhancing consumer awareness, trust, and adoption of traditional remedies for eye diseases, with a focus on both offline and digital communication channels.

1.4 SCOPE OF THE STUDY

This study explores the role of word-of-mouth (WOM) marketing in popularizing traditional remedies for eye diseases, providing valuable insights into consumer behavior and communication dynamics in healthcare marketing. The scope encompasses both offline and online WOM channels, such as personal recommendations, community-based advocacy, social media interactions, and online reviews, which significantly influence consumer awareness, trust, and adoption of traditional eye care solutions. The study also delves into the cultural and ethical aspects of promoting traditional remedies, focusing on how cultural beliefs and perceived authenticity shape consumer decisions.



Geographically, the research can be applied to regions where traditional medicine is culturally significant, such as India, with a specific emphasis on Ayurvedic practices. The study also considers the global relevance of traditional medicine due to growing consumer interest in natural and holistic healthcare options. By examining the factors that enhance the credibility and effectiveness of WOM marketing, the research provides actionable recommendations for marketers, policymakers, and practitioners in the traditional medicine sector. This scope further extends to understanding the challenges of misinformation and the ethical responsibilities of promoting traditional remedies in a competitive healthcare market.

1.5 SIGNIFICANCE OF THE STUDY

This study is significant as it addresses the critical role of word-of-mouth (WOM) marketing in enhancing the visibility and acceptance of traditional remedies for eye diseases. With increasing consumer interest in natural and holistic healthcare solutions, the findings of this research contribute to understanding how interpersonal communication and digital WOM influence consumer trust, awareness, and decision-making.

By highlighting the interplay between cultural beliefs, consumer behavior, and marketing strategies, the study

provides actionable insights for healthcare marketers to effectively promote traditional eye remedies while maintaining ethical standards. It also underscores the importance of community-based advocacy and online platforms in reaching broader audiences, fostering greater acceptance of traditional treatments in modern healthcare practices.

Additionally, the research benefits policymakers and practitioners by offering strategies to combat misinformation and ensure that credible, safe, and effective remedies are promoted responsibly. The study is particularly relevant for regions where traditional medicine holds cultural and historical significance, such as India, and serves as a valuable resource for integrating traditional remedies with contemporary healthcare systems globally.

Ultimately, the study contributes to the broader discourse on sustainable healthcare by advocating for the informed use and ethical promotion of traditional medicine, ensuring its preservation and relevance in addressing eye diseases in a rapidly evolving healthcare landscape.

1.6 RESEARCH METHODOLOGY

A sample of 100 respondents were taken who was taken on the basis of convenience.

1.7 DATA ANALYSIS & INTERPRETATION

Section A: Awareness and Adoption

Statement	Mean Score	Interpretation
I became aware of traditional remedies through WOM.	4.2	Majority agree that WOM is a significant source of awareness for traditional remedies.
WOM influences my decision to try traditional remedies.	4	Positive influence of WOM on decision-making is evident.
I trust information shared by friends and family.	3.8	Trust is moderately strong in personal recommendations.
Online reviews play an important role in awareness.	4.3	Digital WOM has a high impact on raising awareness.
Social media discussions increase my interest.	4.1	Social media effectively fosters interest in traditional remedies.

Interpretation

WOM, especially through online reviews and social media

discussions, significantly influences awareness and interest in traditional eye remedies.

Section B: Trust and Credibility

Statement	Mean Score	Interpretation
Trust traditional remedies when recommended personally.	4.5	Personal recommendations are highly trusted.
Positive experiences encourage trying traditional remedies.	4.2	Positive WOM drives adoption of remedies effectively.
Cultural significance enhances credibility.	3.9	Moderate trust is influenced by cultural relevance.
Recommendations from professionals enhance trust.	4.6	Professional endorsements are a strong trust factor.
Negative WOM impacts willingness to try remedies.	3.7	Negative WOM moderately deters adoption.



Interpretation

Trust in WOM is strongest when it comes from professionals

and individuals with personal experiences. Negative WOM has a noticeable but lesser impact.

Section C: Effectiveness of WOM Marketing

Statement	Mean Score	Interpretation
WOM is more effective than advertisements.	4.4	WOM outperforms advertisements in influencing decisions.
Positive online testimonials encourage usage.	4.1	Online testimonials are an effective marketing tool.
WOM helps compare traditional remedies with modern ones.	4	Consumers use WOM to evaluate different treatments.
Information aligns with cultural beliefs.	3.9	Cultural alignment of WOM resonates well with consumers.
Community-based discussions boost confidence.	4.2	Community forums play a critical role in decision-making.

Interpretation

WOM marketing proves to be a strong tool, especially in

comparison to advertisements and for fostering community discussions

Section D: Ethical Concerns and Preferences

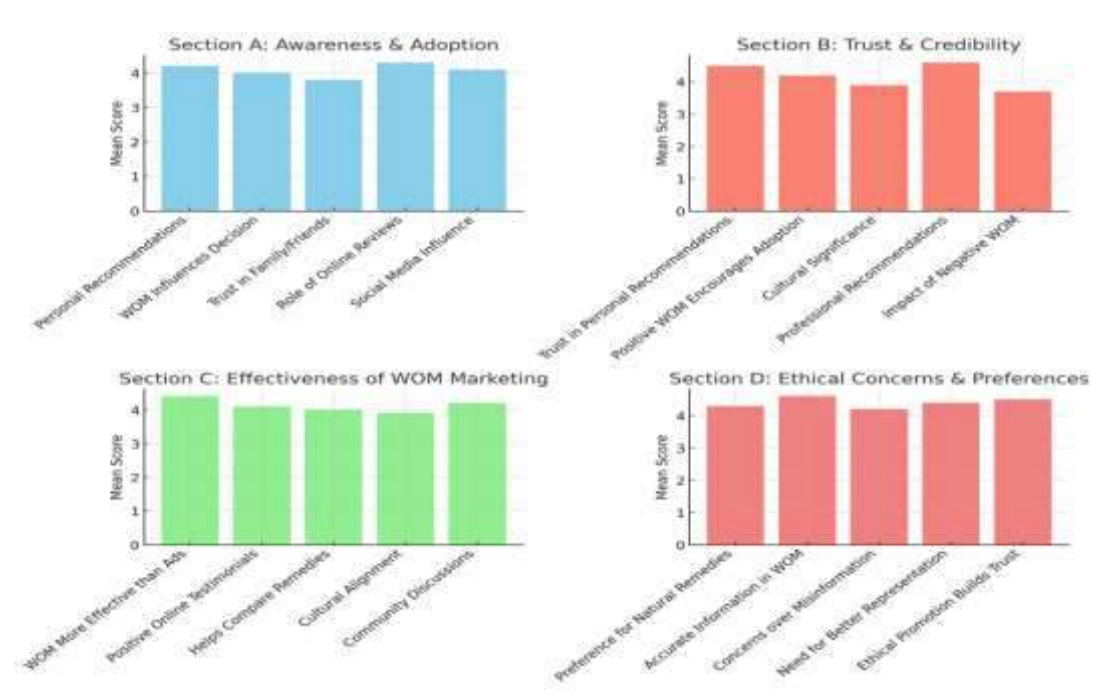
Statement	Mean Score	Interpretation
Prefer traditional remedies due to natural composition.	4.3	Strong preference for natural and sustainable remedies.
WOM marketing should provide accurate information.	4.6	Consumers highly value ethical and evidence-based WOM marketing.
Concerned about misinformation via WOM.	4.2	Consumers are wary of misinformation spread through WOM channels.
Traditional remedies need better digital representation.	4.4	High demand for enhanced online presence and marketing of traditional remedies.
Ethical promotion enhances trust.	4.5	Ethical marketing is crucial in building trust and credibility.

Interpretation

Consumers show a strong preference for natural remedies and

ethical marketing. They also stress the need for better digital representation and accurate information.

1.8 GRAPHICAL REPRESENTATION





Here is the graphical representation of the data analysis for the four sections of the questionnaire:

- **Section A (Awareness & Adoption):** Highlights the significant influence of WOM, especially through personal recommendations, online reviews, and social media.
- **Section B (Trust & Credibility):** Shows that trust is highest when recommendations come from personal experiences or professionals, and negative WOM has a notable impact.
- **Section C (Effectiveness of WOM Marketing):** Demonstrates the effectiveness of WOM over advertisements, with positive online testimonials and community discussions being influential.
- **Section D (Ethical Concerns & Preferences):** Indicates a strong preference for natural remedies, with ethical marketing practices and concerns about misinformation being crucial to consumer trust.

1.9 FINDINGS

1. **Influence of Word-of-Mouth (WOM) on Awareness**
Mean Score: 4.2
Finding: A majority of participants reported that personal recommendations play a significant role in their awareness of traditional remedies for eye diseases.
2. **WOM Influences Decision to Try Remedies**
Mean Score: 4.0
Finding: Word-of-mouth communication notably impacts consumers' decisions to try traditional remedies, indicating its effectiveness in influencing consumer behavior.
3. **Trust in Recommendations from Friends and Family**
Mean Score: 3.8
Finding: There is a moderate level of trust in personal recommendations, with respondents generally feeling positive about advice from their close networks.
4. **Impact of Online Reviews**
Mean Score: 4.3
Finding: Online reviews are highly influential in raising awareness about traditional remedies, showing the strong role of digital WOM in consumer behavior.
5. **Social Media Influence**
Mean Score: 4.1
Finding: Social media is a key driver of interest, with respondents indicating that online conversations are a major source of information and interest in traditional remedies.
6. **Trust in Personal and Professional Recommendations**
Mean Score: 4.5
Finding: Personal recommendations, particularly from those with direct experience, are highly trusted, indicating the value of authentic WOM in promoting traditional remedies.

7. Effect of Positive WOM

Mean Score: 4.2

Finding: Positive WOM plays a significant role in encouraging adoption, as respondents are more likely to try remedies when hearing about others' favorable experiences.

8. Cultural Significance and Trust

Mean Score: 3.9

Finding: Cultural beliefs enhance trust in traditional remedies, with respondents showing moderate agreement that the historical and cultural aspects of these remedies contribute to their credibility.

9. Impact of Negative WOM

Mean Score: 3.7

Finding: While negative WOM has some impact on consumers' willingness to try traditional remedies, its effect is less pronounced compared to positive WOM.

10. Effectiveness of WOM vs. Advertisements

Mean Score: 4.4

Finding: WOM is considered more effective than traditional advertising, with respondents emphasizing the power of personal experiences and word-of-mouth over commercial promotions.

11. Role of Online Testimonials

Mean Score: 4.1

Finding: Online testimonials significantly influence consumer decisions, making digital WOM an important tool in promoting traditional remedies.

12. WOM Helps Compare Remedies

Mean Score: 4.0

Finding: WOM helps consumers make comparisons between traditional and modern treatments, indicating its role in guiding informed decision-making.

13. Cultural Alignment of WOM

Mean Score: 3.9

Finding: Consumers appreciate WOM that aligns with their cultural practices, indicating that traditional remedies are more likely to be trusted when they resonate with personal cultural values.

14. Confidence through Community Discussions

Mean Score: 4.2

Finding: Community-based WOM strongly boosts confidence in traditional remedies, emphasizing the value of peer support and shared experiences.

15. Preference for Natural Remedies

Mean Score: 4.3

Finding: There is a strong preference for natural remedies, with many consumers valuing the perceived safety and sustainability of traditional eye treatments.

16. Accuracy in WOM Marketing

Mean Score: 4.6

Finding: Consumers strongly agree that WOM marketing should be accurate and based on



evidence, reflecting the importance of ethical and responsible promotion in the sector.

17. Concerns about Misinformation

Mean Score: 4.2

Finding: There are significant concerns regarding misinformation, with respondents emphasizing the need for credible and reliable sources in WOM communication.

18. Need for Better Digital Representation

Mean Score: 4.4

Finding: Respondents believe that traditional remedies should be more prominently represented on digital platforms, reflecting a demand for greater online visibility and marketing.

19. Ethical Promotion of Remedies

Mean Score: 4.5

Finding: Ethical promotion is a key factor in building trust, with participants indicating that transparent and responsible marketing enhances their confidence in the safety and effectiveness of traditional remedies.

20. Ethical Responsibility in WOM Marketing

Mean Score: 4.6

Finding: Ethical responsibility in WOM marketing is crucial for maintaining consumer trust, with respondents highlighting the importance of honesty and accountability in the promotion of traditional eye remedies.

1.10 SUGGESTIONS

Leverage Personal Recommendations in Marketing: Given that personal recommendations have a strong influence on consumer awareness and decision-making, Ayurvedic and traditional eye remedy brands should develop marketing strategies that encourage customers to share their positive experiences through referrals and testimonials.

Enhance Online Presence through Reviews and Social Media: Since online reviews and social media discussions significantly impact consumer trust, brands should focus on enhancing their online presence by encouraging customer reviews and leveraging user-generated content to increase visibility and credibility.

Focus on Building Trust through Cultural Relevance: To increase consumer trust, brands should emphasize the cultural and historical significance of their remedies, incorporating these elements into their marketing to create a stronger connection with the target audience.

Ensure Ethical Marketing Practices: As consumers express concerns about misinformation, brands must prioritize ethical marketing by providing accurate, evidence-based information to foster credibility and build long-term trust with their audience.

Utilize Community Engagement for Increased Confidence: Community-based discussions have a positive impact on consumer confidence, so brands should organize events, webinars, and health talks to engage with consumers, share experiences, and provide a platform for learning.

Improve Digital Representation and Awareness: Given the demand for better digital representation, brands should invest in enhancing their online presence through SEO, targeted social

media ads, and partnerships with influencers to increase brand awareness and reach a wider audience.

Highlight the Benefits of Natural and Safe Remedies: With a strong preference for natural remedies, brands should emphasize the safety, sustainability, and health benefits of their traditional eye treatments as alternatives to modern pharmaceutical options.

Address Negative WOM Effectively: Although negative WOM has some impact, brands should proactively address any negative feedback by responding transparently and taking corrective actions to protect their reputation and maintain customer trust.

Foster Collaborative Partnerships with Professionals: Since professional recommendations carry significant weight, brands should consider partnerships with healthcare professionals to endorse their products and further build credibility among consumers.

Create Educational Content on Remedies' Effectiveness: To align with consumer expectations for accurate information, brands should invest in creating educational content such as articles, videos, and infographics that explain the effectiveness of their remedies and demonstrate their value compared to modern treatments.

1.11 CONCLUSION

onal recommendations or online platforms, is a powerful tool in raising awareness, building trust, and influencing purchase decisions. Consumers tend to trust recommendations from family, friends, and healthcare professionals, and they view online reviews and social media discussions as key sources of information. The cultural significance of traditional remedies, along with their perceived natural and safe composition, further enhances their appeal. However, there is also a strong emphasis on the ethical promotion of these remedies, with consumers showing a preference for accurate, evidence-based information and expressing concerns over misinformation.

Moreover, the study indicates that traditional remedies are perceived as credible and effective when they are presented transparently and in alignment with cultural values. The results suggest that digital platforms, especially social media, hold immense potential for expanding the reach of traditional remedies, yet they must be used responsibly to maintain consumer trust.

In conclusion, Ayurvedic and traditional eye disease remedy brands can successfully leverage WOM marketing to build consumer trust and drive adoption. By focusing on ethical promotion, cultural relevance, and community engagement, brands can effectively enhance their market presence and foster long-term customer loyalty.

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MANAGEMENT OF OBESITY THROUGH AYURVEDA: A CASE REPORT

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ABSTRACT

Sthoulya (Obesity) has been a growing global epidemic for decades, driven by lifestyle changes, poor dietary habits, and a decrease in physical activity. The global obesity rate continues to rise, and it is estimated that at least 2.8 million people die each year due to obesity. Additionally, 2.3% of the total global Disability-Adjusted Life Years are attributed to overweight and obesity-related conditions. A 34-year-old man had been struggling with obesity and associated symptoms, including constipation, loss of appetite, and a sensation of heaviness in his body. He also experienced symptoms of Amlapitta, such as severe burning sensation, belching, and nausea. The treatment plan for this patient involved a comprehensive approach, including Udwartana and Parisheka for five days, followed by Snehapana and Virechana to detoxify the body. Along with these treatments, the patient adhered to a specific Apatharpana diet, which was low in calories and fats, designed to regulate nourishment and reduce excess weight. The patient was also engaged in Yogasana practices and Vyayama to promote calorie expenditure and enhance fat metabolism. The overall treatment strategy was a holistic approach based on Nidana parivarjana, Shamanoushadhi, Shodhana, Pathyahara sevana, Vyayama, and behavioral therapies. As a result of this comprehensive approach, the patient's BMI significantly decreased, and he experienced marked improvements in both obesity and Amlapitta symptoms.

KEY WORDS: Sthoulya, Obesity, Udwartana, Virechana, Yoga

INTRODUCTION

Sthoulya (Obesity) is a complex metabolic condition with multiple contributing factors. One of the primary indicators used to assess obesity in adults is the Body Mass Index (BMI), which is calculated by dividing a person's weight in kilograms by the square of their height in meters. A BMI of 30 or higher is typically considered indicative of obesity, while a BMI of 25 or more is classified as overweight. Obesity is associated with a wide range of health conditions^[2], as excess body fat can contribute to various metabolic and cardiovascular diseases. These include type 2 diabetes, hypertension, heart disease, stroke, sleep apnoea, and certain types of cancer. Additionally, obesity can lead to joint problems due to increased mechanical stress on the bones, especially in weight-bearing joints like the knees and hips. The increasing prevalence of obesity globally has led to heightened concerns about its long-term effects on public health, underscoring the importance of prevention and early intervention.

In Ayurveda, obesity is classified under the condition Medo roga, which refers to diseases associated with excessive fat accumulation, and is considered one of the Ashta Ninditiya Roga. Specifically, it is referred to as Sthoulya Roga in the Charaka Samhita. Sthoulya is caused by continuous indulgence in snigdha, guru, madhura, sheeta ahara, avyayama, divaswapna etc. It is characterized by the excessive growth of

Meda (fat) and Mamsa (muscle), leading to an imbalance in the body's natural tissues. Key symptoms of obesity include Meda mamsa ativruddhi, Ayatha Upachaya, Krathana, Nirutsaha, Gadgada, Gaatrasada, Swapna, Sweda^[3].

The treatment approach for Sthoulya in Ayurveda includes Nidana Parivarjana (elimination of causative factors), Shodhana (detoxification), and Shamana (pacification). It is suggested that for obesity, the primary treatment approach is "Guru cha Atarpanam", meaning that the most effective treatment involves the use of light, non-nourishing diets (Atharpana), which are considered superior for reducing excess weight. This approach emphasizes reducing excessive intake and balancing the body's natural metabolic processes, while promoting the elimination of excess fat and toxins. Acharya mentioned several methods for treating sthoulya in Astouninditiya adhyaya and Santarpaniya adhyaya, including Vatahara, Shleshmamedohara modalities, Vamana, Virechana, Raktamokshana, Vyayama, Upavasa, Swedana, Rukshana, Udwartana, and Basti chikitsa^{[4][5]}.

So, this case report is a sincere effort to observe the effect of Virechana and other Ayurvedic treatments along with proper pathya and vihara for Sthoulya and its associative conditions of the patient to improve his physical and mental health.



MATERIAL AND METHODS

A clinical case study in which Apatarpana Chikitsa with Pachana, Udwartana, Swedana, Rukshana, Virechana was given to the patient suffering from Sthoulya and associated conditions.

History

A 34-year-old man had been struggling with weight gain and related symptoms for over a year and a half, which he attributed to his poor diet and sedentary lifestyle. His symptoms included constipation, loss of appetite, a feeling of heaviness, excessive sweating, and foul body odour. For the past year, he also experienced frequent belching, nausea, and severe burning sensation in the chest. Seeking better relief from these issues, the patient visited the Swasthavritta OPD at SDM College of Ayurveda and Hospital in Hassan, aiming to address both the weight gain and its associated conditions.

General Examination

- Nadi - 74/min
- Mala – Baddha, asamyak pravritti
- Mutra - Anavilam, 4-5 times/day
- Jihwa -Liptha
- Agni -Manda
- Shabda - Prakritha
- Sparsha - Sheeta
- Druk - Prakritha
- Akriithi - Sthula
- Bala - Madhyama
- Rakthachapa - 140/90mmhg

BMI and Anthropometric Measurement

Measurement of BMI and Anthropometry as on 13/07/2024 are given in Table 1.

Treatment

Internal Medication: In consideration with the findings of clinical examination & investigations following drug were given internally (Table 2) for 5 days from 13/07/2024.

External Therapies: Sarvanga Udwartana followed by sarvanga parisheka with Dashamoola Kashaya + Triphala Kashaya + Dhanyamla along with nadi sweda for 5 days from 13/07/2024. The patient was advised to follow specific pathya during the course of therapy (Table 3).

Vihara Krama: Patient was advised to do Yoga between 7:00am to 8:00am, loosening and mild exercises along with Pranayama between 4:00pm to 5:00pm which included Nadi shuddhi, Bhramari, Sheetali, Shitkari and Yoga nidra from 13/07/2024 to 17/07/2024.

Virechana

Poorvakarma:

1. **Shodhananga snehapana:** The patient underwent Shodhananga Snehapana with Murchita Tila Taila for a duration of three days, with the dosage gradually increasing each day. On Day 1, he was given 40 ml, which

was increased to 100 ml on Day 2, and 200 ml on Day 3. During this period, the patient was advised to frequently sip hot water throughout the day and consume Shunti-Jeeraka Jala as needed. He was also instructed to observe for Udgara Shuddhi and to eat Ganji (rice gruel) whenever he felt hungry. Additionally, the patient was asked to avoid daytime sleep, exposure to cold breeze, and rain.

2. **Sarvanga abhyanga and swedana :** After the patient attained Samyak Snigdha Lakshana from the Snehapana therapy, he was advised to undergo Sarvanga Abhyanga (full-body oil massage) with Brihat Saindhavadi Taila and Bhashpa Swedana (steam therapy) for a period of three days. He was also advised to follow specified Pathya (Table 4).

Pradhana Karma: Virechana therapy was administered using Trivrut Lehya (90 gm) and Triphala Kashaya (100 ml). The patient experienced a total of 8 evacuations during the procedure. Following the Virechana, the patient was advised to follow the Peyadi Samsarjana Krama (a gradual dietary regimen) for five days to help restore digestive function and maintain the balance of the doshas.

OBSERVATION AND RESULTS

After 10 days of treatment, the patient experienced notable improvements like decrease in body weight (Table 5), feeling of increased lightness in the body, improved appetite, easier and more regular bowel movements along with reduced belching, nausea and burning sensation.

DISCUSSION

Effect of Udwartana: The Sushruta Samhita states that when Vata is deranged, it can be restored to its normal state Prakruta Avastha through the practice of Udwartana. This therapeutic procedure helps in the Dravikarana of Kapha and Medas. Additionally, Udwartana aids in reducing the accumulation of Ama (toxins) in the body, which is often caused by Agnimandya (weak digestive fire). By stimulating and improving the digestive fire, it indirectly enhances the body's ability to process and eliminate waste.^[6]

Effect of Snehapana: The primary goal of this therapy is to mobilize vitiated Doshas (bodily humors) from deeper tissues and remote areas of the body into the systemic circulation, facilitating their easy elimination through therapeutic methods like Vamana or Virechana. This process helps to remove old, damaged cellular components from the body by stimulating autophagy, the body's natural process of breaking down and recycling dysfunctional cells. Due to its Drava, Sukshma, and Sara qualities, the therapy draws lipophilic (fat-soluble) waste products into the systemic circulation for detoxification and elimination.^[7]

Effect of Swedana: Sarvanga Bhashpa Swedana is a therapeutic steam bath procedure in Ayurveda that aids in the mobilization and elimination of Ama (toxins or waste products) from various body channels. The process of Sweda Karma helps to balance the function of Meda dhatwagni and Bhutagni, thereby



accelerates the Pakakarma and supports Srotomukha shodhana, leading to improved circulation and detoxification.^[8]

Effect of Virechana: Virechana is an important Shodhana therapy in Ayurveda that facilitates the detoxification of toxins from the lower gastrointestinal tract by promoting bowel evacuation. Waste products, whether present in the extracellular, intracellular, or plasma compartments, can be drawn into the intestines, where they are eliminated from the body through the action of the intestines. Clinical studies have demonstrated the efficacy of Virechana in treating various metabolic disorders, including obesity and diabetes mellitus.^[9]

Effect of Shamanaushadhi

- 1. Amla juice:** It balances all three Doshas -Vata, Pitta, and Kapha with particular effectiveness in Pitta imbalances. Amalaki is regarded as one of the most powerful rejuvenative herbs in Ayurveda and is classified as a Rasayana. The juice of Amalaki fruit is particularly recognized for its hypolipidemic properties, effectively lowering lipid levels in the body. It helps reduce aortic plaques and is beneficial in preventing the oxidation of low-density lipoprotein, a key factor in cholesterol build-up.^[10]
- 2. Hingvashtaka vati:** Hingvastaka Churna or vati is a powerful Ayurvedic formulation made from a blend of herbs known for their digestive-enhancing properties. The ingredients include Shunti (*Zingiber officinale*), Maricha (*Piper nigrum*), Pippali (*Piper longum*), Ajamoda (*Apium leptophyllum*), Saindhava Lavana (rock salt), Swetha Jeeraka (*Cuminum cyminum*), Krishna Jeeraka (*Carum carvi*), and Shuddha Hingu (*Ferula foetida*). This unique combination works synergistically to stimulate the Agni, relieve abdominal bloating, and alleviate constipation.^[11]
- 3. Arogyavardhini rasa:** Arogyavardhini Vati, often referred to as Sarvarogaprashamani, is an Ayurvedic formulation that combines several potent ingredients, including processed Parada (mercury), Gandhaka (sulfur), Tamra (copper), Loha (iron), Abhraka (mica), the pericarps of Haritaki (*Terminalia chebula*), Vibhitaki (*Terminalia bellirica*), and Amalaki (*Emblica officinalis*), root of Katuki

(*Picrorhiza kurroa*), resin of Guggulu (*Commiphora mukul*), leaves of Nimba (*Azadirachta indica*), Shilajatu, and roots of Eranda (*Ricinus communis*). This powerful blend is widely used in Ayurveda to treat a range of health issues, including liver disorders, jaundice, chronic fever, edema, adipose tissue disorders, obesity, and various skin conditions. Arogyavardhini Vati is characterized by a Tikta and Kashaya rasa, and it is Laghu, Ruksha, and Ushna in nature. It helps to balance the three dosha.^[12]

- 4. Triphala churna:** Triphala Churna, a blend of Amalaki, Vibhitaki, and Haritaki, has a balancing effect on the three doshas. It has Virukshana and chedana guna. Research has shown that Triphala helps reduce body fat percentage, body weight, and overall energy intake. Additionally, it has been found to lower total cholesterol, triglycerides, and low-density lipoprotein cholesterol levels.^[13]

The treatment protocol was tailored to meet the patient's needs and time constraints. During the Udwartana, the patient reported a sensation of lightness in the body, which persisted throughout the course of the treatment. Upon completion of the 10-day treatment regimen, significant improvements were observed in the patient's symptoms of obesity and associated conditions. Notable changes were also seen in BMI and other anthropometric measurements, indicating the effectiveness of the treatment in addressing the patient's condition.

CONCLUSION

The overall treatment strategy was a holistic approach based on Nidana Parivarjana (elimination of causative factors), Shamana (pacification therapies), Shodhana (detoxification), Pathyachara Sevana (appropriate dietary and lifestyle changes), Vyayama, and behavioral therapies. As a result of this comprehensive approach, the patient's BMI significantly decreased, and he experienced marked improvements in both obesity and Amlapitta symptoms, demonstrating the effectiveness of a comprehensive and personalized treatment plan.

TABLES

Table 1: Measurement of BMI and Anthropometry before treatment

Height	167cms
Weight	89.2kgs
Body Mass Index	32kg/m ²
Chest circumference	100cms
Waist circumference	94cms
Abdomen circumference	107cms
Hip circumference	108.5cms

Table 2: Internal Medication

Sl.No	Drugs with Duration	Dosage	Timings	Anupana	Action
1	Amla juice x 5 days	15ml	Twice a day before food	Water	Reduces gastric secretions
2	Hinguvashataka vati x 5 days	1 NO	Twice a day before food	Water	Improves digestion



3	Arogyavardhini rasa x 5 days	2 NO	Twice a day before food	Water	Improves metabolism, immunomodulator, anti-oxidant.
4	Triphala churna x 5 days	5 gm	Twice a day after food	Warm water	Antiobesogenic, rejuvenative, laxative

Table 3: Diet Schedule During Udwartana

Time	Ahara	Dose
06:00AM	Shunti dhanyaka jala	100ml
08:00AM	Peya	200ml
11:00AM	Boiled vegetables	250gms
01:30PM	Laja manda	200ml
05:00PM	Veg soup	200ml
08:00PM	Peya	200ml

Table 4: Diet Schedule During Abhyanga and Swedana

TIME	AHARA	DOSE
08:00AM	Peya	400ml
11:00AM	Laja manda	200ml
01:00PM	Peya	400ml
05:00PM	Laja manda	200ml
08:00PM	Peya	400ml

Table 5: BMI and Anthropometric Measurements after Treatment

Height	167cms	No change
Weight	81.4kgs	7.8 kgs reduced
Body mass index	29.2 kg/m ²	2.8 kg/m ² reduced
Chest circumference	95cms	5cms reduced
Waist circumference	92cms	2cms reduced
Abdomen circumference	100cms	7cms reduced
Hip circumference	101cms	7.5cms reduced

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EXPLORING THE INNOVATION AND INTEGRATION OF ZHAOQING'S HERBAL CULTURE IN BIRD-AND-FLOWER PAINTING ART

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ABSTRACT

This research on "Chinese Herbal Medicine and Bird-and-Flower Painting Creation in Zhaoqing" provides an in-depth analysis of the cultural background of Chinese herbal medicines in Zhaoqing region and their integration with bird-and-flower painting art. The paper first explores the historical origins and modern legislative protection of Zhaoqing's Chinese herbal medicines, highlighting their core value in Lingnan traditional Chinese medicine culture. Subsequently, the paper analyzes the traditional foundation and innovative pathways of Zhaoqing's bird-and-flower paintings, with particular attention to how Chinese herbal medicines inject new cultural elements and artistic vitality into bird-and-flower paintings. Through detailed interpretation of masterpieces throughout history, the paper reveals the unique charm and profound implications of Zhaoqing's medicinal materials in artistic expression. Finally, the paper emphasizes the significant role of Zhaoqing's Chinese herbal medicine bird-and-flower painting creation in educational popularization, cultural inheritance, social influence, and cultural confidence building. This paper argues that Zhaoqing's Chinese herbal medicine bird-and-flower painting creation represents not only a paradigm of artistic innovation but also a crucial medium for inheriting and promoting traditional Chinese medicine culture.

KEYWORDS: Chinese Herbal Medicine Culture, Bird-And-Flower Painting Art, Cultural Inheritance, Artistic Innovation

1. INTRODUCTION

The cultural background of Chinese herbal medicines and the tradition of bird-and-flower paintings in Zhaoqing region are two brilliant pearls in Lingnan culture, carrying not only rich historical information but also profound cultural heritage.

1.1 Cultural Inheritance and Legislative Protection in Zhaoqing

The cultural background of Chinese herbal medicines in Zhaoqing region has a long history, closely connected with the traditional Chinese medicine culture of the Lingnan region, demonstrating unique and profound foundations.

Regarding legislative protection, the implementation of *Guangdong Province Lingnan Chinese Medicinal Materials Protection Regulations* highlights the emphasis on protecting medicinal materials. Four medicinal materials from Zhaoqing - Patchouli, *Morinda officinalis*, Buddha's Hand, and *Polygonum multiflorum* - were included in the first batch of protected species, establishing a solid foundation for their inheritance and development. These medicinal materials are all recorded in ancient medical texts, such as the description of *Polygonum multiflorum* in *Thunder God's Elaboration on Drug Properties*, proving their significant position in the traditional Chinese

medicine system. Zhaoqing, with its unique climate, soil, and other natural conditions, has nurtured many renowned authentic medicinal materials, such as *Morinda officinalis*, whose specific ecological environment contributes to its remarkable efficacy, making it an invaluable treasure in Chinese medicine and Lingnan culture.

In terms of cultural inheritance and promotion, Zhaoqing City actively organizes events such as "Traditional Chinese Medicine Health Culture Night Market and Paste Festival", aligning with the ancient Chinese medical concept of "treating before illness". Through these activities, traditional Chinese medicine culture is disseminated to the public, enhancing health awareness and revitalizing ancient medical wisdom in modern society. The city's traditional Chinese medicine hospitals carefully create traditional Chinese medicine culture corridors, fostering a rich atmosphere of traditional Chinese medicine culture and promoting the popularization and inheritance of traditional Chinese medicine knowledge. As one of Guangdong Province's important southern medicinal material cultivation bases, Zhaoqing has a long history of medicinal material cultivation in areas such as Gaoyao, Guangning, Deqing, Fengkai, and Huaiji, accumulating rich cultivation experience and management models. Currently, an initial industrial framework has been established, providing strong support for the stable supply of medicinal materials.



Furthermore, Zhaoqing's Chinese medicine specimen hall displays a diverse collection of Chinese medicine specimens, providing an excellent platform for the public to learn about Chinese medicine in depth, while also offering intuitive research materials for traditional Chinese medicine researchers, promoting the in-depth development of traditional Chinese medicine academic research. In summary, the Zhaoqing region, with its rich medicinal resources, strong protective measures, and diverse cultural inheritance and promotion methods, shines brilliantly in the field of Chinese herbal medicine culture, continuously writing glorious chapters. It has become a model region for inheriting and developing traditional Chinese medicine culture in modern society, and its development model and experience are worthy of in-depth research and promotion on a broader scale, contributing to the revival of traditional Chinese medicine culture.

1.2 Bird-and-Flower Painting Art: Tradition and Innovation in Zhaoqing

Bird-and-flower painting, as an important component of traditional Chinese painting, has evolved over thousands of years and has been deeply appreciated by people for its unique artistic charm and aesthetic value. Bird-and-flower painting conveys praise for life, reverence for nature, and aspirations for a beautiful life through the depiction of natural flora and fauna.

The bird-and-flower painting tradition in Zhaoqing has deep historical foundations. Li Xiongcai received early training from Chen Jian, a disciple of the renowned Guangdong bird-and-flower painter Ju Lian, and later studied under Gao Jianfu after joining the Spring Sleep Painting Academy, establishing a solid foundation in traditional bird-and-flower painting. The guidance and influence of these artistic masters enabled the inheritance and development of Zhaoqing's bird-and-flower painting tradition.

Bird-and-flower painting in Zhaoqing is not merely an art form but also a manifestation of traditional Chinese medicine culture. Through artistic expression, it aids in spreading Chinese herbal medicine culture, evoking emotional resonance with cultural symbols in people's hearts. This integration not only enriches the connotation of bird-and-flower paintings but also provides new channels for the dissemination of traditional Chinese medicine culture.

The treatment of artistic conception is central to Chinese bird-and-flower painting creation. Artists in the Zhaoqing region incorporate the artistic conception of traditional Chinese medicine culture into their works through detailed depiction of flowers and leaves, creating works with profound cultural connotations and aesthetic value. This treatment of artistic conception demonstrates not only the artists' superior skills but also showcases the unique artistic style of Zhaoqing's bird-and-flower paintings.

Located in the Lingnan region, Zhaoqing possesses abundant Chinese herbal medicine resources. These medicinal materials

hold not only medicinal value but also rich cultural connotations. Integrating Zhaoqing's Chinese herbal medicines into bird-and-flower painting creation can enrich the subject matter of bird-and-flower paintings while injecting new cultural elements and artistic vitality. This integration represents not only an attempt at artistic innovation but also the inheritance and promotion of regional culture.

2. OVERVIEW OF CHINESE HERBAL MEDICINES IN ZHAOQING

As one of the main cultivation areas for southern authentic medicinal materials, the Zhaoqing region possesses rich varieties of southern medicines, with *Morinda officinalis*, Buddha's Hand, *Cinnamomum cassia* from Xijiang, and *Polygonum multiflorum* being particularly renowned authentic medicinal materials.

Patchouli: As one of the authentic Lingnan medicinal materials, patchouli was first recorded in Yang Fu's *Records of Foreign Matters* during the Eastern Han Dynasty, where it was used as a spice. The term "Guangdong patchouli" first appeared in Wang Kentang's *Medical Origins Collection* during the Ming Dynasty, while Ming Dynasty's Cao Bingzhang distinguished between Guangdong patchouli, foreign patchouli, and local patchouli in *Expanded Discriminations of Counterfeit Drugs* to indicate its authenticity, considering Guangdong and local patchouli to have better medicinal efficacy.

Buddha's Hand: As an authentic Lingnan medicinal material, it features large fruits with high peel oil content and superior quality. It has been recorded in various historical herbal texts, and patchouli became commonly used in Song and Yuan Dynasty medical prescriptions. From a geographical perspective, the patchouli produced in today's Guangdong region, particularly from Shipai, Gaoyao, Zhanjiang, and Wanning, is especially renowned.

Cassia bark: Gaoyao District in Zhaoqing is known as the "Hometown of China's Famous and Superior Economic Forest Cassia", with cassia having properties that supplement fire and assist yang. Cassia bark is recorded in *Famous Physicians' Records*, and *Plants of the Southern Regions* also mentions: "It grows in Jiaozhi, Jiuzhen, Wuping, Xinggu, and other regions, where officials and people cultivate it... when dried it becomes fragrant".

Morinda officinalis: *Morinda officinalis* has a long cultivation history in Gaoyao District of Zhaoqing and is renowned for its superior quality and high medicinal efficacy. It received national "authentic medicinal material" certification in 2012; in December 2015, "Gaoyao *Morinda officinalis*" obtained China's geographical indication protection product status. It is distributed throughout China and the Indochina Peninsula; within China, it is found in tropical and subtropical regions including Fujian, Guangdong, Hainan, and Guangxi. It grows in mountain sparse or dense forests and shrublands, often climbing on shrubs or tree



trunks, and is also cultivated domestically. *Morinda officinalis* is a precious Chinese medicinal material, one of the "Four Great Southern Medicines", with the folk saying "ginseng in the north, *Morinda officinalis* in the south".

Polygonum multiflorum: As one of Zhaoqing's authentic medicinal materials, *Polygonum multiflorum* was listed as a first-batch protected species in the *Guangdong Province Lingnan Chinese Medicinal Materials Protection Regulations*.

These medicinal materials are not only precious treasures of traditional Chinese medicine but also important components of Lingnan culture. Due to its unique geographical environment and climatic conditions, the Zhaoqing region has nurtured many high-quality authentic medicinal materials. The records of these medicinal materials in ancient medical texts further prove the historical value and cultural significance of Zhaoqing's Chinese herbal medicines.

3. INTEGRATION AND INNOVATION: REPRESENTATION OF ZHAOQING'S CHINESE HERBAL MEDICINES IN BIRD-AND-FLOWER PAINTINGS

3.1 Current Status Analysis: Expression of Zhaoqing's Medicinal Herbs in Contemporary Bird-and-Flower Paintings

Patchouli, *Morinda officinalis*, Buddha's Hand (Figure 1), and *Polygonum multiflorum*, as Zhaoqing's most distinctive Chinese herbal medicines, have indeed been represented in artistic creation. Patchouli is relatively rare in Chinese painting creation; when used as a background, it can add a unique natural ambiance and medicinal plant connotation to the painting. *Polygonum multiflorum* and *Morinda officinalis*, as vine plants growing attached to trees, often appear as backgrounds in Chinese paintings, their vines combining with other plants to add layering to the composition. Buddha's Hand has large fruits with rich forms, often depicted with "golden edges and white flesh" in paintings. The unique form and auspicious implications of Buddha's Hand make it a favored painting subject, with the following characteristics:



Figure 1 Buddha's Hand

First, its shape is distinctive, with fruits showing irregular cylindrical forms, remarkably split into multiple finger-like lobes at the front, displaying myriad poses. Sometimes resembling clasped Buddha hands in blessing, sometimes like outstretched palms radiating vitality, seemingly like Guanyin Bodhisattva's sacred hands sprinkling sweet dew. These varying forms open infinite possibilities for artists' creativity, enabling the development of various compositions full of tension and aesthetic appeal.

Second, its colors create striking visual impact. When mature, the golden-yellow peel shines brilliantly, immediately capturing viewers' attention and becoming the focal point of the painting. When contrasted with lush green leaves or subtle backgrounds, the vivid color contrasts create artistic styles that are either magnificent and dignified or fresh and elegant, making the entire painting rich in layers and lasting charm.

Third, it carries beautiful and profound implications. Through its homophonic connection to "fortune and longevity", it naturally embodies people's earnest wishes for auspiciousness, happiness, and longevity. When artists incorporate it into paintings, it's as if they seal these beautiful wishes within, allowing viewers to experience the warmth of aspiration for a beautiful life while appreciating the artistic beauty, greatly elevating the emotional value and cultural connotations of the works.

Fourth, it possesses profound cultural heritage. As a significant symbol in Buddhist culture, it represents compassion and wisdom, as if carrying the morning and evening bells of ancient temples into the paintings. Artists subtly integrate Chan Buddhist philosophy into their brushwork through depicting Buddha's Hand, allowing viewers to seemingly hear Buddhist teachings and purify their minds while contemplating the paintings, adding a transcendent and mysterious charm to the works.

Finally, it adapts to various expressive techniques. In meticulous brush painting, artists use delicate strokes and precise lines to patiently delineate every texture and craft every detail, presenting the exquisite perfection of Buddha's Hand, displaying its delicate beauty. In freehand painting, artists employ bold and unrestrained brushwork, capturing the essence of Buddha's Hand with just a few strokes, endowing it with vibrant vitality. Line drawing techniques use simple and plain lines to outline the pure authenticity of Buddha's Hand, displaying unique minimalist beauty. Through these various approaches, Buddha's Hand shines brilliantly in the painting field.

3.2 Artistic Characteristics: The Artistic Charm of Buddha's Hand in Bird-and-Flower Paintings

Ming Dynasty Xu Wei's *Buddha's Hand Painting* (Figure 2) demonstrates concise brushwork. In this painting, Xu Wei uses simplified brushwork to outline the form of Buddha's Hand, embodying the aesthetic principle of "achieving more with less" in Chinese painting. His ink variations are appropriately balanced



between light and dark, expressing the three-dimensional sense and texture of Buddha's Hand through ink gradations while conveying an elegant aesthetic. The composition is ingenious; Xu Wei skillfully uses blank space, making the painting feel both substantial and ethereally beautiful. The branches and leaves of Buddha's Hand are arranged in a staggered manner, forming a harmonious whole and creating a profound artistic conception. The painting primarily depicts Buddha's Hand, conveying a sense of transcending worldliness and pursuing spiritual freedom. In Chinese culture, Buddha's Hand often symbolizes wisdom and enlightenment; through this painting, Xu Wei expresses his contemplation of life's philosophy. The painting exhibits a distinctive personal style, with free and unrestrained brushstrokes unconstrained by traditional techniques, displaying his unique personality as a literati painter. In the lower right corner, Xu Wei inscribed "Xu Wei's playful writing", which not only enhances the cultural connotations of the painting but also achieves harmony between calligraphy and painting, demonstrating the characteristics of Chinese literati painting.



Figure 2 Buddha's Hand Painting by Xu Wei, Ming Dynasty



Figure 3 Life Drawing of Buddha's Hand by Jiang Tingxi, Qing Dynasty

Qing Dynasty Jiang Tingxi's *Life Drawing of Buddha's Hand* (Figure 3) presents exquisitely rendered Buddha's Hand, showcasing the artist's superior painting skills. In terms of form and posture, it achieves photographic realism, precisely outlining the overall contours of the Buddha's hand through excellent life drawing skills, meticulously presenting the flexion of each finger, as if recreating an actual Buddha's hand. It appears natural and vivid; in the painting, the Buddha's hand seems to grow vigorously in nature, with branches and leaves extending and fruits hanging, full of rhythm, demonstrating the artist's keen ability to capture natural forms. Regarding color usage, it is bright and vivid, primarily using golden yellow to present the mature Buddha's hand, both highlighting its inherent color and endowing the painting with an elegant and noble feeling, matching imperial aesthetics. The rich layering, through variations in color depth and light and shadow, such as the treatment of fruit highlights and shadows and foliage color changes, creates round, full Buddha's hands with strong three-dimensionality, enhancing the painting's sense of space and realism. From a compositional perspective, the main subject is prominent, with the Buddha's hand steadily occupying the center of the painting, attracting viewers' gaze, while branches, leaves, and inscriptions surround it, serving as complementary elements. The distribution is appropriate, with fruits and foliage harmoniously arranged, showing proper density and rhythm, avoiding cluttered or empty spaces, perfectly combining the form, spirit, and natural beauty of the Buddha's hand with auspicious implications, conveying aspirations and blessings for a beautiful life.



Qing Dynasty Wu Changshuo's *Vase Flowers and Buddha's Hand* (Figure 4). Wu Changshuo created numerous paintings of Buddha's Hand, and this work is highly representative of his depictions. In terms of brushwork, this painting employs appropriately balanced ink variations to express the texture and three-dimensionality of objects through variations in ink depth. His brushstrokes are bold and powerful, full of rhythm, embodying the unique charm of Chinese painting's brushwork. In compositional layout, elements such as vase flowers, Buddha's hand, and teapot are rationally arranged, forming a harmonious whole. The use of blank space makes the painting feel both substantial and ethereally beautiful. In color usage, it employs relatively subtle tones, such as pink for the vase flowers and yellow for the Buddha's hand; these colors are both vivid and harmonious, giving a fresh and transcendent feeling. In terms of artistic conception, this painting conveys a quiet, elegant lifestyle interest through the depiction of still life. The vase flowers and Buddha's hand symbolize auspiciousness and longevity, reflecting the auspicious implications in Chinese traditional culture. The painting incorporates calligraphic elements, such as the inscription on the left, which not only enhances the cultural connotations of the painting but also achieves harmony between calligraphy and painting, demonstrating the characteristics of Chinese literati painting. Wu Changshuo's works possess a distinctive personal style, his paintings often carrying an unrestrained momentum while not lacking in delicate brushwork, a style fully embodied in *Vase Flowers and Buddha's Hand*.



Figure 4 *Vase Flowers and Buddha's Hand* by Wu Changshuo, Qing Dynasty



Figure 5 *Life Drawing Album: Buddha's Hand and Vermillion Orange* by Yun Shouping, Qing Dynasty



Figure 6 New Year's Painting by Ren Bonian, Qing Dynasty



Figure 7 New Year's Pure Offerings Painting by Ju Chao, Late Qing Dynasty



Figure 8 Pure Offerings Painting by Xu Gu, Late Qing Dynasty

Qing Dynasty Yun Shouping, renowned for his life-drawing flower paintings, was known for his fresh, elegant style with bright colors and delicate brushwork. *Life Drawing Album: Buddha's Hand and Vermillion Orange* (Figure 5) is one of Yun



Shouping's life drawings. His life drawing works emphasize the true representation of natural objects; in this painting, the Buddha's hand and vermilion orange appear lifelike, with meticulous detail treatment, demonstrating the artist's deep observation of nature. The colors in the painting are vibrant yet elegant, with the yellow of the Buddha's hand contrasting sharply with the red of the vermilion orange, enriching the painting while enhancing visual impact. Yun Shouping employed delicate brushwork in this painting, expressing the texture and three-dimensionality of the Buddha's hand and vermilion orange through variations in ink and color gradation. The composition of Buddha's hand and vermilion orange is rational, forming a harmonious whole. Yun Shouping skillfully uses blank space, making the painting feel both substantial and ethereally beautiful. Through the depiction of Buddha's hand and vermilion orange, the painting conveys a fresh, tranquil artistic conception, reflecting Yun Shouping's praise and pursuit of natural beauty. On the left side of the painting, Yun Shouping inscribed verses, which not only enhance the cultural connotations but also achieve harmony between calligraphy and painting, fully displaying literati style.

Ren Bonian was a famous painter of the late Qing Dynasty, renowned for his figure and bird-and-flower paintings. *New Year's Painting* (Figure 6) is one of Ren Bonian's works. *New Year's Paintings* typically use Spring Festival as the background, possibly including festival-related elements such as flowers and fruits to express New Year blessings and expectations. This painting employs rich colors, such as red flowers symbolizing festivity and auspiciousness, while other color combinations enhance the painting's visual effect. The elements in the painting are rationally arranged, forming a harmonious whole. Ren Bonian skillfully uses blank space, making the painting feel both substantial and ethereally beautiful. The work is characterized by fluid brushwork and powerful lines, using delicate strokes to depict the forms of flowers and strong lines to express the texture of branches. The details of flowers and fruits in the painting are meticulously depicted, demonstrating the artist's deep understanding of natural objects and superb skills. The elements in the painting often carry specific cultural implications, such as flowers possibly symbolizing the arrival of spring and the prosperity of life, collectively forming a painting rich in cultural connotations.

Late Qing Dynasty Ju Chao's *New Year's Pure Offerings Painting* (Figure 7) is one of Ju Chao's works. Typically, "New Year's Day" refers to the first day of the lunar month, while "pure offerings" refers to elegant items displayed during festivals, such as flowers and fruits, to add festival atmosphere. In this painting, the Buddha's hand, as one element, often symbolizes auspiciousness and longevity in Chinese culture. Ju Chao's depiction of Buddha's hand in *New Year's Pure Offerings Painting* conveys New Year blessings and aspirations for a beautiful life. In the painting, the Buddha's hand's colors are vivid, contrasting with surrounding flowers and fruits, highlighting its

auspicious implications. The Buddha's hand employs delicate brushwork to express its texture and three-dimensionality, with fluid yet powerful brushstrokes, displaying its natural form. In *New Year's Pure Offerings Painting*, the Buddha's hand forms the composition along with other items such as chrysanthemums and strange rocks, creating a harmonious whole, emphasizing the relationships between items and spatial layout to create a balanced visual effect. Through the depiction of elements like the Buddha's hand, it demonstrates literati pursuit of natural beauty and attention to festival culture, conveying expectations for the New Year and wishes for a beautiful life.

Late Qing Dynasty Xu Gu's *Pure Offerings Painting* (Figure 8) has a minimalist style, with few elements in the painting, but each carefully selected and arranged to convey profound artistic conception. The painting demonstrates skillful brushwork techniques, with fluid and powerful lines and appropriately balanced ink tones, displaying the artist's superior control of brush and ink. In terms of color, it employs subtle tones, making the painting fresh and transcendent, reflecting the aesthetic characteristics of traditional Chinese painting. Elements such as vases, flowers, and fruits in the painting are rationally arranged, forming a harmonious whole. Xu Gu skillfully uses blank space, making the painting feel both substantial and ethereally beautiful. The profound artistic conception conveys a sense of transcending worldliness and pursuing spiritual freedom, reflecting the artist's inner cultivation and artistic pursuit. *Pure Offerings Painting* is not only a manifestation of Xu Gu's artistic achievement but also an important marker of the development of Qing Dynasty painting art. Through this painting, we can sense Xu Gu's pursuit of natural beauty and inheritance of traditional culture.

Late Qing Dynasty Zhao Zhiqian's *Pure Offerings Painting* (Figure 9) fully demonstrates his unique artistic style and profound cultural foundation. In this painting, Zhao Zhiqian uses his exquisite brushwork techniques, steady yet varied brushstrokes, and distinct ink gradations to skillfully express the texture and three-dimensionality of objects. His color usage is elegant yet rich, achieving harmony and layering through color contrast and modulation. In composition, Zhao Zhiqian emphasizes balance and symmetry, rationally arranging elements in the painting, highlighting the main subject while coordinating supporting elements to form a harmonious whole. His personalized style is fully embodied in the work, with brushstrokes containing deep understanding of natural objects and personalized artistic expression. Zhao Zhiqian also skillfully combines calligraphy with painting; the inscription on the left not only enhances the cultural connotations but also demonstrates the characteristics of Chinese literati painting. Emotional expression is another feature of Zhao Zhiqian's paintings, with his brushstrokes containing love and praise for natural objects, allowing viewers to sense the artist's emotional world. The elements in *Pure Offerings Painting*, such as flowers and fruits, possess not only natural beauty but also cultural implications, symbolizing the arrival of spring and the prosperity of life,



collectively forming a painting rich in cultural connotations. While inheriting tradition, Zhao Zhiqian also demonstrates his innovative spirit. His paintings breakthrough in both form and content, showing his exploration and innovation as an artist, whether in brushwork usage or compositional innovation. *Pure Offerings Painting* is not only a manifestation of Zhao Zhiqian's

artistic achievement but also an important marker of the development of Qing Dynasty painting art. Through this painting, we can sense Zhao Zhiqian's pursuit of natural beauty and inheritance of traditional culture, as well as his artistic innovation and exploration.



Figure 9 *Pure Offerings Painting* by Zhao Zhiqian, Late Qing Dynasty

Pure Offerings paintings were an important subject matter in Qing Dynasty literati painting, displaying cultural taste and festival atmosphere. They integrated elements of blessing and antiquity appreciation, becoming part of artistic innovation and social

cultural life, embodying people's aspirations for a beautiful life. Buddha's hand, symbolizing auspiciousness, frequently appears in *Pure Offerings* paintings, adding meaning and beauty to the compositions, which will not be analyzed individually here.



Figure 10 *Buddha's Hand Scroll* by Chen Shizeng, Modern - Contemporary



Chen Shizeng, a renowned modern - contemporary Chinese painter and art educator, demonstrated personal artistic style while inheriting tradition in his works. In *Buddha's Hand Scroll* (Figure 10), the brushwork flows naturally, with fluid and powerful lines effectively expressing the form and texture of the Buddha's hand. The composition is simple and clear, with the Buddha's hand prominently displayed as the main element, while the background remains blank, making the subject more distinct. In terms of color, it employs subtle tones, making the painting appear fresh and transcendent while reflecting the aesthetic characteristics of traditional Chinese painting. The inscriptions harmonize with the painting, with calligraphic strokes echoing painting brushwork, demonstrating the characteristics of Chinese literati painting. The painting conveys a sense of transcending worldliness and pursuing spiritual freedom, reflecting the artist's inner cultivation and artistic pursuit.

3.3 Modern "Art Praising Eight Treasures — Lingnan Chinese Medicine Culture Themed Art Exhibition" and Zhaoqing's Medicinal Materials

The "Art Praising Eight Treasures — Lingnan Chinese Medicine Culture Themed Art Exhibition" represents a deep integration of art and traditional Chinese medicine culture. Through artists' creations, it displays the aesthetic value and cultural significance of Zhaoqing's Chinese herbal medicines. Using the "Lingnan Eight Treasures" as cultural symbols, the exhibition aims to innovate while inheriting and promoting traditional Chinese medicine culture, allowing viewers to understand the form and properties of Chinese medicines while appreciating art, recognizing their nature and characteristics.

Eight artists approached from different perspectives, refining and transforming, exercising their respective artistic expressiveness to demonstrate the diversity and richness of the "Lingnan Eight Treasures". Chen Zhonglin uses ink to express the elegance of the Eight Treasures, Tian Aihua's depictions are fresh and graceful, Chen Zhihan's freehand brushwork conveys magnificent qualities, while Huang Yongyin focuses on expressing the beauty of Chinese herbs in different growth states. The artists emphasize depicting the natural spirit and essence of Chinese herbs. Tian Aihua, while focusing on the external morphology and characteristics of medicinal materials, also attends to their life forms, emphasizing artistic aesthetic principles.

Furthermore, the exhibition represents an interaction between art and science. Cai Haibiao conducted in-depth research on the microscopic tissue structure of the Eight Treasures medicines, expressing their microscopic beauty through unique ink effects and comprehensive materials. The legends and emotions associated with Lingnan Chinese herbs are also integrated into artistic creation. He Yi incorporates his deep feelings and unique understanding of Chinese herbs into bird-and-flower painting creation, making Chinese herbs not merely specimens but part of thematic creation, creating new artistic realms.

Through these works, the exhibition not only displays the natural beauty of Lingnan Chinese herbs but also conveys the artists' understanding and respect for traditional Chinese medicine culture, as well as their exploration of combining art and science. Such artistic presentation not only provides viewers with a visual feast but also offers new forms and pathways for the dissemination and popularization of traditional Chinese medicine culture.

4. SIGNIFICANCE OF ZHAOQING'S CHINESE HERBAL MEDICINE BIRD-AND-FLOWER PAINTING CREATION

In today's context of flourishing multicultural development, Zhaoqing's Chinese herbal medicine bird-and-flower painting creation shines like a brilliant pearl, radiating unique brilliance. Its significance is profound and extensive, spanning crucial areas including educational popularization, cultural inheritance and innovation, social influence, and cultural confidence building.

4.1 Educational Beacon for Knowledge Dissemination

Zhaoqing's Chinese herbal medicine bird-and-flower painting creation, with its unique artistic charm, has become a key to popularizing Chinese herbal medicine knowledge and opening the door to public understanding of traditional Chinese medicine culture. Artists serve as knowledge dissemination ambassadors, deeply mining wisdom treasures from traditional Chinese medicine classics such as *Compendium of Materia Medica*, carefully selecting representative and common Chinese herbs such as ginseng, mint, and clove as creative materials, and using refined Chinese painting techniques to vividly present them on scrolls.

Taking artists like Wan Fu as examples, their Chinese herbal medicine bird-and-flower paintings are far from simple botanical copying. Every leaf texture, every flower pistil's posture is depicted meticulously, demonstrating both the natural appearance of Chinese herbs and artfully incorporating artistic vitality and spirit. When viewers stand before these paintings, they seem able to touch the vibrant life force of Chinese herbs through the canvas, sensing the thousand-year-old medical wisdom they carry. This intuitive and highly infectious presentation method breaks down the barriers of traditional Chinese medicine knowledge learning, allowing the public to easily absorb Chinese herbal medicine knowledge while appreciating artistic beauty, imperceptibly raising their understanding of traditional Chinese medicine culture, and laying a solid foundation for further exploration of the traditional Chinese medicine world.

4.2 Solid Bridge for Cultural Inheritance and Innovation

In the river of culture, bird-and-flower painting, as an important branch of traditional Chinese painting art, has a long history. The rise of Zhaoqing's Chinese herbal medicine bird-and-flower painting creation has injected new vitality into this ancient art



form, building a solid bridge for inheriting and innovating Zhaoqing's Chinese herbal medicine culture.

On one hand, artists maintain reverence for traditional culture, integrating Chinese herbal medicines, elements with strong local characteristics, into bird-and-flower painting creation, continuing the artistic tradition of expressing ideas through objects and emotions through scenes in bird-and-flower painting. Through precise grasp of Chinese herbs' forms and characteristics, they create unique artistic conceptions in paintings, expanding traditional bird-and-flower painting subjects and bringing new vitality. For example, the emergence of the *Hundred Herbs Collection* bird-and-flower painting collection, as the country's first bird-and-flower painting collection themed on Chinese herbs, carries heavy historical heritage and cultural expectations. It not only faithfully records the external appearance of Chinese herbs but also perfectly combines traditional Chinese medicine cultural connotations with artistic aesthetics, becoming a vivid example of traditional Chinese medicine culture inheritance.

On the other hand, this creative form boldly breaks through traditional painting's expressive boundaries, encouraging artists to reinterpret Chinese herbs using modern aesthetic concepts and innovative painting techniques. From bold attempts in color usage to ingenious compositional layouts, each innovative exploration is like injecting new blood into the veins of traditional Chinese medicine culture inheritance, ensuring that ancient Chinese herbal medicine culture keeps pace with the times, entering modern people's vision with a new appearance, ensuring it never fades in cultural tides.

4.3 Powerful Engine for Social Influence and Cultural Confidence

Zhaoqing's Chinese herbal medicine bird-and-flower painting creation acts like an invigorating cultural spring breeze, sweeping through all corners of society, playing an immeasurable role in enhancing public love for traditional Chinese art and boosting cultural confidence.

Artists like He Yi pour their deep emotions and profound insights about Chinese herbs into every bird-and-flower painting work. In his creations, Chinese herbs have transcended the realm of mere botanical specimens, ascending to become artistic themes with profound connotations. Through the paintings, viewers can deeply sense the artists' reverence and love for traditional Chinese medicine culture, triggering emotional resonance. These works frequently appear in various exhibitions and cultural exchange activities, attracting audiences of different ages and backgrounds to stop and appreciate. They act like cultural magnets, sparking public curiosity and desire to explore Chinese traditional art, motivating more people to actively visit museums and art galleries, study traditional Chinese medicine classics, and engage in traditional art learning and creation.

As the influence of Zhaoqing's Chinese herbal medicine bird-and-flower painting continues to expand, social attention to traditional Chinese medicine culture has risen accordingly. While appreciating traditional artistic charm, people have begun to re-examine the profound depth of Chinese traditional culture, feeling proud to be children of China. This confidence, stemming from cultural identity, in turn provides continuous spiritual momentum for the inheritance and innovation of traditional Chinese medicine culture and the development of Chinese traditional art, forming a virtuous cycle that propels the entire society toward cultural prosperity and flourishing.

Zhaoqing's Chinese herbal medicine bird-and-flower painting creation is far more than a simple artistic endeavor; it carries the important task of educational popularization, shoulders the mission of cultural inheritance and innovation, and serves as a key force in stimulating social cultural vitality and building cultural confidence. In its future development journey, it will continue to radiate brilliance, writing more colorful chapters, helping Chinese excellent traditional culture set sail in the new era.

Funding Project

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IMPACT OF SOCIAL ENTREPRENEURSHIP ON EMPOWERMENT OF ARTISANS- A STUDY WITH SPECIAL REFERENCE TO CEKIA

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ABSTRACT

Social Entrepreneurship is the organisation of business around specific social and environmental causes and it can operate as a non-profit, for-profit, or hybrid business (also known as a social enterprise). Some key areas of interest for social entrepreneurs might include Unemployment, Economic development, Education, Gender equality, Health care, agriculture, environmental sustainability, Renewable energy, Community development etc. Unemployment is one of the key problems faced by rural economy which hinders the economic development. Through proper and systematic training, it is possible to create the employment opportunities and alleviation of poverty. This paper aims to contribute better understanding of the role of social enterprise in empowering artisans through training at free of cost in rural areas and prevent from migrating to urban areas. To assess the role of social enterprise, the paper focuses on a case study of social enterprise of Coastal Karnataka ie CEKIA . By employing in-depth interviews with beneficiaries of such enterprise, the empirical study will focus on the assessment of the role social enterprise might play on various dimensions of artisans' empowerment in rural areas.

KEYWORDS: Social Entrepreneurship, Empowerment, Unemployment and Training

INTRODUCTION

The term social entrepreneur and social entrepreneurship were used first in literature on social change in the 1960s and 1970s. the term came into widespread use in 1980s and 1990s, promoted by Bill Drayton the founder of Ashoka: innovator for the public and others such as Charles Leadbeater. The social entrepreneurship generally defined as "Entrepreneurship activity with an embedded social purpose. The social entrepreneurship is most applicable in developing and underdeveloped countries. India being a developing nation has its own social challenges and social developmental issues. Social entrepreneurship can resolve all the social inequalities which are prevailing in India. In recent times, some startups/new ventures has developed keeping social interests in mind and providing sustainable solution to social issues and earning their profits as well. Since the nature of profit is all, this makes the difference in economic and social entrepreneurship. Social entrepreneurship in India has wider scope than economic entrepreneurship A Social Entrepreneurship is an organization which uses business methods to address a social or environmental problem in an innovative way. While a business entrepreneur typically measures performance in profit and return, a social entrepreneur also measures positive returns to society. Thus, the main aim of social entrepreneurship is to further broaden social, cultural, and environmental goals. Social entrepreneurs are commonly associated with the voluntary and not-for-profit sectors, but this need not preclude making a profit.

SIGNIFICANCE OF THE STUDY

India is a country of villages. Majority of the population stay in rural India. One of the biggest problems in rural economy is unemployment. With lower level of education unable to get better job in general and for the artisans in particular. To sharpen their skills in their field there is a need of Institution to train them. To address the problems like unemployment, poverty, inequality etc, economic empowerment of the people is very essential. This can be achieved through proper and systematic training to address such issues. It enables the opportunity for earning either by self-employment or by working as employee under others which in turn leads to economic empowerment.

OBJECTIVES OF THE STUDY

1. To study the nature of activities of the social entrepreneur
2. To analyse the effectiveness of social entrepreneur on Artisans empowerment

HYPOTHESIS

Null Hypothesis Ho: There is no significant difference in the monthly family income before and after involving in income generating activities (IGA)

Alternative Hypothesis H1: There is a significant difference in the monthly family income before and after involving in income generating activities (IGA)



METHODOLOGY

It was an empirical study based on primary as well as secondary data. The primary data were collected through well designed and structured questionnaire. Through Personal interview data was collected from the beneficiaries and officials of social enterprise. For secondary data, reports of social enterprise, journals and books were used.

SAMPLING DESIGN

The sample size for the study was 30 from Coastal Karnataka and Malnad Region. MS excel was used for analysis of data collected. As they are scattered all over Karnataka, purposive sampling was done.

ORGANISATIONAL PROFILE

Canara Bank Sponsored CE Kamath Institute for Artisans (CEKIA) was established in 1997 with an object of creating and

generating self-employment opportunities by offering training in the field of wood and stone carving, Metal embossing and Kumbha art. This Institute is located in Miyar near Karkala at a cost of Rs. 1.25 Crore. It is commendable that the institute provides training by bearing all the expenses of food, accommodation and raw material required for training, educational tour to the students free of charge. Interested candidates should have passed 7th standard, and age limit should be 18 to 35 years The duration of training in wood, stone carving and metal sculpture is 18 months. Training is provided by a team of skilled teachers.

About 984 students are trained in handicrafts in this institute and 98 percent of them are gainfully employed. In addition to this, more than fifty students who have studied in this institution have been honored with national and state level awards.

RESULTS AND ANALYSIS

Table No 1: Personal profile of the respondents

Variable	Options	Frequency	Percentage
Age	Below 30 years	8	26.67
	30-40 years	17	56.67
	41-50 years	4	13.33
	51-60 years	1	3.33
	Total	30	100.0
Religion	Hindu	30	100
	Total	30	100.0
Educational qualification	High School	15	50
	Pre-University	11	36.6
	Graduate	2	6.7
	ITI/ Diploma	2	6.7
	Total	30	100
Marital status	Single	12	40
	Married	18	60
	Total	30	100.0

Table No 1 shows the age profile of the respondents. Majority of the respondents (56.67%) are belonged to 30-40 years, 26.675 of them from below 30 years and only 13.33% of them belong to 41-50 years whereas only 3.33% of them are from 51-60 years. The above table states that all the respondents belong to Hindu religion.

It is observed that the educational qualification of the beneficiaries is very less. 50% of them are having only High school education, whereas 36.65 of them are having Pre university qualification. Only 6.7% of them are degree holders as well as ITI/ Diploma holders. It is fact noticed that 60% of respondents are married and 40% of them are still single

Table No 2: Sources of Information about the social enterprise

	No of respondents	Percentage (%)
Newspapers	4	13.3
Beneficiaries	17	56.7
Family members	9	30
Total	30	100.0

From table No 2, it is observed that the main source of information about the social enterprise is beneficiaries. 30% of them opined that their source of information is family members

and only 13.3% of the got the information about the social enterprise from newspaper.



Table No 3: Earlier Position (Before Involving in IGA) of the respondents.

	No of responses	Percentage (%)
Employed	12	40
Un employed	10	33.3
Self Employed	8	26.7
Total	30	100.0

It is clear from the table No 3 that 40% of the respondents are employed with others before involving themselves in Income

generating activities whereas 33.3% of them are unemployed and 26.7% of the respondents are already involved in IGA.

Table No 4: Reasons for involving in IGA

	No of respondents	Percentage (%) out of 30
Low earnings earlier	17	56.7
Possibility of improving income	30	100
Any other (Passion)	8	26.7

It is crystal clear from Table No 4 that, 100% of the respondents opined that reason for involving in IGA is possibility of improving income whereas 56.7% of them told that earlier they

had low income and to increase their income they involved in IGA and very interesting part is that 26.7% of them involved in IGA out of their passion.

Table No 5. Motivational factors for joining social enterprise

	No of responses	Percentage (%) Out of 30
For Economic Empowerment-Placement/ Self employment	30	100
For participating in Training and development programme	30	100
For social empowerment	30	100

From the table No 5, all the respondents stated the motivational factors for joining Social Enterprise are economic

empowerment, for participating in training and for social empowerment.

Table No 6. How did the respondents involve in income Generating Activities

	No of respondents	Percentage (%)
Have started IGA by own	21	70
Have inherited it from family	9	30
Total	100	100.0

From table no 6 it is found that 70% of the respondents started their IGA on their own whereas for 30% it was inherited from family.

Table No 7: No. of employees working in Income Generating Activities

	No of respondents	Percentage (%)
None	2	6.7
1-2	10	33.3
3-5	7	23.3
6-10	8	26.7
More than 10	3	10
Total	30	100.0

The above Table No 7 states the number of employees working in their organisation. In 33.3% respondents' business 1 to 2 employees are working, 26.7% of the respondents opined that 6 to 10 employees employed in their business and 23.3% of

them working with 3 to 5 employees and only 6.7% of them are working on their own without workers. As it is a wood work or stone work majority of them are provided employment opportunities for unemployed.



Table No 8: Area of Training provided

	No of responses	Percentage (%) out of 178
Accounting and Financial Management	0	0
Marketing	24	80
Skills Training	30	100
Income Generating activity (IGA)	30	100
Personality Development Training	30	100

From Table No 8, it is clear that the training program given mainly on IGA, skilled based training and for personality

development. 80% of them opined that there were session on marketing of products manufactured by them.

Table No 9: Opinion on effectiveness of the Training Program

	No of respondents	Percentage (%)
Very useful	30	100
Total	30	100

The above table No 9 states the effectiveness of the training program conducted by the social enterprise. All the respondents

are very much happy and satisfied about the quality of training program and the opined that it was very useful for them.

Table No: 10: Monthly income of the respondents

Income Level	Before involving in IGA		After Involving in IGA	
	No of respondents	Percentage (%)	No of respondents	Percentage (%)
Below Rs. 10,000	21	70	-	-
Rs.10,001 to 15,000	2	6.7	-	-
Rs. 15001 to 20000	2	6.7	-	-
Rs 20001 to 30000	4	13.3	2	6.7
Rs. 30001 to 40000	1	3.3	10	33.3
Above 40,000	-	-	18	60
Total	30	100	30	100

The income of the respondents before and after involving in IGA are stated in Table No 10. It is clear from the table that 70% of respondents' income was below 10,000 earlier, 6.7% of them had only 10,000 to 15,000 and 6.7% of them had 15,001 to 20,000.13.3% opined that their income before involving in IGA

was between 20001 to 30000. Because of training program obtained from social enterprise their income has increased drastically. Majority of them earn more than 40,000 income per month. 33.3% of them gets income between 30001 to 40000.

Table No 11: Level of Satisfaction about the Social Enterprise

	No of respondents	Percentage (%)
Satisfactory	1	3.3
Highly Satisfactory	29	96.7
Total	30	100.0

From the table No 11, it can be seen that 96.7% of the respondents are highly satisfied about the performance of social enterprise whereas only 3.3% of them are satisfied with the activities of social enterprise.

HYPOTHESIS TESTING

Hypothesis was tested by using non-parametric test Wilcoxon signed Ranks.

Wilcoxon signed Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	0	.00	.00
Positive Ranks	30	15.50	465.00
Ties	0		
Total	30		



TEST STATISTICS

Z	-4.824
Asymo. Sig (2 -tailed)	.000

RESULT

Significance value (0.000) is less than 0.05, we can Reject the null hypothesis or we can accept the alternative hypothesis i.e. there is a significant difference in the monthly income before and after involving in Income Generating Activities.

SUGGESTIONS

1. The handicraft art training program given by the social entrepreneur for a period of 18 months. It is advisable to organise the training program to upgrade and update themselves in the prescribed field.
2. It is recommended to provide extensive training on marketing skills for the artisans.
3. It is noticed that government support is very minimum for rural artisans. Hence, the government should extend its helping hand to rural artisans.

CONCLUSION

The study has observed that even though the educational qualification is low among rural artisans, empowerment of artisans took place at a higher level. this is only because of the training program provided by the social enterprise. The success rate of trainees is also around 98%. By providing the training to women artisans and also in other fields it is possible to uplift the rural economy and it can reduce the migration of people to urban area in search of job. It is advisable to use of social media to create an awareness about the institution and also publish the success to reach the needy and interested artisans.

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WOMEN IN GOVERNANCE: ANALYZING THE IMPACT OF PANCHAYAT PRESIDENTS IN MANDYA DISTRICT, KARNATAKA

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ABSTRACT

Governance Dynamics and Leadership Experiences of Women Panchayat Presidents in Mandya District, Karnataka. They study the factors that might shape their roles, challenges, and contributions to rural development in the socio-political and cultural context. Results demonstrate how difficult women are able to bring change in politics due to the dual barriers from gender bias and institutional constraints. However, they give examples of how transformational leadership could guide local governance and development processes. This study highlights the significance of capacity building among female leaders in grassroots institutions. It makes specific recommendations for enhancing their effectiveness and engagement within Panchayati Raj Institutions.

KEYWORDS: Gendered governance, Panchayati Raj Institutions, Women's leadership, Mandya District, Local governance, Karnataka.

I. INTRODUCTION

Panchayati Raj Institutions (PRIs) not only serve as the foundation of India's decentralized governance, but they also help rural communities gain self-government. PRIs, which were enacted as part of the 73rd Constitutional Amendment in 1993, provide a governance system from the village, block, and district levels, ensuring grassroots participation in decision-making. These institutions are given responsibility for rural development, resource management, and the implementation of welfare programs. PRIs promote local accountability and openness, ensuring a link between rural communities and various government entities. Aside from that, PRIs play an important role in supporting inclusive growth and uplifting marginalized groups, particularly by allowing women to hold one-third of Panchayat leadership positions.

Women's participation in local government is essential to attaining inclusive and equitable development. As leaders, they establish distinct viewpoints and objectives when making decisions, placing a greater emphasis on social welfare, education, health, and communal well-being. Transparency, accountability, and responsiveness in governance all improve as a result. In addition, the active participation of women in leadership positions challenges long-standing gender stereotypes and motivates the next generation to halt the cycle of gender inequality. In order to support co-gender initiatives, take into account the concerns of particular oppressed groups, and ultimately support comprehensive rural development, women Panchayat Presidents in Mandya District are transforming traditional governance structures.

Mandya District, often referred to as the "Sugar Bowl of Karnataka," is known for its fertile agricultural lands and strong rural community structures. The district comprises seven

taluks, each with its own network of Gram Panchayats, which form the grassroots level of governance. These Panchayats play a pivotal role in implementing government schemes, managing local resources, and addressing community needs. Women's participation in the Panchayats of Mandya is particularly significant given the district's socio-cultural context, where traditional gender roles often influence governance dynamics. The presence of women leaders in Mandya's Panchayats represents a transformative shift towards more inclusive and representative local governance, offering unique insights into the intersection of gender and rural administration.

II. LITERATURE REVIEW

The leadership of women in Panchayati Raj Institutions (PRIs) has been a focal point of research in understanding grassroots governance and gender inclusivity. Scholars highlight the transformative impact of the 73rd Constitutional Amendment, which institutionalized the reservation of seats for women in PRIs, as a pivotal step toward gender equity in governance (Chaudhary, 2016). Research has shown that women leaders often prioritize community-centric issues such as healthcare, education, and water management, thereby contributing to sustainable development (Singh & Sharma, 2018).

However, studies also document persistent challenges faced by women in these roles. Gender dynamics within PRIs often reflect broader societal norms, with women leaders encountering resistance, lack of support, and tokenism (Patel, 2017). Socio-cultural barriers such as patriarchal attitudes, limited mobility, and inadequate education frequently impede their decision-making capacity and leadership efficacy (Rajasekar, 2019).



Policy frameworks and training programs have emerged as critical enablers for empowering women leaders. Capacity-building initiatives, including leadership training and awareness campaigns, have been identified as effective tools in enhancing women's participation and performance in PRIs (Kumar, 2020). Despite these advancements, gaps remain in addressing intersectional issues, such as caste and economic disparities, which further marginalize women leaders in rural settings (Desai, 2021).

Specific to Karnataka, research emphasizes the unique interplay of regional socio-cultural factors and governance structures. While the state has made significant progress in promoting women's leadership, districts like Mandya highlight both the potential and limitations of these initiatives (Iyer, 2022). Existing literature underscores the need for localized studies to explore the lived experiences of women Panchayat Presidents in Mandya, focusing on their contributions, challenges, and the socio-political context of their leadership.

III. OBJECTIVE OF THE STUDY

1. Analyze the role of women Panchayat Presidents in Mandya.
2. Examine the challenges faced by women leaders in local governance.
3. Assess the impact of women's leadership on rural development.

IV. RESEARCH METHODOLOGY

This study employs a qualitative research design to explore the governance dynamics and leadership experiences of women Panchayat Presidents in Mandya District, Karnataka. A case study approach was adopted to gain in-depth insights into the socio-political and cultural factors influencing women's roles in local governance. The case study design allows for a detailed examination of specific instances and contexts of leadership, providing a rich understanding of the challenges and contributions of women leaders.

Secondary Data Collection

Relevant documents, reports, and academic literature on Panchayati Raj Institutions and women's leadership were reviewed to provide a comprehensive context for the study. Statistical data and policy documents related to Mandya District's Panchayati Raj were also analyzed.

Limitations of Research

The study's findings are limited to the Mandya District and may not be generalizable to other regions. Additionally, the reliance on qualitative methods might introduce subjective biases, though efforts were made to triangulate data sources for reliability.

V. Role of women Panchayat Presidents in Mandya:

Women's empowerment in rural governance is an important part of India's democratic framework, especially since the 73rd Constitutional Amendment was passed in 1992, mandating the reservation of seats for women in Panchayats. In Mandya, a district in Karnataka, women Panchayat Presidents play an

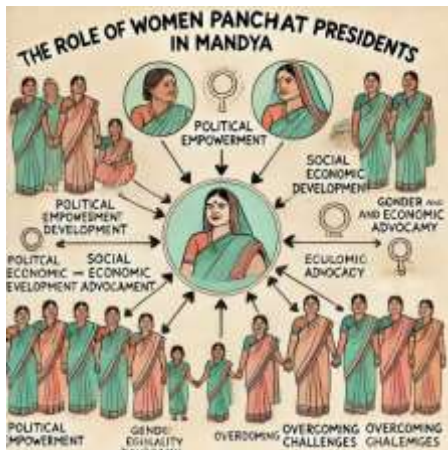
important role in local governance by driving social and economic growth, campaigning for gender equality, and addressing community concerns. Their leadership is reshaping the rural landscape, but it also presents distinct challenges that must be solved in order to achieve long-term growth.

Women Panchayat Presidents have had a significant impact in Mandya, particularly in terms of political empowerment and leadership. The reservation policy has allowed many women to advance to positions of leadership, where they can influence local policies and choices. These women frequently bring new viewpoints and leadership approaches, emphasizing diversity and community-based solutions. Their leadership not only encourages women to participate in politics, but it also inspires others to take an active role in governance and policymaking.

Women Panchayat Presidents play an important role in social and economic development, advocating for issues that affect rural communities directly. For example, many female Presidents in Mandya prioritize education, health, sanitation, and infrastructure development in order to improve the quality of life for their constituents. Their projects frequently address the unique needs of women and children, granting them more access to education, healthcare, and economic possibilities. Programs like women's self-help groups (SHGs) and skill development projects have helped to increase women's economic independence and strengthen local economies.

Economic empowerment is another important area in which female Panchayat Presidents have made a difference. They advocate for measures that benefit women and marginalized groups of society by increasing participation in local economic activity. They contribute to their communities' financial well-being by focusing on agricultural initiatives, rural job programs, and sustainable livelihoods. Despite their tremendous achievements, female Panchayat Presidents in Mandya confront numerous hurdles. The firmly ingrained patriarchal ideas frequently generate resistance from male counterparts and community members, limiting their ability to work autonomously. In many cases, male relatives or political parties undermine women leaders, limiting their decision-making autonomy. This power inequality undermines good governance and limits women leaders' ability to affect long-term change.

Another important component of their work is their capacity to engage in local issues and promote grassroots development. Women Panchayat Presidents in Mandya frequently have a better grasp of the challenges encountered by rural communities, and their compassionate approach to governance enables them to solve concerns such as water supply, waste management, and healthcare. They oversee the successful execution of development programmes that fit the specific requirements of their communities by collaborating with local bodies, government agencies, and non-governmental organisations (NGOs).



VI. THE CHALLENGES FACED BY WOMEN LEADERS IN LOCAL GOVERNANCE

Women leaders in local governance play a crucial role in shaping policies and addressing community needs. However, they face significant challenges that hinder their effective participation and leadership. These challenges can be broadly categorized into social, political, economic, and structural issues.

A. Social Challenges

Social norms and gender bias remain significant hurdles for women leaders.

- **Gender Stereotypes:** Women are often perceived as incapable of handling leadership roles due to patriarchal beliefs.
- **Cultural Barriers:** Traditional societal expectations discourage women from participating actively in governance.
- **Lack of Support:** Many women leaders face resistance from their families and communities, limiting their ability to lead effectively.
- **Balancing Responsibilities:** Women leaders often struggle to balance domestic duties and their responsibilities in governance.

B. Political Challenges

- Despite constitutional provisions for women's representation, political challenges persist.
- **Limited Decision-Making Power:** Women leaders are often side-lined, with men making key decisions.
- **Token Representation:** In some cases, women are elected to fulfil quotas but lack real influence.
- **Lack of Mentoring:** The absence of experienced mentors further hinders their political growth.

C. Economic Challenges

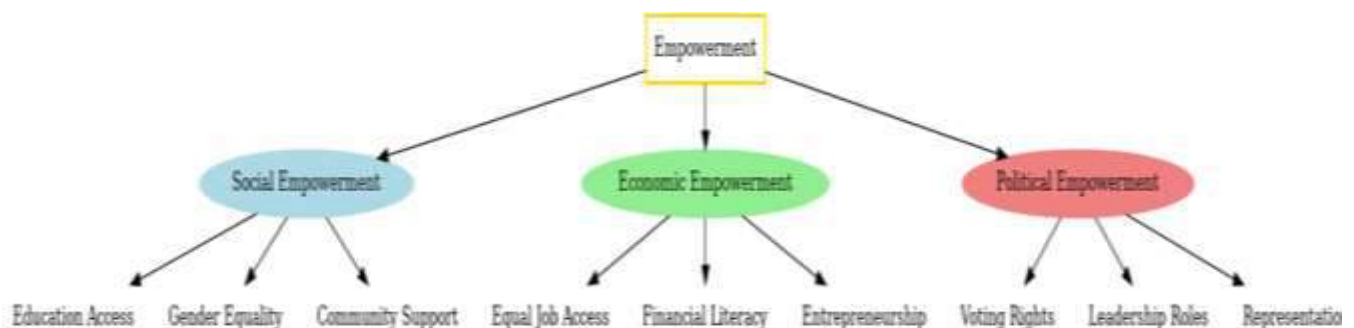
Economic constraints significantly affect women leaders' performance.

- **Limited Resources:** Women leaders often lack access to financial and infrastructural resources necessary for governance.
- **Wage Inequality:** Economic disparities persist, with women receiving less remuneration or funds than their male counterparts.
- **Dependence on Others:** Financial dependence on family or political allies undermines their autonomy.

D. Structural and Institutional Challenges

Institutional barriers and systemic resistance compound the difficulties faced by women leaders.

- **Bureaucratic Resistance:** Women often face non-cooperation from bureaucratic officials, making it difficult to implement policies.
- **Inadequate Training:** Many women leaders lack the necessary skills and training to navigate governance effectively.
- **Lack of Gender-Sensitive Policies:** Institutions often fail to provide support mechanisms tailored to women leaders.





Despite these challenges, women leaders in local governance continue to make a significant impact. Their resilience and determination are reshaping traditional norms and paving the way for future generations. Addressing these challenges requires a collective effort from society, policymakers, and institutions to create a more inclusive and supportive environment. Empowering women leaders will ensure holistic development and strengthen the democratic fabric of local governance.

VII. IMPACT OF WOMEN'S LEADERSHIP ON RURAL DEVELOPMENT

The impact of women's leadership on rural development is multifaceted and can significantly influence various dimensions of rural life, ranging from social and economic empowerment to policy formulation and community welfare. Here are some key ways in which women's leadership can impact rural development:

Women leaders in rural areas can catalyze social change by promoting gender equality, women's rights, and inclusive decision-making. They challenge traditional gender roles and bring attention to issues such as violence against women, child marriage, and gender-based discrimination, creating a more inclusive and equitable environment for all community members.

By creating community support networks, women leaders also strengthen social cohesion, promote community dialogue, and foster a sense of unity among different ethnic, social, or religious groups. This contributes to the overall social fabric of rural areas and enhances collective problem-solving capabilities.

Women in leadership roles are more likely to advocate for transparent and accountable governance. Their presence in local government and community leadership positions helps to promote participatory decision-making and more equitable distribution of resources. Women leaders also tend to prioritize policies that address basic needs, such as clean water, sanitation, education, and health, which disproportionately affect rural populations.

Furthermore, as women become more involved in decision-making, rural communities experience more inclusive and

democratic governance, where the voices of marginalized groups are heard and acted upon.

When women take on leadership roles, they create opportunities for other women and girls to aspire to positions of power and influence. Women leaders serve as role models and mentors, fostering an environment in which women's leadership is normalized and respected. This creates a virtuous cycle of empowerment that extends beyond one generation.

As women gain more leadership opportunities, there is often a reduction in gender-based violence and a shift in community attitudes toward gender roles, making it more acceptable for women to participate fully in all aspects of life, from politics to business to community development.

VIII. EMPOWERING WOMEN PANCHAYAT PRESIDENTS: RECOMMENDATIONS

To overcome the challenges faced by women Panchayat presidents in Mandya and other similar regions, the following measures could be implemented:

- **Capacity Building and Training:** Providing targeted training programs on leadership, governance, financial management, and political strategy would better equip women to navigate the complexities of local governance.
- **Supportive Networks:** Establishing women-only support groups and mentoring networks for Panchayat presidents can help create a sense of solidarity and provide a platform for sharing experiences and strategies.
- **Engaging Men and Boys:** Involving men and boys in gender sensitivity programs can help break down patriarchal attitudes and foster a more inclusive political culture where women's leadership is accepted and respected.
- **Resource Allocation:** Ensuring that women Panchayat presidents have access to adequate resources and funds would increase their ability to drive community development and implement women-centered policies.

IX. CONCLUSION

The Women Panchayat Presidents of Mandya District occupy a significant and, at the same time, intricate space that combines politics, women leadership & local Governance. Despite facing serious challenges due to patriarchal norms, lack of resources and political marginalisation on one hand women in leadership roles in these rural governance bodies have transformed the functioning of these institutions for better. Their leadership markedly drives inclusive governance and, more broadly, the transformation of women as well as communities in their power to act. Removing these constraints and enabling equal opportunity that translates to the capabilities of women Panchayat presidents can unlock a significant impact on rural development in Mandya, as well as nationally. The future of rural administration is significantly shaped by the involvement of female Panchayat Presidents in Mandya. By promoting social and economic advancement, fighting for gender equality, and removing barriers erected by patriarchal structures, their



leadership is revitalizing local communities. It is crucial to give these leaders improved training, social support structures, and policies that take into account their particular difficulties in order to empower them further and increase their efficacy. Women Panchayat Presidents have the potential to be change agents in Mandya if given enough assistance, guaranteeing that rural governance stays sustainable, progressive, and inclusive.

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EFFECTIVENESS OF INFLUENCER MARKETING IN PROMOTING AYURVEDIC HEALTH AND WELLNESS BRANDS – A STUDY WITH SPECIAL REFERENCE TO KERALA

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ABSTRACT

The increasing consumer inclination toward natural and holistic health solutions has bolstered the popularity of Ayurvedic health and wellness brands. This study explores the effectiveness of influencer marketing in promoting Ayurvedic brands, with a specific focus on the state of Kerala, renowned for its rich Ayurvedic heritage. The research evaluates the impact of influencers in driving consumer awareness, trust, and purchase decisions within this niche market.

Drawing on data from surveys, interviews, and secondary research, the study examines the dynamics between influencers, their followers, and Ayurvedic brands. Key factors such as authenticity, content quality, follower engagement, and the alignment of influencer values with Ayurvedic principles are analyzed. The role of regional influencers in Kerala is also highlighted, given their cultural relevance and ability to connect with local audiences.

Findings reveal that influencer marketing significantly enhances brand visibility and trustworthiness for Ayurvedic products, especially when influencers are perceived as authentic and knowledgeable. The study identifies content formats, such as testimonials and educational posts, as particularly impactful in driving consumer interest. Additionally, the research underscores the importance of selecting influencers who resonate with the principles of Ayurveda to maintain credibility and brand alignment.

This study contributes to the growing body of literature on digital marketing in niche sectors and provides actionable insights for Ayurvedic brands aiming to leverage influencer marketing effectively in Kerala. The findings have broader implications for marketers seeking to combine traditional wisdom with modern promotional strategies to reach target audiences authentically.

KEYWORDS: Influencer Marketing, Ayurvedic Health Products, Digital Marketing Strategies, Consumer Behavior

1.1 INTRODUCTION

Ayurveda, an ancient system of holistic medicine originating in India, has gained significant global recognition for its natural and sustainable approach to health and wellness. The increasing consumer preference for chemical-free and eco-friendly alternatives has propelled the growth of Ayurvedic health and wellness brands. However, in a competitive marketplace dominated by modern medicine and wellness solutions, effective marketing strategies are crucial for Ayurvedic brands to carve a niche and expand their consumer base.

Among the various modern marketing techniques, influencer marketing has emerged as a powerful tool for connecting brands with their target audiences. By leveraging the credibility and reach of social media influencers, brands can effectively communicate their message to consumers in an engaging and relatable manner. For Ayurvedic products, which rely heavily on consumer trust and an understanding of their traditional roots, the selection of authentic and aligned influencers is paramount.

Kerala, known as the cradle of Ayurveda, presents a unique case for studying the effectiveness of influencer marketing in promoting

Ayurvedic health and wellness brands. With its rich cultural heritage and a population that deeply values Ayurveda, the state

offers a fertile ground for exploring how influencers can shape consumer perceptions and purchasing behaviors in this domain. This study aims to investigate the role of influencer marketing in enhancing the visibility and credibility of Ayurvedic brands in Kerala. It examines the factors contributing to successful campaigns and provides insights into how traditional wisdom can be effectively integrated into modern marketing practices.

1.2 REVIEW OF LITERATURE

Patwardhan, B. (2023) - A Comparative Analysis of Ayurveda and Traditional Chinese Medicine, This paper highlights the global resurgence of Ayurveda and Traditional Chinese Medicine (TCM), emphasizing their shared holistic approach to wellness. The study discusses the increasing global recognition of these systems as viable alternatives to conventional medicine, attributing their popularity to a growing awareness of integrative healthcare and patient demand for natural treatments.

Jose, S. (2024) - Consumption Pattern of Cosmetics Among Consumers in Kerala

The study investigates the rising preference for natural and organic products, particularly in Kerala, a state with a deep-rooted association with Ayurveda. It examines consumer behavior and identifies trends in adopting Ayurvedic health and beauty products as alternatives to synthetic cosmetics.



Bugier, C., & Bidasaria (2012) -When Healing is More Than Good: Ayurvedic Cluster in Kerala, The research explores Kerala's status as a hub for Ayurvedic products and services, examining branding initiatives aimed at positioning the state as a global wellness destination. It also delves into the economic and cultural implications of the Ayurvedic industry.

George, L. (2022) - Promotional Factors of Ayurveda Health Tourism in Kerala

This paper identifies the primary factors contributing to the growth of Ayurveda-based health tourism in Kerala. It emphasizes marketing strategies, including the use of influencers, to enhance brand visibility and attract health-conscious tourists globally.

Swain, S. K. (2023) - Destination Image of Kerala as an Ayurvedic Healthcare Destination

This study analyzes the branding of Kerala as an Ayurvedic healthcare destination, focusing on the use of digital marketing and influencer campaigns to appeal to global health tourists seeking natural treatments.

Steena, J. (2022) - Wellness Industry Among IT Professionals in Kochi City

This research explores wellness industry trends, emphasizing the adoption of Ayurvedic practices by urban professionals. It discusses how targeted marketing strategies can address the needs of this demographic.

Praveen, A. (2024) - Influence of Social Media on Health Maintenance Strategies Adopted by College Students in Kochi The study examines the impact of social media influencers in shaping young adults' health practices, particularly promoting Ayurvedic wellness products and services in Kerala.

Varghese, A. A., & Zacharias, S. (2020)

Scope of Digital Marketing in Medical Tourism: Ayurvedic Tourism in Ernakulam District This paper explores how digital marketing platforms and influencers contribute to positioning Ayurvedic tourism in Ernakulam as a premium health and wellness destination.

Bandyopadhyay, R., & Nair, B. B. (2019)

Marketing Kerala as God's Own Country for Spiritual Transformation and Rejuvenation This study examines the integration of Ayurveda in Kerala's global marketing campaigns, highlighting its appeal for holistic health and spiritual tourism.

Madhavan, H., & Soman, S. (2022) - Industry Dynamics and Clustering in Ayurvedic Pharmaceutical Production in South India

This paper analyzes the industrial dynamics of Ayurvedic product clusters in Kerala, emphasizing collaborative marketing strategies and their role in enhancing global visibility.

Ramesh, U., & Joseph, K. (2011) - A Study to Evolve an Effective Marketing Plan to Enhance Wellness Tourism in

Kerala - This paper explores marketing strategies for promoting Kerala as a wellness destination, focusing on Ayurvedic tourism's appeal. It highlights the role of government and private enterprises in branding Ayurveda globally.

KR, M. (2024) - The Role of Technology in Promoting Wellness Tourism: A Case Study of Thrissur, Kerala This research examines the use of digital tools and social media platforms in increasing visibility and brand presence for Ayurvedic wellness tourism in Thrissur.

Mahale, P. (2023) - Determinants of Customers' Trust in Ayurvedic Products—A Review

This paper evaluates the factors influencing consumer trust in Ayurvedic products, focusing on the importance of authenticity and influencer-driven marketing.

Mayya, S. R. (2022) - Factors Influencing Buying Behaviour of Ayurvedic Products: A Review The study explores the impact of social, cultural, and digital influences on the purchasing decisions for Ayurvedic products, particularly in Kerala's northern regions.

Kudlu, C. (2016) - Keeping the Doctor in the Loop: Ayurvedic Pharmaceuticals in Kerala

This paper discusses the interplay between traditional Ayurvedic practices and modern pharmaceutical marketing strategies in Kerala.

Mahale, P. (2024) - Analyzing Customers' Trust in Ayurvedic Product Consumption: Development of Conceptual Model This study develops a model to measure trust in Ayurvedic products, examining the role of influencers and digital outreach in consumer behavior.

Ramesh, U., & Kurian, J. (2010) - Ayurvedic Health Tourism in Kerala: A Study on the Market Potential Catering to Customer Perceptions, The paper evaluates market opportunities in Ayurvedic health tourism, focusing on customer satisfaction and loyalty to Kerala's Ayurvedic offerings.

Aswathy, V. K., & Kumar, S. (2025) - Traditional Healing Practices for International Tourists: Ethnographic Account of Ayurvedic Tourism in Kerala - This ethnographic study highlights the intersection of cultural traditions and modern marketing of Ayurvedic products to international tourists.

Kudlu, C. (2013) - Brand Kerala: Commodification of Open-Source Ayurveda

The research critiques the commodification of Ayurvedic traditions in Kerala for commercial purposes, emphasizing marketing strategies and global appeal.

George, P., & Sujatha, V. (2016) - Promoting Cultural Sensitivity Through Ayurvedic Wellness Practices, This paper examines how Ayurvedic products and services in Kerala can align with cultural and global wellness trends, enhancing their appeal to a broader audience.



1.3 OBJECTIVES

- To evaluate the effectiveness of influencer marketing in enhancing brand awareness, consumer trust, and purchase behavior for Ayurvedic health and wellness brands, with a specific focus on the regional market of Kerala.

1.4 SCOPE OF THE STUDY

This study focuses on evaluating the role and effectiveness of influencer marketing in promoting Ayurvedic health and wellness brands, with special emphasis on the Kerala market. The scope encompasses the following dimensions:

- Regional Focus:** Kerala, being a hub for Ayurveda with its deep-rooted traditions, serves as the ideal region for this study. It explores how the cultural and historical significance of Ayurveda in Kerala influences marketing strategies and consumer behavior.
- Influencer Marketing:** The study examines the impact of social media influencers in creating awareness, building trust, and driving consumer engagement with Ayurvedic products. It assesses the alignment of influencer values with the principles of Ayurveda and their ability to connect with target audiences.
- Consumer Behavior Analysis:** It delves into the behavioral patterns of consumers in Kerala, focusing on their preferences, trust in natural products, and the factors influencing their purchase decisions in the context of influencer-driven campaigns.
- Ayurvedic Brands:** The study covers local and regional Ayurvedic brands, analyzing their marketing strategies, particularly those involving digital platforms and influencer collaborations, to strengthen their market presence.

- Industry Implications:** Insights from the study are aimed at helping marketers refine their influencer strategies, align campaigns with the ethos of Ayurveda, and effectively reach the target audience in a competitive wellness market.

1.5 SIGIFICANCE OF THE STUDY

The significance of this study lies in its potential to offer valuable insights into how influencer marketing can enhance brand awareness, consumer trust, and purchase behavior for Ayurvedic health and wellness brands, specifically within the regional market of Kerala. As the demand for Ayurvedic products continues to grow globally, understanding how influencer marketing can effectively elevate these products' presence in a culturally rich region like Kerala, where Ayurveda is deeply rooted, is crucial. Influencer marketing, by leveraging trusted local figures, can help build consumer trust, a critical element when promoting health-related products. Additionally, the study will shed light on how influencer marketing strategies can be tailored to resonate with Kerala's unique cultural and social dynamics, offering Ayurvedic brands the opportunity to optimize their marketing efforts. Furthermore, this research will provide insights into consumer behavior, helping brands understand how influencer-driven campaigns can influence purchase decisions and foster long-term customer loyalty. Ultimately, the study will contribute to both academic literature and practical marketing strategies, benefiting Ayurvedic brands, marketers, and researchers seeking to explore the intersection of digital marketing and traditional wellness practices.

1.6 RESEARCH METHODOLOGY

A sample of 100 respondents were taken who was taken on the basis of convenience.

1.7 DATA ANALYSIS & INTERPRETATION

1. Brand Awareness

Table: Data Analysis on Brand Awareness

Question	Response Category	Number of Respondents (n=100)	Percentage
Familiarity with Ayurvedic brands from influencers	Yes	85	85%
	No	15	15%
Seen influencer campaigns for Ayurvedic products	Yes	80	80%
	No	20	20%
Frequency of encountering promotions	Never	5	5%
	Rarely	15	15%
	Sometimes	35	35%
	Often	30	30%
	Always	15	15%

Interpretation

- 85% of respondents are familiar with Ayurvedic brands promoted by influencers, indicating significant reach.
- A majority, 80%, have seen such campaigns, highlighting active campaign visibility.



- While **45% encounter promotions often or always, 20% rarely or never do**, suggesting room to broaden campaign exposure.
- Below is the structured **data analysis and interpretation plan**, including hypothetical data distribution, grouped by the focus

2. Consumer Trust

Table: Data Analysis on Consumer Trust

Question	Response Category	Number of Respondents (n=100)	Percentage
Trust in influencers promoting Ayurvedic brands	Yes	75	75%
	No	25	25%
Credibility of influencers	Very Low	5	5%
	Low	10	10%
	Moderate	35	35%
	High	30	30%
Transparency of influencer-brand association	Very High	20	20%
	Very Low	8	8%
	Low	12	12%
	Moderate	30	30%
	High	35	35%
	Very High	15	15%

Interpretation

- 75% trust influencers**, reflecting a strong trust factor for Ayurvedic brands.
 - 50% rate influencer credibility as high or very high**, but **15% view it as low**, signaling a need to improve influencer selection or training.
- Transparency perception is moderate to high for **65%**, though **20% find it low or very low**, indicating some skepticism about influencer honesty

3. Purchase Behavior

Table: Data Analysis on Purchase Behavior

Question	Response Category	Number of Respondents (n=100)	Percentage
Purchased product based on influencer	Yes	60	60%
	No	40	40%
Frequency of purchase influenced by campaigns	Never	10	10%
	Rarely	20	20%
	Sometimes	40	40%
	Often	20	20%
Satisfaction with purchases	Always	10	10%
	Very Dissatisfied	2	2%
	Dissatisfied	8	8%
	Neutral	20	20%
	Satisfied	50	50%
	Very Satisfied	20	20%

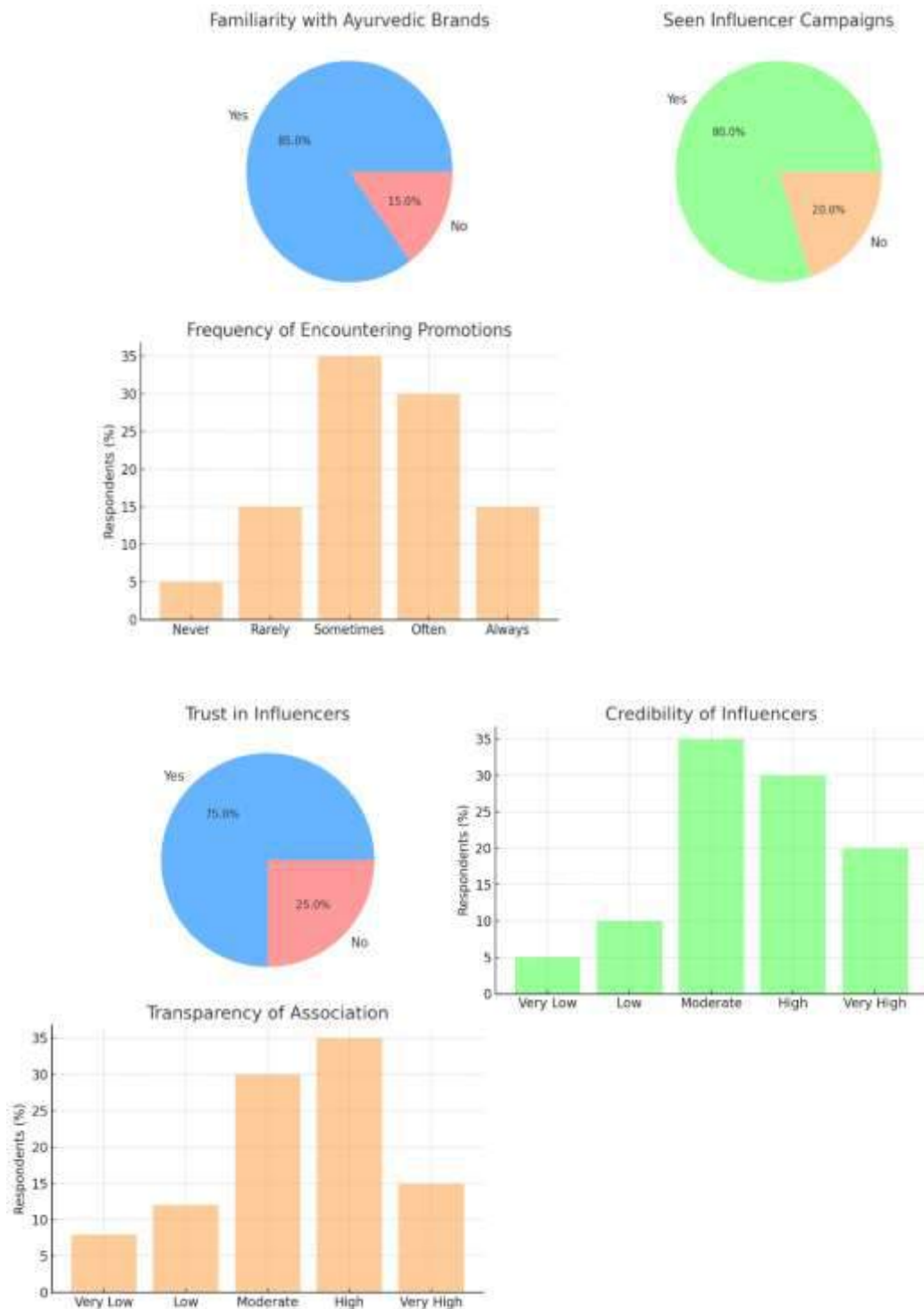


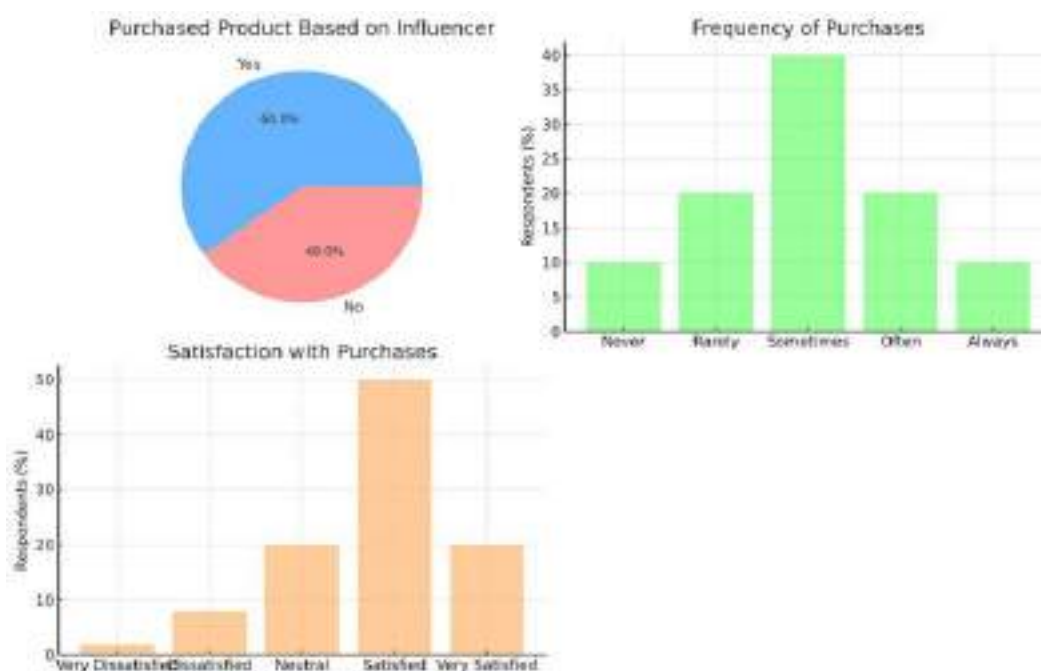
Interpretation

- **60% of respondents** purchased products influenced by campaigns, showcasing moderate conversion rates.
- **30% of respondents** often or always purchase Ayurvedic products due to influencer campaigns, highlighting the strategy's effectiveness.

- Satisfaction is high among **70%**, with **only 10% dissatisfied**, reflecting product quality or campaign reliability.

1.8 GRAPHICAL REPRESENTATION





Brand Awareness

- Pie charts highlight the high familiarity (85%) and visibility (80%) of influencer campaigns.
- The bar chart shows that 45% of respondents often or always encounter promotions.

Consumer Trust

- Trust in influencers (75%) is shown in a pie chart.
- Bar charts for credibility and transparency highlight that while most respondents rate these aspects as moderate to high, there is room for improvement.

Purchase Behavior

- The first pie chart indicates 60% of respondents purchased products based on influencer recommendations.
- The frequency and satisfaction bar charts reveal a positive trend toward purchases influenced by campaigns.

1.9 FINDINGS

Brand Awareness

- 85% of respondents are familiar with Ayurvedic brands promoted by influencers.
- 80% of respondents have seen influencer campaigns, showing strong visibility.
- 45% of respondents encounter such promotions "often" or "always," indicating effective but not universal engagement.
- Influencer campaigns contribute significantly to brand recall and awareness.

Consumer Trust

- 75% of respondents trust influencers promoting Ayurvedic products.

- 50% of respondents rate influencer credibility as "high" or "very high."
- 15% of respondents perceive influencer credibility as "low" or "very low," suggesting room for improvement.
- 65% of respondents find influencer-brand associations to be "moderate" to "high" in transparency.
- 20% of respondents express concerns about authenticity, highlighting the need for clearer disclosures.

Purchase Behavior

- 60% of respondents purchased products based on influencer recommendations.
- 30% of respondents purchase Ayurvedic products "often" or "always" after seeing influencer campaigns.
- 70% of respondents are "satisfied" or "very satisfied" with the products purchased.
- Respondents are more likely to explore new Ayurvedic products when influenced by trusted content creators.

General Observations

- Influencer marketing is an effective tool for increasing brand awareness and driving purchase behavior in Kerala's Ayurvedic market.
- Building and maintaining consumer trust requires careful selection of credible influencers and greater transparency.
- Campaigns should target individuals who encounter promotions less frequently to maximize reach and engagement.
- The high satisfaction rate with purchased products reinforces the credibility and quality of promoted brands.



1.10 SUGGESTIONS

Enhance Transparency:

Encourage influencers to disclose their partnerships clearly and consistently to build consumer trust and mitigate skepticism about authenticity.

Focus on Influencer Selection

Collaborate with influencers who have a strong reputation for credibility and align with the values of Ayurvedic health and wellness to maximize impact.

Target Underserved Demographics

Design campaigns to reach individuals who rarely or never encounter promotions, particularly in less engaged segments of the Kerala market.

Invest in Long-Term Collaborations

Develop sustained partnerships with influencers to strengthen brand association and maintain consistent engagement with their audience.

Leverage Customer Testimonials

Use positive feedback from satisfied customers to create additional marketing content, fostering trust and encouraging word-of-mouth promotion.

Optimize Campaign Content

Focus on creating informative, engaging, and culturally relevant content that highlights the benefits and uniqueness of Ayurvedic products to resonate with the regional audience.

1.11 CONCLUSION

The study demonstrates that influencer marketing is an effective strategy for enhancing brand awareness, consumer trust, and purchase behavior in the Ayurvedic health and wellness sector in Kerala. A significant majority of respondents are familiar with Ayurvedic brands promoted by influencers and have seen such campaigns, indicating strong visibility and reach. Trust in influencers is notably high, though transparency and credibility remain areas for improvement. Purchase behavior is positively influenced by influencer campaigns, with a considerable percentage of respondents making purchases and expressing satisfaction with their choices. These findings highlight the potential of well-executed influencer marketing campaigns to drive growth and establish stronger consumer connections. To maximize impact, brands should focus on selecting credible influencers, improving transparency, targeting underserved demographics, and leveraging customer satisfaction to enhance overall campaign effectiveness.

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BEKJON RAHMON IS A MATURE REPRESENTATIVE OF KHOREZM JADIDISM

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ABSTRACT

Mulla Bekjon Rahmon ugli, a prominent figure among the "Young Khivans" community and a member of the Jadid movement, made significant contributions to the cultural and intellectual life of Khorezm. Born in 1887 in Khiva, he was educated at both a Jadid school and the Allakulikhan Madrasa, and later studied in Istanbul. Bekjon Rahmon played a vital role in the development of journalism, education, and literature in Khorezm. He was the first editor of "Inkilob Kuyoshi", authored several important works, compiled proverbs, and co-wrote a significant treatise on Khorezm's musical history. Despite his contributions, he faced severe repression and was ultimately killed by Soviet authorities. His legacy as a progressive thinker and patriot remains a crucial part of Khorezm's Jadid history.

KEY WORDS: *Mulla Bekjon Rahmon ugli, Young Khivans, Jadid movement, Khorezm, journalism, education, literature, proverbs, musical history, repression, Soviet authorities, progressive thinker, patriot, Khiva, Islomkhoja, Abdurauf Fitrat.*

Mulla Bekjon Rahmon ugli, a prominent figure among the members of the "Young Khivans" community, which emerged as part of the Jadid movement, was born in 1887 in the city of Khiva. His father, Rahmonbergan, served as the chief administrator to Islomkhoja, the prime minister of the Khiva Khanate. According to the renowned literary scholar, academician Naim Karimov, a poet from Khorezm and one of the victims of repression, Kurbon Beregin, authored a 15-chapter historical work in the 1920s. This book vividly depicted events in Khorezm, including the lives of intellectuals like Mulla Bekjon Rahmon ugli. Unfortunately, the manuscript was destroyed when Kurbon Beregin was arrested [1].

Bekjon Rahmon ugli received his education first at a Jadid school and later graduated from the Allakulikhan Madrasa. Thanks to the efforts of Islomkhoja, who advocated for young people to study abroad, Bekjon was sent to Istanbul, Turkey, in 1912. At that time, the Jadid leader Abdurauf Fitrat was returning from his studies in Istanbul. Indeed, due to this support, Bekjon Rahmon grew up to be a dedicated son of his homeland. According to the scholar who devoted his life to studying Fitrat, Professor H.Boltaboyev, the play "Begijon" (1916), which was esteemed in its time and criticized the regime and life of the Bukhara Emirate, was dedicated to Bekjon Rahmon. Unfortunately, this work has also not survived to the present day.

Bekjon Rahmon ugli played a significant role in the development of journalism in Khorezm. He became the chief editor of "Inkilob Kuyoshi", the first newspaper published in the region, which began circulation on March 8, 1920. Unfortunately, journalism among Khorezm's Jadids lagged behind other parts of Turkestan. For example, the first national newspaper in Turkestan, "Tarakkiy", was established in 1906,

while Khorezm's publications began only in 1920. From 1920 to 1924, several newspapers were launched in Khorezm, such as "Kizil Khorezm", "Maorif", "Khorezm khabarlari", "Yordam", "Yoshlar ovozi", "Ishchilar tovushi", "Kapkan". Bekjon Rahmon played a key role in initiating many of these publications.

Although Khorezm's Jadids wrote relatively few articles, Bekjon Rahmon authored several important works. These included "Latinization movement in Uzbekistan", "About the letter of the new alphabet", "Bagdan dialect", which tackled linguistic and other scholarly issues. In "Latinization movement in Uzbekistan", he discussed the early stages of the Latinization movement. The article begins as follows:

"During the Jadid period, while innovations were being introduced, addressing issues like script reform and replacing the traditional Arabic script, which was deeply rooted in religion, was nearly impossible. In those dark times, the Latinization movement was neither visible nor expected in Uzbekistan".

In another article, "About the letter of the new alphabet", published in "Alanga" journal (1928, issue 12), Bekjon analyzed the characteristics of the new alphabet, highlighting its compatibility with Uzbek phonetics and its superiority over the Arabic script. He also delved into the historical use of the abjad numerical system in the Arabic script, which had been used for over 1,300 years, and compared it to the numerical representation of letters in the Latin alphabet.

Bekjon Rahmon was also a literary scholar. In 1923, he compiled 580 proverbs from Khorezm and published them under the title "Words of the Ancestors". These proverbs



reflected the people's philosophy, observations, and wisdom. For example, the book includes sayings like:

- “Tek yurgan toq yurar” (who walks straight lives well),

- “Davlat — ogizburchilik” (“State — Unity”),

- “Ishlasang, tishlarsan, ishlamasang, nimani tishlarsan?” (If you work, you'll eat; if you don't, what will you eat?),

- “Dost yuzga, dushman izga” (A friend speaks to your face, an enemy behind your back).

Bekjon Rahmon also wrote analytical articles about contemporary poets and fellow Jadids.

On April 26, 1920, Bekjon Rahmon founded the present-day Ichan-Qala Museum Reserve and became its first director. From April 27–30 of the same year, at the first congress of the Khorezm People's Republic, he was appointed Minister of Public Education and led efforts to establish modern schools in Uzbek and Turkmen languages throughout the region.

He co-authored textbooks, including “Oqish Kitobi” and “Alifbe”, with Babokhon Salimov. These textbooks incorporated examples of Eastern wisdom and included works by Khorezmian writers, aiming to provide comprehensive education.

Bekjon Rahmon also contributed to higher education by founding Khiva's People's University in 1921, becoming its first rector. Additionally, he worked on the “Yangi Alifbo” committee, conducting research on script reform that remains relevant today.

Together with Muhammad Yusuf Devonzoda, Bekjon Rahmon authored “Musical history of Khorezm”, a significant treatise on musicology, published in Moscow in 1925 and later reprinted in 1998. This work provided biographical details about prominent Khorezmian musicians and described musical instruments used in the region, such as the dutar, tanbur, gijjak, bulomon, and surnay.

Despite his many contributions, Bekjon Rahmon faced severe repression. According to the Soviet Encyclopedia of Uzbekistan, he was tragically killed by Soviet authorities in 1929. Zaki Validiy, in his memoirs, noted that Bekjon Rahmon was sentenced to long-term imprisonment in 1937 and died in exile. His legacy as a progressive thinker, educator, and patriot remains an integral part of Khorezm's Jadid history.

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SOME REFLECTIONS ON THE ARTISTIC INTERPRETATION OF THE KING AND POET IMAGES IN THE NOVEL “KHOREZM FOJIASI” (“THE TRAGEDY OF KHOREZM”)

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ABSTRACT

This article explores the life and contributions of Muhammad Rahim Khan II, also known as Feruz (1844–1910), who ruled the Khiva Khanate for nearly 47 years. Feruz was an enlightened ruler, a patron of literature and the arts, and the founder of the translation school in Khiva. The article delves into his achievements as a statesman, poet, musician, and patron of various cultural and artistic endeavors. It highlights Feruz’s role in promoting the six-and-a-half makom system, establishing the first printing house in Turkestan, and his efforts in the flourishing of Khorezm’s miniature art school. The article also discusses the portrayal of Feruz in historical and literary works, focusing on the novella “The Tragedy of Khorezm” by Erkin Zohidov, which provides a detailed depiction of key events during Feruz’s reign and his enduring cultural and spiritual legacy.

KEY WORDS: Muhammad Rahim Khan II, Feruz, Khiva Khanate, Literary Patron, Translation School, Makom System, Miniature Art School, Cultural Legacy, Historical Literature, Erkin Zohidov.

Muhammad Rahim Khan II — Feruz (1844–1910): An Enlightened Ruler, Literary Patron, and Founder of Translation School Muhammad Rahim Khan II, widely known by his pen name Feruz, ruled the Khiva Khanate for nearly 47 years (1863–1910). He was a remarkable statesman, a patron of the literary and artistic community of Khiva, and the founder of its translation school.

Renowned literary scholar N.Jumakhodja described Feruz as follows: “Alongside being a statesman and military leader, Feruz was a talented poet, an astute musicologist, an art connoisseur, and a skilled musician. He was a unique patron of science, culture, literature, and art. Not only did he master the art of playing musical instruments, but he also led and participated in refining Khorezm’s famous six-and-a-half makom system. He facilitated the creation of treatises on the history and theory of music. Under his initiative, the Khorezm miniature art school flourished. Thanks to Feruz’s patronage, Khiva became home to more than forty poets, writers, historians, translators, calligraphers, physicians, scientists, musicians, and artists whose talents thrived under his guidance. He established the first printing house in Turkestan and the first hospital in Khorezm. During his era, Khiva rose to the level of Herat as a significant cultural and literary center”.

This assessment truly encapsulates the essence of Feruz’s creative achievements and his progressive, enlightenment-driven contributions. The illustrious history of ancient Khorezm and its great figures has inspired numerous historical, scholarly, and literary works. Among them, Erkin Zohidov, a native of Khorezm, has written several captivating stories and novellas that vividly portray the region’s history and its heroic figures.

His novella “The Tragedy of Khorezm” sheds light on the life of Muhammad Rahim Khan Feruz (1845–1910) and key events during his reign.

In works dedicated to historical figures, the narrative typically emphasizes broader interpretations of events and characters, shaped by the chosen theme and material. Historical literature often highlights renowned personalities and monumental events that have left an indelible mark on their nation and people. These works occupy a special place within this genre. As noted by scholars, “Every historical figure, particularly those who are also creators, embodies the three intertwined dimensions of history: its past, present, and future, all harmoniously coexisting [2]”.

Feruz’s life exemplifies selfless dedication to his people and homeland, while his poetic creations reflect ideals of goodness and moral integrity. Even today, his contributions remain of great cultural and spiritual significance. Earlier historical and literary accounts often distorted the truth, portraying Feruz as a tyrannical ruler. However, works produced in the post-independence era began presenting a more accurate portrayal, shedding light on his role with a balanced approach to historical truth and artistic interpretation.

The relationship between historical facts and artistic imagination is one of the primary challenges in studying artistic interpretation. In crafting literary characters, these two aspects—fact and imagination—must complement each other, creating a cohesive whole to convey the work’s essence and literary depth. Transforming a historical figure into a literary character inevitably involves elements of artistic imagination



and creativity. This is because historical records alone may not fully capture the nuances, gradual developments, and transformations in a person's life under various circumstances.

In genuine historical literature, "historical figures are portrayed truthfully in line with their social status, roles in life, and alignment with historical realities, while being intricately connected to fictional characters created through imagination" [3].

This delicate balance ensures the authenticity and depth of historical fiction, allowing readers to grasp the essence of both the individual and the era they represent.

The novella "The Tragedy of Khorezm" possesses a unique compositional structure, divided into separate sections, each titled and narrating specific events. The story begins in late autumn with scenes of Feruz going hunting and depicting nature. In the work, Feruz is portrayed as a brave, strong, and heroic figure. During the hunt, a tiger suddenly attacks the khan, causing his rifle to fly in one direction and his sword in another. Amidst the chaos and panic of his guards, Feruz, pushing aside the tiger weighing over 25 botman, rises to his feet. In another instance, King Feruz is depicted lifting his horse out of the Korp Lake, showcasing his mighty, lion-hearted character. Feruz is also portrayed as a patron of literature and the arts, a lover of melodies and unique music, true to historical facts. Returning from the hunt, Feruz unexpectedly hears mysterious music and gallops towards the sound: "Melody... the noises of nature do not bring such pleasure to a person! Just now, the tunes emanating from two silk strings stretched on a wooden bow have enchanted him with their melodies. Under the influence of this tune, one could even renounce the world. Someone has played this melody! A girl's dance. For many years, he has hosted grand feasts, inviting artists from every region, but has never witnessed such a miracle. This is not a dance. It is the display of the mysterious tunes within a human soul [4]..." From this description, it is evident that Feruz's character is artistically interpreted as someone deeply enamored with music. Therefore, the novella extensively describes the musical evenings at the palace and the poetry recitals with poets.

In the section titled "The Feast of Melody" from the novella, the story unfolds about how Feruz brings the dancer Onajon, whom he encountered in the village of Gash, to his palace. Returning from the hunt, Feruz was captivated by a woman playing the dutar and her daughter, who was dancing miraculously. He then had this girl brought to his palace: "Onajon's arrival in the harem deeply upset the khan's favorite dancer, Rano. She was tormented as if she were engulfed in flames [4]." Subsequently, Rano devises a plan and, under the pretext of showing Onajon around the palace and the citadel, takes her out and leads her up a broken staircase, causing Onajon to fall and break her leg. Despite her injury, Onajon dances at the palace feast that evening, astonishing everyone with her performance. Bayoniy, Rojiy, Komil Khorezmi, and King Feruz immediately compose poems in admiration of Onajon's dance. Feruz takes up the dutar and sings:

"None who see your dance will feel regret,
In your moves, the ill find their cure yet.
The law of our circle, so proud and supreme:
To bow to the beauty of her graceful theme!"

At that moment, they presented gifts to Onajon, but she collapsed, unable to accept them. Only then did the khan hear from the chief minister about the incident with the dancer and consulted with his advisors on how to punish Rano. Consequently, Rano was given to Onajon as a servant and was banned from dancing for life.

Feruz, during his time, paid great attention to art and music and also imposed severe punishments on those who distorted or performed music incorrectly. Such a punishment is depicted in the novella when Feruz punishes the musician Khudak Bulamanchi. He sends four guards to Bulamanchi's house to remove the roof. When Khudak Bulamanchi comes to the khan to complain and ask for the reason, Feruz responds, "When the melody reached its peak, you buried the bulaman in the ground and exposed the melody... Did we say anything to you?" Regretting his actions deeply and promising never to do it again, the khan ordered his guards to go and restore the roof of his house.

The author artistically interprets the spiritual and educational landscape of the era by depicting the reflections and discussions about the unique ghazals of poets who flourished in the literary environment of Khiva during Feruz's reign. During this period, Feruz's court included prominent poets and historians like Ogahiy, Bayoniy, Komil, Tabibiy, Mirzo, and Khadim, as well as the creative brothers Sultaniy, Sadiy, Kamyab, Farrukh, and Muradiy, who were part of Feruz's lineage. Each gathering involved discussions on newly written ghazals and debates about knowledge, art, and music.

In the section titled "Feruz", the dialogue between Feruz and Ogahiy is presented. The khan visits his mentor Ogahiy, plays the melody he composed, and beautifully depicts the creation of Feruz I, II, and III music pieces. Ogahiy names the music "Feruz", and the khan requests his mentor to compose a ghazal for this melody, vividly portrayed through live scenes.

"Everyone's heart is entangled in various desires. If the pleasures of the court, hunting, and travels are rejected, what remains? Lamentation, blood, and curses [4]." Amid this tumultuous life, the khan Feruz is always drawn to poetry and music.

In the section titled "Mushoir" (Poetry Gathering) of the novella, the events of music and ghazal writing, and the creation and performance of new melodies in the khan's palace are depicted. Historical figures such as Ogahiy, Komil Khorezmi, and Muhammad Yusuf Bayoniy are artistically portrayed in this section. Ogahiy is especially described as the "master of poets" and his mentor-student relationship with Feruz is emphasized. During the mushoir, Feruz performs the "Segoh" maqam so skillfully that after the performance, Bayoniy states, "...if I could exchange all my writings for this melody you performed, I would die feeling that my life was not in vain." The novella narrates the fascinating events that showcase Khan Feruz as an



exceptional poet, a wonderful composer, and a connoisseur of music.

In the “Mushoira” section, information about the works of the prominent poet of the era, Bayoniy, is also provided. His poems are recognized for their artistic strength and receive high praise from Ogahiy: “Master, I sincerely congratulate you on another star beginning to shine in the Khorezm sky. From today, Muhammad Yusuf Bayoniy has joined the ranks of distinguished poets”, says Ogahiy.

Feruz’s image as a khan is also skillfully highlighted in the novella. In sections such as “The Hunt,” “The Slave Market,” “The Russian Ambassador,” “The Court,” and “The Secret Council,” Feruz’s wisdom in governing, his intellect, and his talents are artistically depicted. Feruz carefully considers the advice of scholars in every matter, acting with justice and wisdom. In front of the court where people present their petitions, he has the following couplets by his mentor Ogahiy carved on a marble stone:

“Do not shed the tears of the poor like a river, oh my king, your power will not last, nor will the time that humiliates them...”

Every time he visits the court, he reads these couplets repeatedly. The subsequent sections of the novella also illuminate Feruz’s prudent rulership through various events.

In conclusion, the novella “The Tragedy of Khorezm” fully portrays the image of Muhammad Rahim Khan Feruz as both a king and a poet. The language of the work is simple and fluent, effectively utilizing words specific to the Khorezm dialect. Although E.Zohidov’s work was written in 1992, during the years of independence, traces of Soviet-era politics are evident in it. Analyzing the work reveals several instances where the historical accuracy of the character’s traits deviates, and Feruz is primarily interpreted as a tyrannical khan.

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HUSAYN VOIZ KOSHIFI'S VIEWS ON CHILD UPBRINGING IN THE WORK "ANAVR-I SUHAYLI"

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ABSTRACT

The task of raising well-rounded individuals has long been a critical focus in various cultures, with a particular emphasis on moral and ethical development. This article examines the contributions of Husayn Vaiz Koshifi, a prominent scholar from the 15th century, whose works, especially Anvar-i Suhayli, provide valuable insights into child upbringing and moral education. The text discusses the themes of virtue, integrity, and social justice present in Koshifi's writings, highlighting their relevance in educational contexts. His works served as a guiding light in the moral and ethical training of young individuals, not only in his time but continuing to resonate in modern education systems. Through stories and parables, Koshifi's writings aim to instill values of humanity, friendship, loyalty, and the importance of striving for moral excellence.

KEYWORDS: Child upbringing, moral development, Husayn Vaiz Koshifi, Anvar-i Suhayli, ethics, education, human virtues, social justice, integrity, friendship.

One of the most pressing tasks of today is to nurture our children into becoming well-rounded individuals. Our people have traditionally placed great emphasis on the upbringing of children. The moral development of an individual is intrinsically tied to upbringing; without proper guidance, morality becomes as unstable as a building without a foundation. Considering this, it is evident that education and upbringing have received significant attention throughout history. The challenge of raising well-rounded individuals has always been a focal point for thinkers of the East, a fact well known to all. One of the scholars who provided invaluable insights on child upbringing is Koshifiy.

Husayn Voiz Koshifiy, a prominent figure in Persian-Tajik literature of the 15th century, is widely recognized for his contributions to promoting and advocating for moral and ethical values. His works have earned admiration and praise for their profound emphasis on human virtues and conduct. Koshifiy was a master in various fields, including the art of rhetoric, Islamic jurisprudence, exegesis, hadith studies, literature, history, ethics, mathematics, astronomy, and chemistry. Among his extensive writings, several are dedicated to the subject of child upbringing, including "Akhlaq-i Muhsini", "Risala-i Hatamiya", "Anwar-i Suhayli", "Futuwwatnama-i Sultani", and "Tafsir-i Husayni".

These works were used as textbooks for students in madrasas across Khurasan, Herat, and other cities. In these writings, the thinker elaborated on themes such as humanism, social justice, honesty, sincerity, purity, integrity, and truthfulness, drawing upon life lessons and personal experiences. His ideas were conveyed through engaging stories and parables that resonated with readers. As Koshifiy himself described, these works were

based on "practical wisdom" (hikmat-i amaliy), making them highly relevant and valuable for educational purposes even today.

Koshifiy's Anvar-i Suhayli holds significant educational importance in shaping the moral and ethical values of young individuals. This literary masterpiece, written in Persian, is one of the prominent works from the Timurid era. It was composed between 1499 and 1500 and dedicated to Amir Nizam al-Din Shaykh Ahmad Suhayli (d. ca. 1503), the vizier of Sultan Husayn Mirza. According to the introduction, Koshifiy reworked Kalila wa Dimna, the renowned fable collection by Abu al-Ma'ali Nasrullah ibn Muhammad ibn Abd al-Hamid Shirazi (d. ca. 1145). He replaced many stories, proverbs, and Arabic poems with the poetry of contemporary poets, shortening the first two chapters and adding new narratives, such as the story of the Chinese king Roy Dobshilim and Bidpay. Consequently, the number of tales increased from 40 to 100.

Anvar-i Suhayli gained widespread recognition and is preserved in numerous manuscript and lithographic copies across various global library collections. For instance, the Institute of Oriental Studies of the Academy of Sciences of Uzbekistan holds 32 manuscript copies of this work, transcribed at different times. The text has been published multiple times in Iran, India, and other regions and has since been translated into Turkish, Uzbek, and French, further underscoring its universal appeal and pedagogical value.

Husayn Vaiz Koshifiy's Anvar-i Suhayli is a spiritually significant work that addresses key issues related to the moral and ethical life of society. Furthermore, it served as a textbook for students in higher educational institutions in India for



several years. A copy of this work, listed under inventory number 4169, is preserved in the Sughd Regional History Museum, marking it as an essential translation into the Persian-Tajik language by Koshifiy.

The work comprises fourteen chapters and, for centuries, has maintained its esteemed position in the realm of wisdom and fables. It has garnered acclaim due to its reflection of the lives, struggles, and wisdom of ordinary people, as well as the brilliance of learned thinkers, their wit, and sagacity. The fables and wisdom contained within celebrate humanity and noble virtues. Each chapter is distinct, introducing new stories and narrators to convey its lessons.

The first chapter, for example, delves into the destructive consequences of slander. Through the tale of “The Lion and the Ox”, it illustrates how deceit, malicious words, envy, and treachery can lead to the downfall of a state. The story narrates how a deceitful person’s lies and slander transform loyalty between two friends into enmity, ultimately leading to their separation. This tale, like many others in the work, highlights the perils of dishonesty and the virtues of integrity and friendship.

The Story: “There once was a merchant who had traveled across seas and lands, experiencing the climates of both the East and the West, enduring the extremes of heat and cold, and tasting the bitter and the sweet. He was a wise, trustworthy, and skilled man. After many experiences, he eventually reached the state of frailty, resembling an army of death invading the realm of his body. The army of fate—old age—laid siege to the fortress of his existence”.

*Chun qariliq hola ajal kosini.
Dil unutar aysh ila kulguni.
Oqsoqollik kelturur andin payom,
Bilgin bu kulish margdin aytur salom.*

The elder, recognizing the circumstances, observed that his sons had gathered. They were three young men, prideful of their nobility and wealth, surpassing the limits of modesty. They wasted their father’s wealth without pursuing any trades, and spent their lives in idleness, neglecting the value of hard work. Out of his compassion, the father began to offer them guidance. He said, “O my beloved sons, you have been gathering and accumulating wealth without experiencing the hardships that come with it. Therefore, you do not understand its true value. You are proud in your youth, yet you must know this: Wealth is the foundation for both worldly and spiritual success. Everything in life, in both this world and the hereafter, is attained through wealth, should you choose to pursue it. The people of the world desire one of three things: those who live solely to satisfy their bodily needs, spending their lives on eating, drinking, clothing, and the indulgence of desires, yet they fail to aspire to a higher rank”.

The second group of people seek high ranks, understanding that attaining such positions is impossible without wealth. The third group, however, strives for the reward and honor in the afterlife, and for them too, wealth is essential. As stated by the esteemed Mavlana in his Masnavi:

“If you seek wealth with sincerity, it will be accepted; Indeed, the Prophet says that good, righteous wealth is a blessing”.

It is evident that the blessing of wealth enables the achievement of many important goals. Gaining wealth without a profession is difficult, yet if wealth is obtained without effort, it loses its value because the individual, having not faced hardship, does not appreciate it. They may lose it. Therefore, you should also refrain from laziness and pursue a profession.

The thinker, through this story, explains that a profession is a means to guide people to the right path in this world and the hereafter, encouraging them toward all noble qualities. A skilled person becomes generous, magnanimous, humble, patient, modest, and enjoys the blessings of these high human virtues. They guard themselves against negative traits such as greed, cowardice, arrogance, wastefulness, and stinginess, thereby developing into a person of admirable character. Indeed, through knowledge and skill, a person learns to distinguish between benefit and harm, striving to achieve the dreams and goals they set in life.

In the next chapter of Koshifi’s work, he addresses the difficulty of achieving goals and the consequences of losing them due to negligence. He states that even a small amount of carelessness can result in losing what one has, leading to regret and sorrow. For instance, a turtle effortlessly gained a compassionate and kind friend. However, due to foolishness, the turtle lost the friend and was left with a wound in its heart, a wound no remedy could heal. This theme is further illustrated through the story of “The Monkey and the Turtle,” emphasizing the importance of friendship and the necessity of being loyal to friends.

The sages have established principles regarding friendship and stated the following:

Life without friendship is unworthy.

When choosing a friend, one should select from three types of people:

1. Those devoted to knowledge and worship, as their company brings happiness in both this world and the hereafter;
2. Generous individuals, as they forgive the faults of friends and offer sincere advice;
3. Those who are selfless and free from greed, as their friendship is rooted in trust and devotion.

Conversely, there are three types of individuals to avoid:

1. The immoral, as they sacrifice everything for worldly desires and passions;
2. Liars and traitors, whose companionship brings pain and great misfortune;
3. Fools, as they cannot discern between benefit and harm in this world or the next. It is said, “A wise enemy is better than a foolish friend”.

The stories in this work are symbolic, addressing critical social, political, moral, patriotic, and humanitarian issues. Koshifi describes evil characters such as bloodthirsty individuals, instigators, traitors, deceivers, boasters, and immoral people as



troublemakers. He advises eliminating such bad elements, stating, "It is better to cut down a harmful tree, for bad-natured people cause great harm to the state."

In conclusion, the story emphasizes the consequences of acquiring something valuable, like a friend, and losing it due to foolishness and negligence. It teaches that the wise and experienced should take lessons from such tales, safeguarding their wealth, friendships, and other blessings, ensuring they do not lose them. Once lost, such things may be impossible to regain.

Husayn Vaiz Koshifi's "Anvori Suhayliy" serves as a source for cultivating moral and spiritual qualities in young people. In today's context, it holds great educational significance in fostering humanitarian values among the youth.

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THE UNIQUE CHARACTERISTICS OF MODERN YOUTH SPIRITUALITY IN THE ERA OF INNOVATIVE TECHNOLOGIES

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ABSTRACT

The article explores the impact of innovative technologies on youth's spirituality, upbringing, and personal development. While highlighting positive aspects such as educational platforms and creativity opportunities, it examines negative effects like social dependency and declining interest in reading. The importance of spirituality and reading in youth development is emphasized.

KEYWORDS: youth, spirituality, upbringing, innovative technologies, influence, social dependency, reading culture, enlightenment, information, internet, social media, development, education, society.

Today, many issues related to the spirituality, upbringing, and personality of the youth continue to be highly relevant. This is because the future of the youth is, undoubtedly, the future of our country, Uzbekistan. Every effort made for the future of the youth can be likened to laying the foundation for our nation.

Our President Shavkat Mirziyoyev once said, "If you ask me what troubles you, I would say the education and upbringing of our children [1]." This statement is not made without reason. Youth is the primary force that unites society and the nation. They are the most active group in any society. With their views, initiatives, and innovative ideas, the youth play a leading role in the development of society.

The terms "Young Khivaliklar" or "Young Bukharaliklar" are not coincidentally connected with "youth." In every era, youth has been the foundation of society. A spiritually developed and well-educated youth is crucial not only for society but for ensuring the strong future of humanity as a whole.

In the era of globalization today, technology has become the main driving force of development. It has radically changed the way we live, enabling us to reach new heights. These technological advancements include achievements in medicine, education, transportation, finance, manufacturing, and agriculture.

Moreover, innovative technologies have had a positive impact on the spirituality of modern youth. Through online educational platforms (such as Moodle, Coursera), electronic libraries, and virtual learning programs, the youth now have ample opportunities for spiritual and intellectual development [3]. They are learning more about world culture, science, and art. Additionally, technology has opened up a new arena for the creativity of youth. Blogs, videos, podcasts, and platforms for art allow young people to showcase their talents, express their thoughts freely, and demonstrate their worldview.

However, as the two sides of a coin, innovative technologies, despite offering numerous benefits for the youth's spirituality, are also showing negative consequences over time.

Currently, the youth spend a significant portion of their time on the internet, social media, and gaming applications. This has led to their detachment from reality and worsened relationships with family and society. As a result, the spiritual image of the youth is becoming more negatively influenced, and issues such as family and parental matters are losing their importance.

In the past, the ideal person for the youth was often a parent or someone they admired, but now, it is a famous blogger or an influential figure on social media. The youth do not realize that the lives of these popular social media figures, which they see as ideal, are not always as perfect as they seem.

For instance, on Instagram, a few people regularly post pictures of their luxurious lives on their pages, and these posts are seen by millions of young people, changing their perceptions of life. In many cases, the youth lose motivation when they are unable to achieve the same life outcomes as those they see on Instagram, which can lead to depression [4]. The harmful or inappropriate content available on social media and the internet negatively influences the youth's consciousness. This particularly occurs through materials that promote violence, immorality, and harmful ideologies.

The easy access that youth have to such information, with no barriers to prevent it, not only harms their spirituality but can also destroy their sense of self, making them vulnerable to "malevolent forces" and turning them into easy prey [5].

Excessive dependence on innovative technologies significantly hinders the development of youth's thinking and social skills. Firstly, the ability to think independently



weakens, as they tend to align their decisions with the opinions of the majority on online platforms. Secondly, superficial information replaces deep analytical thinking. For example, a large portion of today's youth is unable to read books.

Their patience is too limited for reading books, as the information on social media and the internet is more interesting and easier to access, making the youth prefer these over books. Sadly, bookshops and libraries in the centers of cities and districts are almost empty. Reading books plays a crucial role in the intellectual and spiritual development of individuals, as it not only enhances knowledge but also fosters critical thinking, moral values, and emotional growth. Books provide a window into different worlds, offering diverse perspectives and experiences that help shape one's worldview. Through the written word, individuals gain insight into the complexities of human nature, culture, history, and philosophy, which helps them better understand themselves and the world around them. Moreover, the act of reading nurtures discipline, patience, and concentration, qualities that are essential for personal growth and success in various aspects of life.

Our President Shavkat Mirziyoyev emphasizes: "Development without books, achieving high spirituality, is impossible. A person who does not read books, and a nation that does not read, has no future" [2].

In conclusion, the spirituality and upbringing of the youth are the main pillars of any society. The opportunities provided by innovative technologies, particularly the achievements in education and creative activities, play a vital role in the development of youth [7].

However, excessive dependence on technology can lead to a decline in their ability to think independently and social skills. The negative influences of social media, materials promoting immorality, and the decreasing interest in reading books pose a serious threat to the spirituality of the youth.

Therefore, it is crucial that parents, teachers, and every member of society approach the upbringing of youth with equal responsibility. Promoting reading and teaching the proper use of technology remain pressing issues in ensuring spiritual elevation.

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IMPACT OF COVID-19 ON VARIOUS SECTORS OF GLOBAL ECONOMY

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ABSTRACT

The impact of covid-19 is observed in every sector around the world. The various sectors such as -Global tourism, Education, Economic activity are badly affected by this. It has enforced the world wide lockdown creating very bad effect almost all sectors of the economy. Amid the coronavirus pandemic several countries across the world redorted to lockdown to "flatten the curve" of the infection. These lockdown meant confining millions of citizens to their homes, shutting down businesses and ceasing almost all economic activity. The outbreak of Covid-19 has taught us catalyst for the various sectors of the economy to grow and opt for platforms with technologies which have not been used before. The global economy has been fighting to survive the crises with different approach and digitizing the challenges to wash away the threat of pandemic. This paper highlights the impact of pandemic on various sectors of global economy and provide some measures taken by government to wash away the threat of the pandemic. Both the positive and negative impact of COVID -19 are discussed and some fruitful suggestions are also pointed to carry out economic activities in various sectors during pandemic situations.

KEYWORDS:- COVID-19, Education, Tourism

INTRODUCTION

On 12 January 2020, the WHO confirmed that a novel coronavirus was the cause of a respiratory illness in a cluster of people in Wuhan, Hubei, China., which was reported to the WHO on 31 December 2019. On 22 March, India observed a 14 hour voluntary public curfew at the insistence of Prime Minister Narendra Modi. It was followed by mandatory lockdown in COVID -19 hotspots and all major cities. Further on 24 March, the prime minister ordered a nationwide lockdown for 21 days, affecting the entire 1.3 billion population of India. The pandemic COVID-19 has spread over whole world and comoelled the human society to maintain social distancing. It has significantly disrupted the various sectors which is a critical determinant of a country's economic future. The pandemic has left a severe impact on indian economy, leading to a negative growth rate for the first time in decades. Nevertheless, the economy started to rebound after the lockdown was eased. Increased requirement for consumption had led to government and private firms to repurpose their factories and production lines for manufacturing of more hospital beds , PPE and ventilators. India emerged as the world's second largest manufacturer of PPE during the pandemic. The Union government also launched a major self-sufficiency compaign to substitute imported products with domestically produced counterparts, espically to replace goods imported from China. The world is facing an unprecedented global health, social and economic emergency with the COVID-19 pandemic. Travel and Tourism is among the most affected sectors with

airplanes on the ground, hotels closed and travel restrictions put in place in virtually all countries around the world.

According to UNESCO report, it had affected more than 90% of total world's student population during mid april 2020 which is now reduced to nearly 67% during june 2020. Outbreak of COVID-19 has impacted more than 120 crores of students and youths across the planet. In India more than 32 crore of students have been affected by various restrictions and the nationwide lockdown for COVID-19 . The economic impact of the 2020 coronavirus pandemic in India has been largely disruptive. India's growth in the fourth quarter of the fiscal year 2020 went down to 3.1% according to Ministry Of Statistics.

OBJECTIVES

The present research paper focused on the following objectives.

1. To enlighten various measures taken by government of India to uplift economic activity during this pandemic.
2. To highlight various positive impact of COVID-19 on various sectors like-eductaion, Travel and tourism etc.

METHODOLOGY

Data and information in current study are collected from various reports prepared by national and international agencies on COVID-19 Pandemic. Information are collected from from various authentic websites. Some journals and e-contents relating to impact of COVID-19 on educational system are referred.



CORONAVIRUS IMPACT ON GLOBALISATION

The coronavirus outbreak is having a significant impact on the global economy and markets. \$6 trillion has been wiped off the value of a basket of nearly 7000 stocks. From interest rates to oil prices, other areas of global economy are also set the feel the effect.

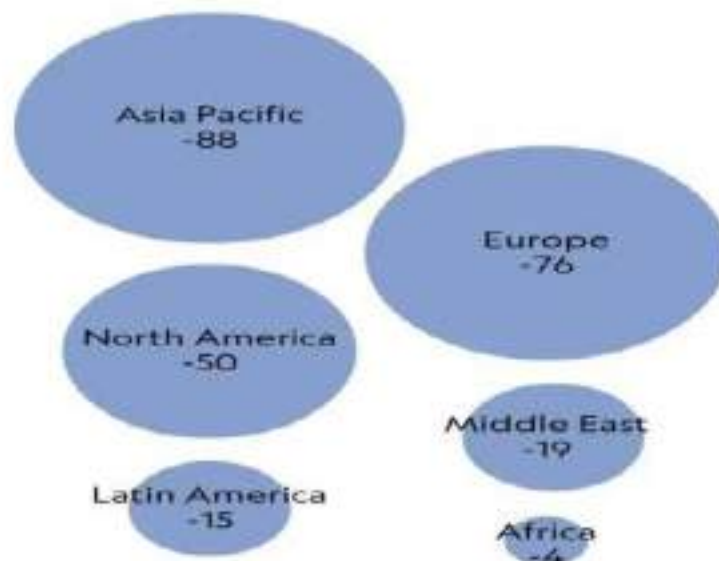
Due to rapid worldwide spread of coronavirus, travel plans and conferences cancelled, airlines grounded and even the Tokyo Olympic games were in doubt. Based on travel restrictions and an expected global recession IATA(International Air Transport Association) estimated that global air transport industry revenues could fall \$252 billion, 44% below 2019's numbers.

Percentage change in revenue from 2019 to 2020

Per passenger and kilometers



Estimated loss, billions of U.S.D.



MONICA SERRANO, NG STAFF, SOURCE: INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)



POSITIVE IMPACT OF COVID-19 ON GLOBAL ECONOMY

Though the outbreak of COVID-19 has created many negative impacts on travel and tourism, hospitality, education etc.

The following points may be considered as the positive impacts.

1. Sudden Fall Of Nitrogen Dioxide-Data shows that the main cities are recording much lower levels of harmful microscopic particulate matter known as PM 2.5 , and of nitrogen dioxide which is released by vehicles and power plants. The sudden fall

in pollutants and the subsequent blue skies signal a dramatic shift for India-which has 21 of the world's 30 most polluted cities, according to IQ AIR visual's 2019 World Air Quality Report. The data from the Central Pollution Control Board(CPCB) , part of India's Environment Ministry, was collected by the Centre for Research on Energy and Clean Air) . Nitrogen dioxide went from 52 per cubic meter to 15 in the same period-also a 71%fall.

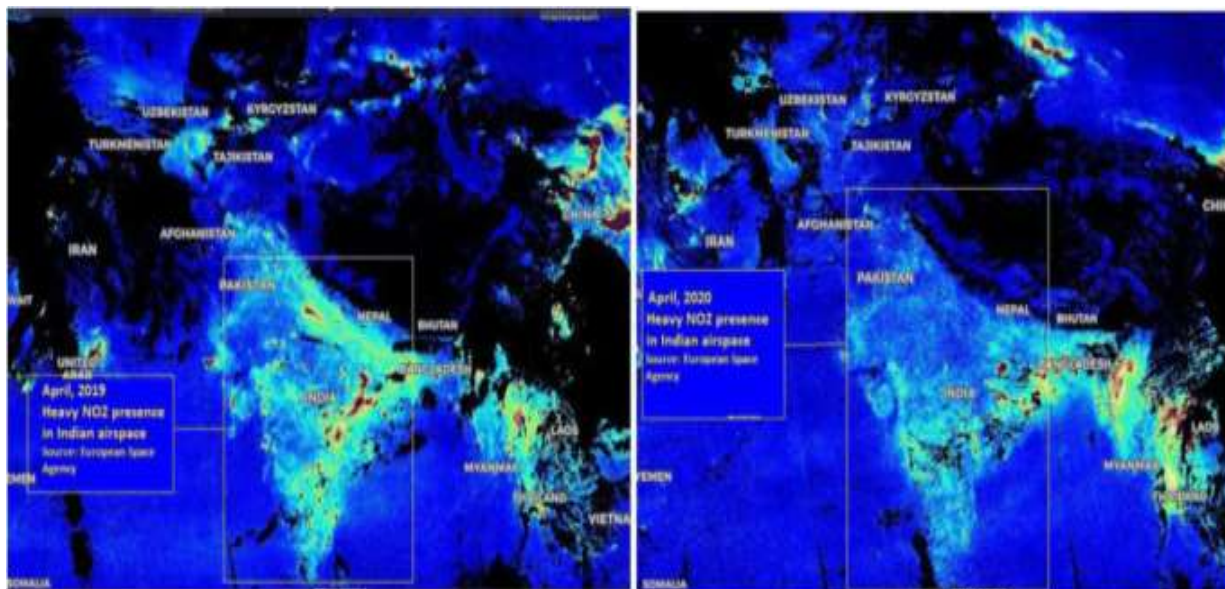
MASSIVE FALL

NO₂ levels fell dramatically after India's lockdown

Average daily nitrogen dioxide emissions in March, micro grams per square meter



Mumbai, Chennai, Kolkata, and Bangalore have also recorded a fall in these air pollutants.



NO2 level in 2019

NO2 level In 2020

NEGATIVE IMPACT OF COVID-19 ON GLOBAL ECONOMY

Global economy has suffered a lot due to outbreak of COVID-19. It has created many negative impacts on Global economy and some the are pointed below-

Tourism - According to World Travel and Tourism Council, tourism is a huge sector contributing to 10.4% of the global gross domestic product (GDP) and 10% of global employment. With chinese visitors facing a global ban, the tourism business has taken a hit. Dozens of airlines have trimmed the number of flights destined for china until the close of April 2020, thus leading to a steady decline in the tourism industry. This has taken a domino effect with serious implications across industries like food and beverage, entertainment and luxury goods.

Oil- the decline in TV the price of oil creates disturbing economic imbalance and forces manufacturers to cut down the cost of production. Sinopec corp (a Chinese oil and gas enterprises) plans to reduce its output in February 2020 by about 600000 barrels per day or 12% which is steepest cut in decade.

Coronavirus and Education- No country in the world was already ready for the corona virus. In many countries, schools were interrupted indefinitely due to the coronavirus and thousands of conferences, seminars etc Cancelled. The field of education entered a serious crises.

Impact on jobs of coronavirus crisis- Effect of coronavirus crisis on jobs outweighs hit to GDP. The lockdown in the some of the largest developed economies (including US, UK, Germany, France, Italy, and Spain) since february have led to a virtual halt in activity in some sectors and their full impact on employment and growth has yet to be seen.

2. World Wide Exposure- Educators and Learners are getting opportunities to interest with peers from around the world. Learners adopted to an international community.

3. Enhanced Digital Literacy:- The pandemic situation induced people to learn and use digital technology and resulted in increasing the digital literacy. With the COVID-19 lockdown forcing people indoors, political parties and state government offices are now getting used to holding virtual meetings.

4. The Himalayan Range seen after 30 years- The Himalayan range, Dhauladhar, visible from Jalandhar, punjab. With the reduction of air pollutant due to lockdown, people in punjab can see Himalayan range from more than 100 miles away.

5. Swams Returns to venice canals- Italy is one of the countries beside Iran and south korea that is worst affected by pandemic. The country is in a state of lockdown and most are quarantined in their homes. For the unversed, the city of venice is known for the popular gondola rides gondola, rides and its canals. Swams can be seen in venice canals after the nationwide lockdown was imposed by the government due to coronavirus outbreak in country.

6. No traffic in Sao Paulo- with the lockdown, South America's most populous city of Sao Paulo is now witnessing calm streets and clearer skies.

7. Reduction of Air pollution in Bangkok-

Analysis of air quality in Bangkok since the Thai government began enforcing strict social isolation measures had found significant drop in dangerous pollution level of more than 20% as compared with the same time last year. The average level of PM 2.5 tiny atmospheric particulate matter mostly produced by vehicles, refineries and other heavy industries were reduced by 22% in roadside areas of the capital, and 15% in air monitoring station in general areas between March 15 and March 10. Bangkok has experienced better air quality during the outbreak of covid-19.



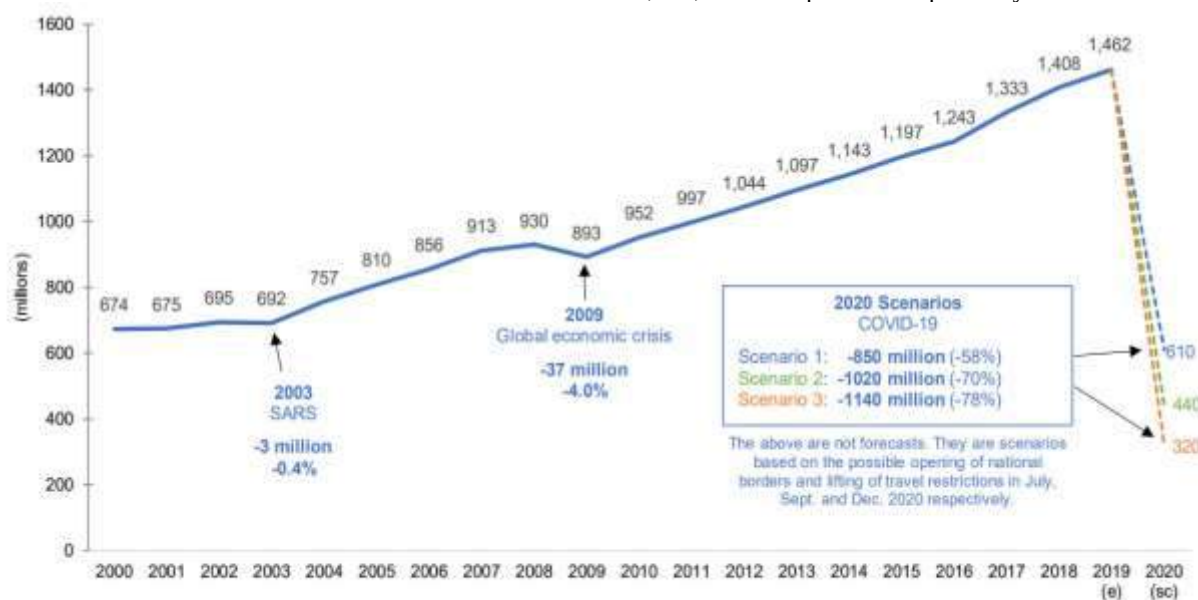
The impact of the coronavirus crisis on jobs could be larger than implied by the contraction in individual countries GDP.

Government of India considering serious measures to boost economy

Various expert groups In the government are working on specific fiscal incentives and policy reforms that are expected to take effect from the third quarter (October-December) Of the current financial year to accelerate growth.

The government is considering a series of measures to boost the economy, including offering upto Rs 3 lac crore in incentives spread over six years to create global supply chainin some sectors, tariff protection to key industries, further relaxation in foreign investment rules, and schemes aimed at the urban unemployed.

SUGGESTIONS



Source: World Tourism Organization (UNWTO) (e) Estimate (sc) Scenario-based data

OIL AND NATURAL GAS

Due to the fall in travel, global industrial activity has been affected. Oil prices fell further in March as the transportation section, which accounts for 60% of the oil demand, was hit due to several countries imposing lock down. Not only oil, early this year in China, due to COVID-19 related containment measures, the demand of natural gas fell. As a result, which many chinese LNG (Liquified Natural Gas) buyers halted their impirts as storage tanks filled.

INDUSTRIAL METALS

As per IMF, china accounts for roughly half of the global demand for industrial metals.

Further, even as economic activity resumes gradually, the situation will take time to normalise, as consumer behaviours chanfe as a result of continued social distancing and uncertainty about how the pandemic will evolove.

For instance, in its world economic outlook report 2020 the IMF mentions that firms may start hiring more people and expanding their payrollonly slowly, as they may not be clear about the demand for the their output.

Broad monetary and fiscal stimuli will be required to be coordinated on an international scale for maximum impact and, " would be most effective to boost spending in the recovery phase".

CONCLUSIONS

The IMF 's estimate of the global economy growing at -3% in 2020is as outcome, "far worse" than the 2009 global fibancial crises.

Economies such as the US, Japan, the UK, Germany, France, Italy and Spain are expected to contract this year by 5.9, 5.2, 6.5, 7, 7.2, 9.1and 8 per cent respectively.

FOOD AND BEVERAGES

IMF projects a decrease in food by 2.6% in 2020.In the lock down period, while the prices of cereals, oranges, seafood, arabica coffee has increased. Prices of tea, meat, wool and cotton have declined. Further, the decline in oil Prices has put a downward pressure on the prices for palm oil, soya oil, sugar and corn.

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BEYOND CONVENTION: BHASA'S REVOLUTIONARY IMPACT ON SANSKRIT THEATRE

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ABSTRACT

This paper is a probe into the plays of Bhasa and their impact over the eons. Bhasa was a pioneering figure in the world of Sanskrit theatre from whom we have received a treasured handful of dramatic works. Peeking into any one of these plays gives us the thrill of encountering a mind busy pushing the art forward. For that reason, Bhasa and his plays deserve a not-too-brief study in any comprehensive history of theatre in the Indian subcontinent. The study shows how his combination of political subjects with personal ones formed a new kind of Sanskrit drama that later playwrights, such as Kalidasa, adopted. It also looks at the modern, sometimes surreal, contemporary world of Bhasa's theatrical reimaginings. His fundamental themes – pulse, love, and a woman's place in the world – speak directly to non-pecuniary concerns of modern audiences and make Bhasa a viable candidate for the next directorial hall of fame. The study finds that Bhasa's contributions transformed Sanskrit theatre and built a bridge from classical drama to modern traditions that in many respects is a continuity with his work.

KEYWORDS: Bhasa, Sanskrit Drama, Classical Indian Theatre, Dramatic Innovation, "Svapnavasavadattam", Theatrical Adaptation, Dramatic Conventions, Indian Literature, Performance Studies, Classical Dramaturgy

INTRODUCTION

One of the most authoritative influences in classical Sanskrit literature, Bhasa has profoundly formed and fashioned Indian theatre. While exact dates are debatable, he is said to have born in third Century AD, making him one of the oldest known figures in Indian drama and theatre before the better-known Kalidasa(Britannica). Bhasa's works and their rediscovery in the early 20th century completely transformed our understanding of theatrical and dramatic form in ancient India. This study probes Bhasa's ground-breaking influence on the creation and development of Sanskrit drama. His plays that exist today are closely analyzed and their dramatic and thematic innovations evaluated for their enduring influence on the tradition of Indian drama, culminating in contemporary theatrical practices.

The Vedic rituals and folk traditions served as the womb from which Sanskrit drama emerged. The dramatic forms of these early performances included not just the dialogic hymns (*samvada suktas*) of the Rigveda but also the more strictly "performative" elements of the Yajurveda, which served as a sort of script for the Vedic rituals. From them, dance and music were incorporated into the formations of drama that ultimately would evolve into the classical Sanskrit theatre that we recognize today. Dramatic principles were gradually formalized during the time of Bhasa, and they culminated in Bharata's *Natyashastra*. This text laid down the rules and conventions of Sanskrit drama, most of which were adapted and transformed by Bhasa in his works.

Bhasa's Works

The Bhasa corpus contains thirteen plays, found in Kerala in 1912 by Ganapati Sastri. "Svapnavasavadattam" (The Vision of Vasavadatta) is a masterful example of Bhasa's way with a

narrative. It is complex but unknots itself with the ease of a political thriller, replete with personal emotion and well-placed tidbits of information that telescope time and space. "Pratima" and "Abhisheka" are versions of scenes from the Ramayana, which Bhasa shapes into his own drama—makes them dramatically viable as well as artistically justifiable. "'Urubhanga" " and "Karnabhara" are unique takes on the Mahabharata.

"Svapnavasavadattam" (The Vision of Vasavadatta)

Bhasa's "Svapnavasavadattam" is a masterwork of political drama mixed with romance. This play follows King Udayana of Vatsa as he swings between love and essential statecraft and follows his heart and his mind in trying to work out a solution to never-ending and never-resolved dilemmas. "The main feature of the play is the delicacy with which the feelings of Vasavadatta are indicated"(Woolner and Sarup 38).

The story centers on Udayana, who believes that a palace fire has taken the life of his beloved queen, Vasavadatta. However, she lives and is in disguise while Udayana considers marrying another woman, Padmavati, for the sake of a political alliance. A key dramatic moment is when Udayana has a dream in which he envisions Vasavadatta. This moment reveals Udayana's inner turmoil and serves to push the plot along. Padmavati enters Udayana's life, and though she has started to admire his noble character, she is still uncertain about marrying a man who is still in love with his dead wife. Udayana does have warmth for Padmavati, but he mostly appears to be emotionally stuck in the past with Vasavadatta. In disguise, Vasavadatta comes to find herself close to Udayana's court. A batch of methodically wrought dramatic incidents spills out all of the clues necessary to interpret the story as it has unfolded in the court of Udayana.



Udayana is very happy to discover that Vasavadatta is alive. Padmavati, understanding the profound love between Udayana and Vasavadatta, accepts, with great dignity, her role in this new arrangement or constellation of characters. The play concludes with a restoration of harmony between all the characters, who, at the end of the play, show great respect and affection for one another.

“Svapnavasavadattam”, stands out not just for its innovation and artistic merit but for its very classic elegance. These qualities take the play beyond the realm of ordinary narrative and thrust it into the space of something much more profound—that is, emotional depth, psychological complexity, and some very engaging and serious political intrigue.

The title of the play, “Svapnavasavadattam”, highlights the centrality of dreams (*svapna*) in the work. Bhasa employs dream sequences to delve into the characters' not-so-obvious emotions, placing us securely in their psychologies—especially that of Udayana, whose visions of Vasavadatta we understand as metaphorical for unchanneled emotions and suppressed desires. These sequences provide a glimpse of the king's unstable condition, letting the audience feel the emotion he is experiencing. This technique gives Bhasa the freedom to examine more profound and thoughtful ideas of remembrance and desire, making the play not just a story of what happens next but also a way to understand the characters on a more intimate level.

Bhasa creates a sophisticated multi-layered narrative told through the complementary interplay of three parallel plots.

The Political Plot: Anchoring the political narrative is the marriage of Udayana and Padmavati, masterminded by the cunning Yaugandharayana. This plot sets the stakes very high.

The Romantic Plot: Undergirding this political plot is the hidden presence of Udayana's first love, Vasavadatta, who must remain hidden until the right moment for maximum impact. This is a plot that wrings every drop of emotional tension out of its setup.

These two plots work together flawlessly—it is impossible to have one without the other. Indeed, they appear to have been designed to complement one another, almost as if they are plotting together. Each is essential to the overall resolution and each gets its time in the spotlight without the other being diminished.

With skilful artistry, Bhasa weaves together the political and the personal, the public and the private, in a nearly perfect structure that reflects the intricate and sometimes ambiguous interplay between them. The “death” of Vasavadatta is necessary for political reasons, demonstrating how royal personages must often make hard choices for the sake of statecraft and sacrifice what most noble and common folk would take as their private right. When Udayana marries again, it is a decision not only of the heart but a way to bind a

potentially rebellious border-province to his alliance and strengthen the political situation in his kingdom.

In Bhasa's plays, the characters assume three-dimensional shapes that reel us into their world and make us believe in them. At the same time, their dimensions are not flat; they harbour depth, internal conflicts, and surface tensions that we find relatable:

Vasavadatta: Her choice to act as if she is dead brings home her inner struggle between wanting to be happy and being loyal to her royal husband and kingdom. You can see her strength, grace, and resilience throughout the play.

Udayana: He is the epitome of the conflicted hero in love. He loves Vasavadatta but, in the name of political necessity, must give her up. His grief and longing and eventual acceptance of Padmavati reveal quite the emotional range for a king.

Padmavati: As a new bride entering a delicate situation, Padmavati's deep character emerges through her compassion and understanding.

With these layered characterizations, Bhasa probes eternal themes of love, sacrifice, and the weight of leadership.

“Svapnavasavadattam” is a timeless masterpiece of ancient Indian theatre. It is made so by its brilliant author, Bhasa, who gave it multiple resonances. He created it with dream sequences, parallel plotting, and an intricate blend of personal and political narratives. These techniques used by Bhasa guarantee that this play keeps being honoured in our time as an ancient classic, capable of speaking to us on many different levels. It also contains deep psychological dimensions, arising from its presentation of characters with profound internal conflicts.

“Urubhanga” (The Broken Thigh)

“Urubhanga” demonstrates Bhasa's willingness to challenge dramatic conventions through its unique interpretation of the Mahabharata. Revolutionary in its scope, “Urubhanga” (The Broken Thigh), a play by Bhasa—one of the earliest known dramatists from ancient India—reinterprets the character of Duryodhana from the epic Mahabharata. While traditional tellings of the story often present Duryodhana as a two-dimensional villain and Bhima, his adversary, as a heroic figure, Bhasa here gives us a much more complex rendition. He portrays Bhima as somewhat less than heroic, because in the moment of confrontation proceeding loss and death, Bhima strikes Duryodhana in a way that violates the ethical codes governing proper conduct during wartime—codes known in the ancient Indian context as dharma. In the midst of his agony, Duryodhana contemplates the life he has lived—an existence that constantly wavers between moments of proud refulgence, when he feels he has truly accomplished something, and deep moments of remorse, when he has to face, in his own mind's eye, the devastation that he has wrought in the world around him because of his ambition and his enmity with the Pandavas. At these junctures, we see a monarch compelled by a sense of



obligation to his realm but also one who is possibly too proud and too resentful to see the situation clearly, a flawed but somewhat admirable character.

A decision not typical of classical Sanskrit drama is to present violence directly on stage. This is a hallmark of Bhasa's plays. Classical Sanskrit drama traditionally avoided showing brutality explicitly and required the audience to use its collective imagination to fill in the details of horrid happenings. But Bhasa presents not only the broken body of Duryodhana in agonized contortions but also the very real horrors of war that make the ridiculous consequences of violence painfully clear. And if that were not enough of a departure from convention, Bhasa's Duryodhana also meditates on the meaning of his predicament, using the dire straits of his situation as an internal monologue that reveals the kind of psychological depth rarely seen in traditional stage characters.

In presenting his protagonist's flaws, Bhasa does not hold back. Duryodhana recognizes and admits to the part he has played in ramping up the war. Yet, with all this, he is nonetheless granted a sympathetic shade that allows for a contemplation of his character and an understanding of his motivations. Why did he do what he did? What led him to make the choices for which he so begrudgingly shows acceptance? The arrival of Duryodhana's parents, Dhritarashtra and Gandhari, gives the piece another level of shading. We learn from their mourning and their words that Duryodhana was very much also a son, a victim of fate, and—as they insist—someone whose life had infinite value. Bhima's dishonourable act stains his victory and makes us rethink the simple good-versus-evil duality. The play's flashbacks not only add richness and complexity to the present plot—they also allow the audience to witness moments from the past that illuminate Duryodhana's character, motivations, and as-yet-revealed vulnerabilities. Bhasa's innovative structure means that not only do we pity Duryodhana, but we also see the tragic inevitability of the course that has been set for both him and the Pandavas. The play expresses “compassionate heroism”(Gerow 412).

“Urubhanga” goes beyond the traditional limits of storytelling. It examines moral murkiness, and puts the audience in the position of having to think about just what is right and wrong. It is a powerful statement against war, even as it celebrates the might and power of the fallen warrior. It is bold, and makes no apologies, and if “heroes” are traditionally accorded all the virtues, Bhasa's portrayal makes clear that Duryodhana is far from unheroic, even if he is unvigilant. There is a reason this work has had such a strong afterlife. The question it asks at its heart—What is conflict, and why does it happen?—is something with which every generation of humans must grapple.

“Urubhanga” and “Svapnavasavadattam” are both classic dramatic masterpieces of Bhasa. At the same time, both plays—though remarkably different in their subject matter—make bold, innovative, and unmistakable artistic statements that showcase Bhasa's mastery of complex character psychology, layered narrative structures, and a profound exploration of the

tension between duty and personal desire. These features alone would be sufficient to elevate both “Urubhanga” and “Svapnavasavadattam” to the pantheon of great works of art. Bhasa's works show his remarkable knack for taking history and mythology and morphing them into the very sophisticated forms of dramatic structure that would influence the making of such works in this ancient tongue for many centuries after his death.

Stylistic Features

Bhasa's dramatic style is bold and innovative. He redefined classical Sanskrit drama and took it in a new direction. He is known for presenting violence directly on stage, unlike the usual practice of avoiding brutality. For instance, in “Urubhanga”, one of the most compelling dramatizations of a classical story, we see Bhima's unethical strike on Duryodhana's thighs. Bhasa doesn't skirt around it; he renders it in an agonizing manner that produces a strong hit against the emotional wall of the audience. Can you ask any hard questions about the morality of a war when you also leave any whiff of brutality out of it?

Another key aspect of Bhasa's style is dramatic irony and foreshadowing, which, when used together, deepen the narrative and add complexity to the events that unfold. When these two elements are present, the audience knows something that is not yet known to the characters onstage. In “Svapnavasavadattam”, the audience knows that Vasavadatta is alive while Udayana believes her to be dead. The audience is privy to the kind of information that would, in most situations, be shared between characters. And when characters make decisions based on the assumptions they've made, you, the audience, are put in a position to judge their foolishness, especially since you're privy to the dramatic irony.

Bhasa shows a deft hand in the use of languages, blending Sanskrit and Prakrit seamlessly in his dialogues to reflect the different social and emotional contexts of his characters. The characters of noble birth speak in Sanskrit, adding an air of authority to their words. Those of common or comedic ilk express themselves in Prakrit, the vernacular tongue of the people. This use of dual language allows for a richer emotional palette in a character's portrayal and makes for an interesting speech texture in the dialogue.

Additionally, Bhasa's inventive employment of the story director (sutradhara) amplifies narrative momentum and audience interaction. Normally charged with the humble duty of introducing the play, the sutradhara in Bhasa's works tends to take on a relatively more vibrant role, ushering the spectators through plot development both with and without the aid of other characters. “Svapnavasavadattam”, for instance, possesses a more complex narrative than do some other plays within Bhasa's corpus. Throughout this play, the sutradhara guarantees that sweet clarity with which one ought to enjoy a piece of narrative art while also ensuring that the sweet consistency of a play's emotional contours is maintained.



These stylized features—direct violence, dramatic irony, duality of language, and the inventive use of the sutradhara—make for emotionally vibrant, intellectually provocative, and structurally innovative dramas. They ensure resonance beyond the superficial level of 'theatre,' striking deep into the emotional chords of the audience, and allowing for not only experience but also intellectual engagement.

The playwright Bhasa shows remarkable linguistic skill not only in the use of a single language but also in the blending of two that are meant to exist side by side. His use of the language of the elite, Sanskrit, and Prakrit, the vernacular, produces a range of speech that reflects the social and emotional contexts of a character that, in plain terms, means he gives his characters some damn good lines. But it's not just about using the right words for the right kind of character at the right moment; it's also about a kind of language that feels deeply authentic — as if speech acts in the past really constituted speech acts.

Moreover, Bhasa's inventive use of the stage manager to enhance narrative flow and audience engagement is hard to rival. The stage manager, in Bhasa's works, is often a more engaged character who walks the audience through what is arguably a more engaging, more circular narrative. Clarity is achieved not through obvious exposition but through the stage manager's direction, at times almost in a friendly manner, which is especially necessary in stories as elaborate as the one found in the play "Svapnavasavadattam".

Bhasa's dramas elicit strong emotions and demand intellectual engagement. Their structural ingenuity is compelling. These are the basic features of Bhasa's style. But they serve to characterize his work as something between "traditional" and "avant-garde." They suggest that Bhasa is very much at home when writing in a "classical" language for a "classical" genre yet also very comfortable innovating with both form and content.

Key Themes in Bhasa's Dramas

The works of Bhasa delve into eternal themes and timeless questions. They treat the common human emotions we all experience with the kind of depth and nuance that gives literature its lasting value. But unlike many great works of literature that stick largely to telling the story of some great figure of the past, Bhasa's plays ask us to ponder the larger, philosophical, and ethical issues that even today concern us when we experience the emotions they portray.

Love is not simply a romantic notion in the plays of Bhasa; it is deeply aligned with the themes of duty, sacrifice, and political necessity. When he places love at the centre of his dramas, he uses it as an entry point to probe much larger social and personal dilemmas. In "Svapnavasavadattam", the love between Udayana and Vasavadatta is portrayed with such tenderness that one almost forgets the context of the play, which has to do with statecraft and the demands of the ruler's duty. Vasavadatta's decision to feign her death and live apart from Udayana serves as the play's denouement, and it also serves as

a fine example of the selflessness and other-directedness required of individuals who put the state first and their own personal happiness last. In Bhasa's view, relationships are arenas where personal dreams must frequently defer to social responsibilities—an ideal most writers would rather keep submerged lest it spoil the tender illusions on which love, or the pursuit of it, is founded. Yet in Bhasa's world, as in ours, love can't be tender without also being reliable, courageous, and selfless—not only in passion's private domain but also in the public space of personal duty and responsibility.

Karna, the protagonist in Bhasa's drama "Karnabhara"(The Burden of Karna) has an identity imposed on him by forces beyond his control, including the curses he has earned and the revelation of his true lineage. No amount of valor or loyalty can save him from the life that fate has laid out for him. Yet, Bhasa does not cast him as a sad puppet with no strings to pull but rather as a figure of agency who struggles valiantly (and vainly) to assert his identity and claim the life he has earned. This representation makes Karna's tragic downfall even more heartrending. Fate is a weighty force in this text, and as much as we might like to think, agency is simply an illusory kind of freedom. "Karnabhara is certainly a very noble piece where greatness of Karna reaches the heights of sublimity and grandeur"(Devadhar 37).

In the same way, Duryodhana's musings on his loss in "Urubhanga" show him trying to reconcile his ambitions with the obviousness of his downfall, ordained as it was by divine forces and the "unmoral" breaching of war ethics. Fate versus free will is a key theme in Bhasa's works, and in the next four scenes of "Urubhanga", he splits Duryodhana's reflection on human versus divine agency across many characters. The reason is not just to deepen the plot but to work out that theme in a complex, morally rich way, one wherein characters are both authors of their actions and subjects of an irresistible destiny. "Both in verse and prose the author proves himself as the master of Kavya-style"(Devadhar 37).

Not only do these themes mark Bhasa's storytelling as insightful and deep, but they also show him engaging with some big philosophical questions and entertaining us with the answers. They make him secure his legacy as a master of classical Sanskrit drama.

CONCLUSION

The Indian theatrical tradition first struck a path of evolution with the appearance of Bhasa. His influence is such that we can consider him a pivotal figure in the very early development of Indian drama. When it comes to the complexity of character, the emotional depth often expressed in the dialogue, and the exploration of certain themes, Bhasa achieves a level that is not only a road sign to later dramatists but also not easily surpassed. His works seem to be more than just passages replete with a vocabulary that demands a certain poetic skill. And while his works likely build on certain elements of poetic drama, they do appear as structural innovations from a traditional point of view.



Kalidasa, often seen as the most accomplished Sanskrit playwright, certainly draws from Bhasa's dramatic flair. The portrayal of characters in his plays such as *Shakuntala* reflects Bhasa's influence. Both playwrights share an obsession with emotional depth, complex character arcs, and writing the kinds of leads that make them comfortable in the theatres of their age and allow them to delve into universal themes like love, duty, and redemption. "Bhasa is in no way inferior to Kalidasa from the point of dramatic genius. Before Kalidasa's time several dramatists had written different kinds of dramas. But before Bhasa, dramas that could be taken as guide or copied were rare"(Chaturvedi 249).

Bhavabhuti and Vishakhadatta, notable dramatists of later periods, also bear the impact of Bhasa's work(Sarkar). The influence of Bhasa on the regional traditions of modern Indian theatre is substantial and wide-ranging. His plays have been transformed into the various performance forms and styles across the Indian subcontinent, each interpreting Bhasa in unique ways. Bhasa's plays have been made into various types of performances, such as Kathakali, which is a dance drama that uses elaborate costumes, gestures, and facial expressions. This performance style epitomizes Bhasa's emphasis on the kind of elaborate stagecraft that makes his plays work on a visual, as well as an aural, level. "As the sole extant form of traditional Sanskrit theatre in India, Kutiyattam literally means Combined Acting. Through the fourfold concept of acting dealt with in the *Natyasastra* namely *Angika* (movements of the body & the limbs), *Vachika* (verbal acting), *Satwika* (emotive acting) and *Aharya* (make-up & costuming), excerpts from the well-known Sanskrit plays of Sree Harsha, Neelakanta, Bhasa, Kulasekhara Varman, Bodhayana and others are presented on stage"("Kutiyattam"). Experimental theatre also makes use of Bhasa's innovative narrative structures and reinterprets them for contemporaneous audiences.

There are plentiful research opportunities for delving into the regional adaptations of Bhasa's plays and their transformations into contemporary formats like film, television, and digital theatre. Bhasa's work provides a unique vantage point for exploring the increasingly popular area of theatrical adaptations and for studying the performative and multimodal dimensions of modern theatre. A performative reading of Bhasa's plays across their various international and temporal contexts can help shed light on the dramatic evolution and enduring legacy of Bhasa's plays. They aren't just ancient artifacts but living texts that get interpreted in diverse ways across different cultures and theatrical practices.

Bhasa's work is still relevant today because its themes are universal. Take, for example, the theme of the struggle between duty and desire, which many of us can relate to. Or consider his take on the nature of power. That what makes a drama complex is "the intricacies of human relationships." These are the kinds of things that make for good, if not great, drama. And they remain a relevant part of the human experience.

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DISCOURSES ON CRYPTOCURRENCY IN THE NATIONAL AND INTERNATIONAL NEWS ARTICLES: A COMPLEMENTARY RESEARCH

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ABSTRACT

The study focused on the discourses on cryptocurrency in national and international news articles. This study utilized a complementary research design to examine cryptocurrency's framing strategies, linguistic features, and ideologies. This study analyzed 50 news articles from leading National and International News outlets published from February 1, 2024, to June 15, 2024. Results revealed that economic consequence and conflict framing were dominant frames. Compounding and Derivation were common linguistic features, while clipping was evident in international news narratives. Moreover, no significant differences were found in economic consequence, conflict, and morality frames. However, there was a significant difference in the attribution of responsibility and human-interest frames. Moreover, there were no significant differences in compounding derivation, initialism, and acronym. However, there was a significant difference on clipping in linguistic features. The ideologies reflected habitus, field, capital, and doxa. Media and technology literacy and political preferences represent the Habitus. While the fields were government regulatory and cryptocurrency exchanges. Economic capital as Central Digital Currency and Bitcoin Etf. Social capital featured politically corrupt figures and influential individuals. Cultural capital represents the digital skills organization and educational background of individuals. The decentralized finance and Blockchain are represented as Doxa.

KEYWORDS: Education, applied linguistics, framing strategies, linguistic features, cryptocurrency, Philippines

INTRODUCTION

Background of the Study

Crypto discourse is a conceptualization process of meaning-making in which social actors such as cryptographers, hackers, online privacy advocates, and tech journalists attempt to define internet freedom through community practices. It is an avenue to seek and site for the negotiation of the technology itself, including portrayals of cryptocurrency and technology developments (Hellegren, 2020). Bowden & Gemayel (2022) claimed that cryptocurrency topics have generated significant discourses encompassing themes such as the crypto bubble, anarchism, human interest, and fear of inequalities. Walker (2024) portrayed that the key narratives in media coverage from 2011 to 2022 cryptocurrency were identified as criminality, culture, politics, price, and technology. Moreover, Hedman et al. (2021) pointed out that the media portrays a variety aspect of frames, which range from the potential disruptor of finance and payment to investment and tools for criminals.

Emerging technologies are subject to framing across various fields, and media framing affects people's opinions and attitudes as citizens, consumers, and users (Nguyen & Hekman, 2022). In contrast, in Arab Countries, Subeh (2020) claimed that News

media primarily framed their stories about cryptocurrency and blockchain as financial loss, money laundering, and cybercrime. On the other hand, in Malaysia, Hamid et al. (2023) revealed in their study that cryptocurrency scammers utilize linguistic manipulation to persuade their victims. Ethos to establish credibility, pathos to appeal to emotions such as hope, excitement, and fear of missing out, and logos for logical reasoning for emphasizing safety and profitability in their fraudulent schemes. Reyes (2023) pointed out that the evolving landscape of cryptocurrency caused the field of law to suffer from linguistic disadvantages. Ambiguity in the linguistic terms as people from different fields utilize terms in cryptocurrency but mean different things. Thus, there is a need to examine the linguistics present to provide clarity, predictability, and coherency in using the terms present in cryptocurrency. While H. Liu (2022), in her study of the linguistic cognitive model, explained that the media aims to establish frames. Findings revealed that the media use titles for their online articles to frame components such as owner, mining, entity, value, and government. Cryptocurrency is being integrated into South Korea's government system, and the media is actively advocating government intervention and regulating exchanges. Media and the government frame cryptocurrency as a safe and riskysan financial asset.



In the Philippines, Macao et al. (2023) asserted that the language used in Philippine mainstream media is crucial in shaping communication, reflecting societal dynamics, and utilizing various linguistic processes to create new lexical units, enhance efficiency, and contribute to media discourse. However, there is a dearth of studies on word process in the Philippine context, and the mainstream media focuses on the role of language. For instance, Salvacion and Limpot (2022) posited that the linguistic features of Filipino netspeak include compounds, blends, acronyms, abbreviations, unique orthography, unconventional punctuation, and emojis. Simatupang and Heryono (2022) pointed out that the advancement of technology has formed new words in the topics of cryptocurrencies, non-fungible tokens and Metaverse.

Addressing cryptocurrency's linguistic and discursive elements in the local setting represents a crucial need for the evolving financial technology landscape. However, it lacks comprehensive scholarly attention. The local government focuses on regulating and monitoring fraudulent activities related to cryptocurrencies. For instance, The Securities and Exchange (SEC) Davao extension improves its information drive against fraudulent crypto investment scams as it noted increased illegal activities in southern and Central Mindanao (Francisco, 2023). Moreover, the Philippine News Agency reported that the Tagum-City-based Rigen Wellness Product Marketing leaders had been imprisoned for life due to syndicated Estafa. The group promised 400 percent of returns from cryptocurrency and foreign exchange investments Palicte, (2023). Thus, there is a need to examine cryptocurrency linguistics and discursive elements as it has an impact on financial literacy, regulatory policies and enforcement, and socio-economic stability as they continue to change and integrate into different fields.

Though extensive studies exist on cryptocurrencies, there remains a gap in understanding how linguistic features are utilized in news articles, news framing techniques, and ideologies in the discourse of cryptocurrencies. Research has primarily focused on the government's economic and technological innovations and regulatory actions, neglecting the power of language and media portrayals in shaping public perceptions and attitudes toward cryptocurrencies. Furthermore, the researcher has not come across local studies utilizing framing on how national and international online news articles portray cryptocurrencies and examine the ideologies embedded within news narratives.

This study's insights and results will shed light on the power of language and media framing in shaping public sentiment about cryptocurrencies. This will be presented at academic conferences related to finance, media studies, and linguistics. Furthermore, this will be published in peer-reviewed journals to reach a broader academic audience. The dissemination of this study will help the public understand the nature, linguistic components, and ideologies of cryptocurrencies that will contribute to the discourse on cryptocurrency regulation and investor protection.

Purpose of the Study

This study aims to examine the framing strategies, linguistic features, and ideologies in cryptocurrency's national and international news articles. Specifically, identify the dominant frames present in the national and international news articles that are relative to cryptocurrency utilizing Semetko and Valkenburg (2000) and linguistic features for Mearthy's (2002) of word formation. Moreover, significant differences between national and international news articles in the context of framing and the underlying ideologies embedded in these articles.

Research Questions

1. What are the dominant frames utilized in national and international news articles relative to cryptocurrency?
2. What are the linguistic features present in these articles?
3. Is there a significant difference between these national and international news articles on cryptocurrency in the context of framing and linguistic dimensions?
4. What underlying ideologies are embedded in these articles?

Theoretical Lens

The research draws on the theory of Semetko and Valkenburg's (2000) generic frames for framing, the linguistic features of Mearthy's (2002) word formation, and Pierre Bourdieu's outline of a theory practice.

Semetko and Valkenburg's (1977) generic frames theory is a framework that examines how media shapes the narratives of news stories. They proposed five keyframes that the news media utilized to present the structure and context of the news. The frames help the journalist to influence the audience's perspectives on how they comprehend the news stories presented to them. Media frames are essential in shaping and presenting the news elements, shaping their opinions and perspectives about the issue. The five generic frames include the economic consequence, conflict framing, attribution of responsibility, human-interest frames, and morality frames. Economic frames refer to the implications or events in economic policies and decisions. The conflict frame refers to the disagreements and issues between parties, individuals, groups, and countries. On the other hand, the attribution of responsibility assigns or shifts responsibility or provides a solution to a problem. The human-interest frames personalize or emotionalize the issue, focusing on individual or group stories that provide a human face. This generates feelings such as outrage and compassion for the victims. Lastly, morality frames focus on issues or events within the context of moral or ethical values.

Mearthy's (2002) word formation was utilized to examine the linguistic features in news narratives. Word formation refers to the branch of linguistics, also known as morphology, which explores the structural rules governing their formation. The derivation, blending, compound, borrowing, conversion, clipping, back-



formation, acronym, initialism, and coinage. Derivation is the word formation of adding affixes to form a new word. Blending is a word formation that merges two words to create a new word. On the other hand, compounding combines two or more words to form a novel word. In contrast, borrowing refers to borrowing words from another language to use in the context of communication. Moreover, conversion is a word formation of a word that changes its class without changing its form. Furthermore, clipping is a type of linguistic feature that shortens a word to create a new, simpler retaining its original meaning. Also, back-formation is a word-formation that removes its affix. In addition, the acronym is a word formation that is formed from initial letters from a phrase to produce a new form of a word that is pronounced as a whole. Also, an initialism is a word-formation that is formed from initial letters, but the letters are pronounced separately. And coinage is a new word created from inventions, ideas, or phenomena.

Lastly, Pierre Bourdieu (1977) theory will be utilized to examine the ideologies embedded in news articles, called practice theory. He developed a theoretical framework that provides a lens for examining ideologies. He introduced the concepts of habitus, capital, field and doxa. He focused on the interplay between structures, power, and individual actions, providing an understanding of how ideologies are created, maintained, and transformed. Habitus refers to socialized norms or tendencies that guide society's behavior and thinking. While capital refers to wealth, financial resources, education, knowledge, networks, social connection, prestige, and recognition. This can be accumulated and transferred from one arena to another. It can be either social, cultural, or economic.

Economic capital refers to the material wealth and resources that can be converted into fiat or institutional rights such as business ownership. Cultural capital is a form of wealth on which knowledge, skills, and cultural attributes can be passed down to the next generation. These qualities can be in the form of education or qualifications. Social capital refers to the network of friends, people, connections, and social ties that provide and share support, opportunities, and resources. On the other hand, a field is a network, structure, or set of relationships. It can be social and institutional arenas on which people reproduce or express their dispositions and compete to distribute different capital such as resources, status, and influence. Lastly, doxa is a combination of both orthodox and heterodox norms. It happens when there are unequal divisions in society.

METHODOLOGY

Research Design

A qualitative research design was utilized in the study, employing a complementary approach. Lochmiller (2018) defines complementary research as applying various methodologies and techniques to examine related policy and leadership issues. Sale et al. (2002) explained that complementary research combines qualitative and quantitative data to understand the world, sharing

unified logic and the same inference rules. Combining both approaches offers multiple perspectives for studying a particular phenomenon. Sharing a commitment to understanding and improving the human condition and aiming to disseminate knowledge for practical application. It allows cross-validation or triangulation in examining the phenomena utilizing multiple theories or data sources to provide a more comprehensive understanding. This allows the interdependence of research data from different methods to achieve complementary results by leveraging the strengths of one method to enhance the other. Berkeley (2015) pointed out that the main purpose of complementary research is to challenge, test, or update knowledge.

The narratives from the national and international were examined using the theoretical framework of generic frames of Semetko and Valkenburg (2000). In contrast, the linguistic features were analyzed using McCarthy's (2002) word formation. And lastly, Pierre Bourdieu (1977) was used to scrutinize the ideologies embedded in the narratives.

For quantitative data, a t-test will be utilized to examine the significant difference in framing and linguistic dimensions between the national and international news articles. A t-test is a type of statistical method which is used to compare the means of a group. It is a parametric method in which the samples satisfy the conditions of normality, equal variance, and independence (Kim, 2015).

Research Materials

This study analyzed the news articles about cryptocurrency published in leading online News from February 1, 2024, to June 15, 2024. The source of the data for the national corpora were from the Philippines. Four online news sites were the source of the materials: the Manila Bulletin the Inquirer.net, Philippine Star, and Sunstar, and five from the leading international news sites, namely Cnn.com, Wall Street Journal, Reuters, New York times, and BBC News. News articles were divided equally from each site and were compiled and annotated, totaling fifty online news articles. The online news articles from the national were written in English and should discuss the latest trends and events related to cryptocurrency.

RESULTS AND DISCUSSIONS

News Frames of Cryptocurrency in National and International News Articles

The dominant frames in national news articles involve 50 corpora. The analysis focused on examining frames in each article. The identified dominant frames were economic consequence and conflict framing. This was anchored on the theory of Semetkho and Valkenburg (2000).

Economic Consequence. The framing refers to the economic impact of an event or an issue in the article. Codes such as crypto-trading, exchange-traded funds, Bitcoin's price, institutional



adoption, and influence emerged from national and international news articles. This frame can have an impact on the readers and society. Individuals and corporations can evaluate their gains and losses or even align with the economic policy as they adapt to the changing field of cryptocurrencies. Both from the national and international discourses discuss these codes. Crypto trading does have an impact on the economy since many investors and traders had become interested into the technology. Cryptocurrency offers a lot of opportunities especially in terms of earning unlike the traditional banking such as staking, derivatives and futures. Moreover, it provides users anonymity and has more control over their money. Cryptocurrency acts like a stock or fiat currency but its volatility is tremendously unpredictable leading to significant losses of players. Due to is unpredictable price fluctuation and the interest of people, the government had started to intervene thereby strengthening their regulatory policies and created the exchange traded fund of Bitcoin as an answer to the growing interest of players. Institutional players have also joined in the crypto space such as Grayscale, Blockrock and Fidelity. Even in the local, players such as GCash, Maya and banks have started to integrate cryptocurrencies for their borderless transactions. Notably, governments had started to create their own stablecoins in the crypto space. The US and China have been the leading countries to pegged their Dollar and Yuan to these stablecoins. Both countries see the potential of these cryptocurrencies to slow down their inflation of their fiat currencies.

This is affirmed in the study of Dylong and Koenings (2022), which states that positive economic framing increases policy support. Moreover, Jaiswal and Chaudhari (2023) claimed that the increasing adoption of cryptocurrencies has led to significant economic implications, including market efficiency and innovation. The findings also revealed how regulatory policies are evolving and adapting. In cryptocurrency trading, news articles influence the cryptocurrency market. Bhatnagar et al. (2023) found that news articles statistically affect cryptocurrency's market volatility. He further stated that cryptocurrency market prices are affected by various factors, including liquidity challenges, technical aspects, and market sentiment. Therefore, he advises investors to be mindful of these factors, which can lead to substantial losses or gains.

The recent approval of Bitcoin exchange-traded funds has also affected the crypto market. It elevated cryptocurrency prices and increased Bitcoin's price and liquidity (Liu and Yang 2024). Moreover, it can also be gleaned from the articles analyzed in the study that the media focuses on the price of Bitcoin. Weng (2021) asserted that price framing is good for retailers as it may affect consumers positively and negatively. When the price deals a good value, then it is perceived as ethical. However, misleading prices may be viewed as deceptive.

Conflict Framing. This type of frame focuses on the conflict between two parties. In the context of the news articles, these are often between the government, crypto exchanges, regulatory

bodies, investors, developers, and traders. Codes arise from news articles such as cryptocurrency scams, fraudulent schemes, government regulations, money laundering, and lawsuits.

News articles, both national and international, have framed conflicts involving various stakeholders in the cryptocurrency space, such as government versus decentralized crypto exchanges, crypto scammers versus authorities, investors versus traders, and developers versus regulatory bodies. The central theme of cryptocurrency, rooted in decentralization, has attracted scammers who exploit individuals drawn by the market's volatile price movements. Both national and international reports highlight the use of similar fraudulent tactics, including affiliate marketing schemes, Ponzi schemes, and phishing. Locally, articles have addressed the involvement of Philippine Offshore Gaming Operators (POGOs) in cryptocurrency scams. In contrast, international coverage has often focused on Binance, highlighting concerns over its status as an unregulated exchange. Unregulated decentralized exchanges pose a significant challenge, as governments struggle to verify their legitimacy. These platforms have also been implicated in facilitating money laundering activities on both national and international scales. Furthermore, international news articles point to the influence of political figures on cryptocurrency policy. In the United States, with upcoming elections, Donald Trump has emerged as a prominent figure in the crypto discourse. Some lobbyists and institutional players have expressed support for him, particularly in light of his campaign promise to ease the stringent regulatory measures imposed by the Biden administration on cryptocurrency. This intersection of politics and cryptocurrency regulation underscores the evolving landscape of digital finance and governance.

In the study of Trozze et al. (2022), claimed that cryptocurrency fraud had been increasing rapidly in volume and scope. They proposed that the different sectors should be involved and united in addressing the challenges evolving landscape of digital currencies. Their study involved prominent private individuals, government figures and academic participants. The study involved prominent private individuals, government, and academic participants. While, Reddy et al. (2024) claimed that malicious individuals have shown significant interest in cryptocurrencies, making this space a frequent target for cyberattacks and scams. Victims are often lured into providing their cryptocurrency addresses with the promise of large returns. Additionally, some face ransom demands in cryptocurrencies like Bitcoin and Monero, while others are tricked into sending funds to fake wallet addresses, disclosing personal information, or falling for other deceptive schemes.

Linguistic Features of Cryptocurrency in National and International News Articles

The linguistic features in national news articles involve 50 corpora. The analysis focused on examining linguistic features in each article. Linguistic features focus specifically on morphology,



which is word formation. The linguistic features that were dominant in both national and international are compounding and derivation. Moreover, clipping is evident in international news narratives. The linguistic features were anchored on the theory of McCarthy (2002).

Compounding. This linguistic feature refers to forming words by combining two words with different meanings and grammatical functions. Together, the words create a new form of word and meaning. The narratives from the national and international news articles reveal how compound words such as altcoin, cryptoverse, Bitcoin, podcasts, and telegram adapt to the changing need for terms in financial technology. These terms are utilized in the narratives to capture the reader's attention and educate readers about the meaning of the new concepts in emerging technologies. The altcoins form by combining "alt" which means alternative and "coin", by combining the two they create a new term call altcoin. The cryptoverse stands for cryptocurrency, and verse denotes the universe. Another word, such as Bitcoin, is derived from "Bit," the smallest unit of data, and "coin" as currency. This created the word bitcoin, which was the first digital currency. The word Podcasts was derived from the word "pod" from iPod and "cast" from broadcast. This represents the modern medium for disseminating information. Lastly, the word telegram was derived from "tele," which means distance, and "gram" as a message. The terms illustrate the interplay between linguistics and technology.

Ishaya and Jen (2021) posited that compound words consist of two or more bases or roots. They pointed out that journalists used compound words for syntactic mechanisms. Writers used compound words to avoid complex sentences. Moreover, it is employed for metaphorical or idiomatic descriptions of the context. Asmawati and Rhamadina (2024) added that in compound words, the individual parts retain their original meanings, but their combination creates a term that often conveys a more specific idea.

Supardan et. al. (2024) claimed that CNN International articles have three categories of compound terms: compound nouns, compound prepositions, and compound adjectives. They claimed that the word production process is necessary for developing vocabularies. Moreover, they suggested that academicians should analyze other word formations such as borrowing, clipping, acronym, derivation, conversion, and back-formation. The study of Eripuddin and Lestari (2019) pointed out that compound words can be classified into two categories: endocentric and exocentric. Endocentric compound words are transparent in meaning. In simpler terms, it could be predicted from the words combined. Exocentric is opaque in meaning, meaning it could not be predicted from combined words.

Derivation. A linguistic feature in morphology that creates a new word by adding affix to the base form of the word. This results in creating a new word. In the national narratives, derivational words such as adoption, violation, and protection emphasize

balancing innovation with legal, ethical governance in cryptocurrency. The base forms of the words are adopt, violate, and protect. The words are then added by the suffix -ion, which lets them function from verbs to nouns. The word adoption highlights the integration of cryptocurrencies in the financial market, while the word violation points out the legal frameworks of securities and regulation code in the Philippines, and the protection portrays the regulatory agencies protecting the public interest, ensuring investor safety and building trust. On the other hand, in the international narratives, derivational words such as liability, inflation, and unregulated emphasized fraud, market volatility, and regulatory framework. Liability is formed by adding the suffix -ity, and its root word is liable, which is a verb. The word is used to emphasize the risk of fraudulent schemes and the legal accountability of individuals involved. The word inflation is formed by adding suffix -ion. The term is used to explain Bitcoin's dynamics and appeal to investors by likening Bitcoin to a precious metal like gold. And unregulated is formed by adding prefix -un and suffix -ed. It is used to critique the lack of regulating bodies in the digital art market, pointing out the risks and vulnerabilities of unsupervised financial activity. Both the narratives in national and international use derivational words to portray innovation and risk. Journalists use the terms as linguistic tools to educate the public about investing in cryptocurrencies. Utilizing derivational words allows them to encapsulate the context and deliver the message effectively to address the diverse audience, ensuring clarity and impact.

Mohammed & Dhayif, (2022) define derivation as the process of word formation on which it produces a new word and alter the grammatical class of morphemes to which they are combined. In the same way, Sutarman (2017) explained that derivation is a word-formation process that generates new lexemes. This process requires a "base," which serves as the core element of a word that can be transformed into a new lexeme.

Arbain (2017) asserted that the writers used the derivational process to optimize and control the use of words. This removes the wordiness of the article. Moreover, he argued that the frequent use of derivations often becomes a problem for English learners since they need to look for the meaning in the dictionaries. Thus, there is a need to understand the meaning and patterns of affixations added to the base.

Similarly, Nurngaini et al. (2019), in their study about news articles, argued that word formation could not be avoided in constructing sentences, paragraphs, and communication. Specifically, derivation and inflection were utilized in Al Jazeera News articles. However, inflections are mainly used because the articles require a grammatical function.

Clipping. A type of linguistic feature that shortens the original word term, creating a new word but still retains the original meaning. Clipped words such as Tech, Coin, and Crypto emerged in the international narratives. The tech word refers to



technology. It is used in international narratives to draw some wealthy and influential figures to invest in technology-driven companies. The word coin is a clipped word for altcoins. Altcoins are other cryptocurrencies that emerged after Bitcoin. The term is used to describe the TON cryptocurrency which is tied to telegram. Its purpose is for borderless transactions, a store of value, and potential investment. And crypto, which refers to cryptocurrencies. It is used in the narrative to describe the integration of blockchain technology related to cryptocurrency. This highlights the key players in cryptocurrencies, such as politicians and the financial sector, in discussing regulating policies.

Paragas et al. (2018) define clipping as a word formation that involves cutting the word to make it more concise to use. Murniyati (2020) added that clippings are also referred to as shortenings, which are frequently used in communication. Moreover, Fariskayuni et al. (2024) expound that clipping can be categorized as fore-clipping, middle-clipping, and complex clipping.

Moreover, Daniel (2018) discussed that English clipping, such as words like “app” from the application, “blog” from weblog, and prof from “professor,” disregard morphological structure as the words are truncated without morphological boundaries. He concluded that English clippings can frequently disregard phonological word boundaries. Michálková (2018) stated that terms that are related to cryptocurrency are created to describe the context metaphorically, such as the word lambo for Lamborghini, which is the ultimate goal of the investors, and crypto, referring to the cryptocurrency, which means hidden or in secrecy.

Significant Difference Between the National and International

News Articles on Cryptocurrency in Framing

The results revealed that economic consequences, conflict, and morality frames in the national and international news articles on cryptocurrency framing do not indicate a significant difference. Even though the national and international differ in mean values, international narratives have a larger number of occurrences of the frames. This implies that the national and international writers apply the same economic consequence, conflict framing, and attribution to responsibility in their discourses. In other words, both journalists from the national and international narratives utilize similar approaches in framing. Moreover, they shared the same perspectives and influences that shaped their narratives. Specifically in shaping economic consequences such as institutional adoption and influence, intermediary exchanges, the event of bitcoin halving, the bitcoin price, and the controversial exchange Binance. Conflict frames such as criminal activity, fraudulent schemes and cybersecurity concerns. And morality frames such as environmental issues and energy consumption. While the international discourse has a higher mean it is not strong enough to suggest a clear disparity in the framing practices between the two compared narratives

This aligns in the study of Osman et al. (2023), claimed that favorable economic news can boost confidence in the economy, potentially driving higher demand for cryptocurrencies as a means of hedging against inflation and economic instability. Moreover, Economy-based news sentiment indexes have a stronger causal impact and a significant correlation with cryptocurrencies. This offers insights into potential future trends in the cryptocurrency market. Hence, economic news can shape the outlook of investors and traders. Bhatnagar et al. (2023) backed this idea that news had an impact on the market volatility of cryptocurrency and that it is statistically significant.

In the national, Moncada et al. (2023) pointed out that journalists tend to frame economic consequences as straightforward reporting. However, the impacts are downplayed. The use of dramatization and projections of future risk was always evident in the narratives to amplify the context. Moreover, Gelera* and Tarusan (2023) found out that media companies employ multiple frames in an article. On the other hand at the international perspective, Li et al. (2022) explored the media coverage on cryptocurrency Bitcoin and found out that media coverage affects Bitcoin returns in the crypto market regardless of the tone and context of the narratives. The study concluded that media coverage serves as the catalyst for Bitcoin returns during the economic bubble.

Significant Difference Between the National and International

News Articles on Cryptocurrency in Linguistic Features

The results revealed that compounding, derivation, initialism and acronym in the national and international news articles on cryptocurrency framing do not indicate a significant difference. Even though the national and international differ in mean values, international narratives have a larger number of occurrences of linguistic features. This implies that the national and international writers apply the same compounding, derivation, initialism, and acronym in their discourses. In other words, both journalists from the national and international narratives utilize similar approaches in linguistic features. Though international narratives have a higher mean, it cannot be concluded that their linguistic features are different. This only means that they could have randomly varied the content. Both national and international news narratives use compounding to describe complex concepts while also relying on derivations for word-formation processes. Initialism and acronyms suggest that both writers from national and international value consciousness and familiarity of concepts for educating diverse readers. Thus, the results revealed that writers from national and international shared similar linguistic norms and practices in English writing, aligning with their shared goals and framing.

In contrast, the clipping linguistic feature has a significant interpretation. Thus, this suggests that national and international news writers utilized distinct clippings in distinct patterns related to cryptocurrency. In other words, the national and international



narratives do not have similar approaches in the linguist feature clipping. The difference could be in the purpose, cultural norm, and audience, depending on their goals in portraying cryptocurrency.

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Mancao et al. (2024) contended that the language used in Philippine mainstream media significantly influences communication, mirrors societal trends, and utilizes various word formation processes to generate new lexical items, enhance efficiency, and contribute to media discourse. Their study found that acronyms are the most frequently used process in printed media, representing 32.94%. In online media, compounding is the leading process at 34.12%, and it is also prevalent in television, accounting for 35.29%. Of the 255 words examined, compounding is the most dominant morphological process, making up 30.20% of instances, followed by acronyms at 24.31%. Other processes include derivation (9.41%), coinage (7.45%), back-formation and blending (6.67% each), multiple processes and clipping (5.88% each), and borrowing (3.53%).

Salvacion and Limpot (2022) highlighted distinct linguistic characteristics of Filipino Netspeak, such as compounds, blends, acronyms, abbreviations, unique orthography, unconventional punctuation, and emojis. They also examined student experiences with Filipino Netspeak, noting aspects like ease and familiarity with shortened forms, its identification as a millennial language, occasional unintentional use in formal contexts, the acquisition of new words and emojis through online interactions, typical social media usage, instances of miscommunication, and effects on spelling and grammar conventions.

Kalukar et al. (2023) revealed that the news headline of the Jakarta post contains word formation linguistic features such as compound words, clipping, backformation words, initialism, derivation, and acronyms. The most dominant word formation is the inflection. Li-Na (2016) found that neologisms in news English were derived from compounding, derivation, abbreviation, loan words, analogy, and meaning transfer. Moreover, she claimed that news English has simple words for the readers to make it easy to understand and time-saving. Journalists need to make their report brief and concise to conserve space.

Misbahillah et al. (2024) examined word formation in online news and found two findings. First Jakarta news have frequently utilized derivation and other word formations such as

compounding, acronym, blending, clipping, borrowing, conversion, coinage, and backformation were found. The second findings revealed that readers had an increased awareness of words, expanded vocabulary, enhanced reading and writing skills, encouraged creativity, and improved cultural and digital literacy.

Ideologies Embedded in the News Articles

Ideologies encompass the beliefs, principles, values, and perspectives that shape how readers or audiences interpret information. In news, ideologies can influence the framing of topics and the choice of language, shaping societal values, cultural norms, or specific political and economic viewpoints. The identified ideologies were habitus, field, capital, and doxa.

Habitus. This refers to the way society instills enduring dispositions, trained abilities, and structured tendencies within individuals, shaping how they think, feel, and act in particular ways that guide their behavior. It emerges from the dynamic interplay between free and social structures over time, rather than from either free will or social structures in isolation. The identified habitus in the national and international discourse are media and technology literacy and political preferences.

Media and technology literacy is one of the codes that emerged in the discourse of cryptocurrency in the national. It exemplifies how certain skills and dispositions are instilled in kids. The focus on teaching competencies like Discord management, social media community management, and community moderation represents essential 21st-century skills. Their environment shapes these dispositions and abilities, reflecting how individuals adapt to their social world. Within the discourse surrounding cryptocurrency, fostering essential digital skills enables young people to adapt to their surroundings and prepare to compete globally.

According to Bourdieu's social theory, Ivemark and Ambrose (2021) assert that individuals inherit specific amounts of economic, cultural, and social capital from their family background, positioning them within the social hierarchy. As they enter new social fields, the type and amount of capital they possess determines their potential success in those fields and shape the extent to which they feel a sense of "fit." This alignment is largely shaped by habitus—a socially ingrained system of dispositions that subtly guides individuals' perceptions, judgments, and actions instinctively. Hu and Cheong (2021) suggest that social media habitus can be seen as a structured framework through which individuals perceive, interpret, and engage with social media, highlighting the fusion of personal dispositions with these platforms' social and technological settings.

Political preference is one of the codes that emerged from the international discourse. Social interactions form a key part of habitus, serving as an internal framework that influences venture capitalists and crypto investors. These individuals typically come



from particular social and professional backgrounds, with economic government policies shaping their experiences in trading and investing in high-risk, high-reward assets. These social classes reflect the polarization within the U.S. political landscape as former President Donald Trump positions himself as a strong advocate for cryptocurrency. This appeals to certain groups, such as venture capitalists and crypto investors, who feel hindered by the strict regulatory policies. Wagner and McLaughlin (2015) argued that class should be "groups composed of individuals who share an awareness of their similar circumstances and are prepared to mobilize in support of their shared interests." In this way, class can be shaped through the political process of class formation. In line with the broader concept of habitus, political preferences are constructed through exposure to particular social conditions and lived experiences that reinforce specific modes of perceiving and engaging with political phenomena. However, it is well understood that inequalities exist concerning the degree of choice citizens feel they have in democratic processes (Elsässer & Schäfer, 2023).

Field. This refers to the various social arenas or spaces where individuals and groups engage and compete for power, status, and resources. Fields that emerged in the national and international discourses are government regulatory and cryptocurrency exchanges.

Government regulation is one of the fields that emerges in both the national and international discourses on cryptocurrency. It is a social space where government officials, regulatory agencies, and corporations compete for influence, power, and authority. In the crypto space, it involves the development of policies and enforcement to oversee digital assets. The United States plays a significant role in cryptocurrency regulation, with its Securities and Exchange Commission (SEC) actively classifying certain cryptocurrencies as assets. The United States holds a significant position in cryptocurrency regulation by empowering its Securities and Exchange Commission (SEC) to classify certain digital assets as securities. Similarly, in the Philippines, the SEC exercises its regulatory authority by restricting unlicensed cryptocurrency exchange platforms, such as Binance, OctaFX, and Mitrade, in response to a rise in cryptocurrency related criminal activities. Regulatory bodies in both countries emphasize critical areas of oversight, including consumer protection, anti-money laundering and counter-terrorism financing, taxation, and the promotion of innovation within the digital asset space.

Moosa (2016) posits that regulation constitutes a governmental intervention in economic activities, which disrupts the autonomous functioning of the free market system. From a legislative perspective, regulation is characterized as the structured process of establishing, supervising, and enforcing regulatory standards and rules. The U.S. Financial Crimes Enforcement Network (FinCEN) claims that transactions in cryptocurrency exchanges involving fiat money should be regulated like fiat money (Cvetkova, 2018).

WJain and Lamba (2023) argued that concerns over governmental intervention frequently accompany technology integration. Deploying blockchain technology necessitates governmental oversight and regulatory frameworks for transaction monitoring. This regulatory involvement by authorities may act as a constraint on the efficient implementation of distributed ledger technology. For instance, the Securities and

Exchange Commission regulates blockchain applications within the securities market. Nevertheless, such regulatory measures often enhance trust in technology adoption, as demonstrated in countries like the United States and China. Cryptocurrency exchanges have emerged as a distinct aspect of the crypto social space, functioning as a structured social and economic arena where participants—including traders, regulators, developers, and institutional investors—compete for influence, resources, and market leadership. This field operates with its forms of capital, rules, and norms. Cryptocurrency exchanges are typically classified into two primary types: centralized and decentralized. Centralized exchanges must comply with regulatory frameworks and adhere to established compliance standards. In contrast, decentralized exchanges operate within alternative norms that often prioritize autonomy and principles of self-governance. However, centralized exchanges operate even without a license, like the crypto exchange Binance.

Fang et al. (2022) stated that a cryptocurrency exchange, or digital currency exchange (DCE), is a business that enables customers to trade cryptocurrencies. These exchanges may act as market makers, typically earning commissions through the bid-ask spread, or operate as matching platforms by charging transaction fees. In recent years, the cryptocurrency market has experienced profound development, transitioning from a niche interest among technology enthusiasts to an influential global financial ecosystem of substantial significance (Bouri et al., 2019). Hägele (2024) posited that the evolution of the cryptocurrency market has been propelled by technological advancements and innovations, with both centralized exchanges (CEXs) and decentralized exchanges (DEXs) serving as crucial drivers of the market's trajectory. In May 2021, monthly trading volumes surpassed \$4 trillion on CEXs and \$200 billion on DEXs, representing a peak in spot trading activity that had increased more than sevenfold over a six-month period.

Capital. This pertains to the resources and assets individuals hold or have obtained to compete for power, influence, and status across various fields. Capitals that emerged in the national and international discourses are central bank digital currency and Bitcoins ETF.

At the national level, the Central Bank of the Philippines has announced plans to implement a digital currency within the next two years. The institution acknowledges a digital currency's significant potential and necessity, identifying it as a strategic



alternative for enabling cross-border transactions and serving as a reliable store of value. The central bank digital currency is a type of cryptocurrency that is a stablecoin. As a digital asset, a stablecoin can be pegged to fiat currencies such as USDT and USDC, representing a form of economic capital. This also ensures liquidity and enables transactions without concerns about volatility. Economic capital can be understood as financial assets that can purchase goods and services. In cryptocurrency, stablecoins provide players in the social space a reliable medium of exchange, store of value and unit of account.

Bauer and Zanjani (2021) stated that economic capital is tangible material wealth that can be directly exchanged for currency. Stablecoins are digital assets and do not fit into a traditional category of currency circulation as a medium of exchange. Instead, they employ various stabilization mechanisms to minimize price volatility (Bullman et al. 2019). Adachi et al. (2022) highlighted that stablecoins have drawn significant attention from policymakers due to their rapid expansion, growing global applications, and potential channels for financial risk contagion. Positioned within the broader crypto-asset ecosystem alongside unbacked crypto-assets, stablecoins were created to mitigate the significant price volatility of assets like Bitcoin and Ether. Their relatively stable value makes them well-suited for functions requiring low price volatility.

Another code that emerged in the international discourse is the approval of the Bitcoin ETF. A Bitcoin exchange-traded fund (ETF) is an alternative investment introduced by the U.S. government in response to the increasing demand and interest from investors and traders. The Bitcoin ETF replicates the price movements of Bitcoin, enabling traders and investors to gain exposure to the cryptocurrency without directly owning it. This can be viewed as a form of economic capital because it possesses intrinsic value and can be leveraged to generate wealth. Like other financial instruments, the digital asset can be traded on the stock market, with shares that can be bought, sold, or held as investments, allowing for conversion into fiat currency. Additionally, investors and traders can realize returns through capital appreciation or active trading. Bitcoin ETFs are also regulated and accessible, having been institutionalized, which reinforces their legitimacy.

Ding and Wu (2023) explained that economic capital is a fundamental element in Bourdieu's theory of practice (1986). It encompasses an individual's wealth, physical assets, and means of production, which can be readily converted into money or formalized as property rights and transformed into other forms of capital. In recent years, Bitcoin Exchange-Traded Funds (ETFs) have emerged as a novel investment vehicle, enabling investors to gain exposure to Bitcoin without the need to own the cryptocurrency directly. These ETFs, which mirror Bitcoin's price and are traded on traditional stock exchanges, possess the potential to substantially impact the existing cryptocurrency exchange ecosystem (Schwab, 2024). The introduction of Bitcoin

ETFs is expected to promote increased institutional investment in the cryptocurrency market. Institutional investors, who have historically been cautious due to cryptocurrencies' unregulated and volatile nature, may perceive ETFs as a more accessible and acceptable form of investment. This anticipated influx of institutional capital could transform the cryptocurrency landscape, fostering greater stability, legitimacy, and wider mainstream adoption (Brown, 2024).

Doxa. It is a term that describes the deeply embedded beliefs, norms, and values within a social field that are accepted as obvious and unquestionable truths. Doxa emerged in the national and international discourses are decentralized finance and Blockchain.

Decentralized finance (DeFi) has become a central theme in cryptocurrency discussions, with many in the crypto community considering it inherently superior to centralized finance. This belief often remains unquestioned, as DeFi is viewed as more trustworthy, transparent, and resistant to corruption. DeFi mirrors traditional financial services like trading and investing but uses blockchain technology. Beyond these basic services, it provides additional opportunities like staking, farming, lending, borrowing, and yield generation. While DeFi is more accessible than traditional banking, navigating this field requires technical knowledge. Unlike conventional banks, which enforce strict criteria like age, credit scores, and geographic location, DeFi removes these barriers, offering financial services to a broader audience. Additionally, users have more financial freedom when managing their money. This concept appeals to individuals looking for alternative financial solutions. Advocates and enthusiasts of financial technology seek to challenge and redefine power distribution within the financial system, aiming to empower those traditionally excluded. This drive for change led to the emergence of cryptocurrency. They viewed buying and selling cryptocurrency as political and social activism. However, it is important to acknowledge that the decentralized nature of cryptocurrency has also facilitated the persistence of illegal activities within the space, as evident in the national and international discourses.

Au (2022) contended that cryptocurrencies have fostered an ideological divide, with libertarian advocates promoting a utopian vision of borderless economic sovereignty and egalitarianism. Within this framework, cryptocurrencies are envisioned as tools for individuals to reclaim and autonomously manage their financial control. By eliminating reliance on state-backed fiat currencies—often viewed as untrustworthy—citizens can leverage peer-to-peer cryptocurrency technology to ensure the security and management of their wealth. This ideology suggests that through economic sovereignty, individuals can significantly improve their financial well-being and quality of life, effectively shielding themselves from state intervention and oversight. Baldwin (2018) noted that Bitcoin, one of the pillars of cryptocurrency, was created in 2008 as a response to the declining



trust in governments and banks during the financial crisis. However, Bitcoin does not eliminate the need for trust; instead, it redirects it. Instead of relying on banks or states, trust is placed in algorithms and encryption technologies.

Makarov & Schoar, (2022) pointed out that intermediaries play a vital role in implementing regulations and policies, leading to a concentration of power and the potential of economic rents. Thus, there is a concern about power and intermediaries' potential corruptibility or fragility. However, the study by Grassi et al. (2022) showed that decentralized finance does not eliminate financial intermediation; however, it provides a perspective on how decentralization means that no single entity can hold too much power or monopoly.

Blockchain is one of the doxa in both national and international discourses. It refers to the technology where the decentralized cryptocurrency runs. It is a technology that records and spreads transactions across multiple networks of computers. A Decentralized Autonomous Organization (DAO) operates through smart contract code on the blockchain. It is driven by code and designed to facilitate collective governance and decision-making among its participants. Each participant is allocated tokens, which serve as voting rights, determining the value and application of the DAO's assets and initiatives. Blockchain technology can be considered doxa, as participants trust the code without questioning or critically examining the underlying technology. Participants in the crypto space believe that the technology provides a democratic and transparent space, especially in decision-making. Blockchain transactions are immutable and cannot be modified or erased, with the entire transaction history accessible to all participants, thereby fostering trust in the system.

Casemajor and Straw (2023) argued that many blockchain experts adhere a neoliberal perspective on social good, reflecting the prevailing ideology of Silicon Valley. This ideology is rooted in the belief that technology can address social and political inequalities, promoting the notion of a classless society, rather than pursuing changes through policy reform (Semenzin, 2023). Smith (2024) argued that neoliberalism framework is an ideological and policy approach emphasizing free markets and competition. It is associated with an economic philosophy that favors minimal government intervention. The framework advocates for ongoing economic growth as a means of human progress, relies on the effectiveness of open markets for resource allocation, supports limited government involvement in economic and social matters, and promotes the unrestricted flow of trade and investment. Hence, Boaz (2024) supported the idea that the government should limit its authority to every individual. Furthermore, individuals need to produce and trade to survive and flourish, and free markets are needed to create wealth. Moreover, Dupont (2017) defines cyberlibertarianism as an ideology that posits freedom inherently emerges from the advancement of digital technology. According to this perspective, any effort to

control or regulate technological progress is seen as contrary to the principles of freedom.

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RESEARCH ON THE APPLICATION OF CHINESE TRADITIONAL CULTURAL ELEMENTS IN CHILD-FRIENDLY URBAN PARK DESIGN

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ABSTRACT

With the rapid development of urbanization, the construction of child-friendly urban parks has become a significant topic in urban planning and design. This paper aims to explore the application of Chinese traditional cultural elements in child-friendly urban park design by analyzing the connotations of Chinese traditional cultural elements and their manifestations in park design, proposing corresponding design strategies to achieve the organic integration of cultural inheritance and child-friendly urban parks.

KEYWORDS: Chinese Traditional Cultural Elements; Child-Friendly Urban Parks; Design Strategies; Cultural Inheritance

1. INTRODUCTION

The concept of "Child-Friendly Cities" originated from UNICEF, with its core aim being to create a comprehensive, child-friendly urban space that benefits all children in cities in their daily lives, enabling them to play and learn conveniently and safely anywhere, anytime. Children represent the future of cities, and their growth environment is crucial for sustainable urban development. Child-friendly urban parks, as important venues for children's growth, not only provide spaces for play, learning, and social interaction but also serve as essential carriers of cultural inheritance. Integrating Chinese traditional cultural elements into child-friendly urban park design can enrich the cultural connotation of parks, enhance park quality, and help cultivate children's awareness and interest in Chinese traditional culture, promoting cultural inheritance and development.

2. THE RELATIONSHIP BETWEEN CHILD-FRIENDLY URBAN PARKS AND CULTURAL INHERITANCE

The integration of cultural inheritance and urban space manifests special significance in child-friendly urban parks, as it represents both the continuation of Chinese traditional cultural carriers and an essential component of children's growth environment. Therefore, exploring the path of integration between these two aspects is particularly necessary.

2.1 The Connotation of Chinese Traditional Cultural Elements

Chinese Traditional cultural elements refer to unique cultural symbols, values, and aesthetic concepts formed by a country or nation throughout its long historical development. These elements reflect the historical, cultural, and spiritual characteristics of the

nation, possessing profound cultural heritage and unique artistic charm.

2.2 The Important Role of Child-Friendly Urban Parks in Cultural Inheritance

As important windows for children to connect with and understand society, child-friendly urban parks' design concepts and content significantly influence children's growth and value formation (Liu, 2022). Integrating Chinese traditional cultural elements into park design allows children to encounter Chinese traditional culture during play, understand ethnic history and culture, and cultivate their cultural confidence and ethnic pride. Additionally, through interactive and experiential park design, children's interest in Chinese traditional culture can be stimulated, promoting their in-depth learning and exploration of Chinese traditional culture.

3. DESIGN STRATEGIES FOR CHILD-FRIENDLY URBAN PARKS BASED ON CHINESE TRADITIONAL CULTURAL ELEMENTS

Designing child-friendly urban parks based on Chinese traditional cultural elements requires balancing the dual objectives of cultural inheritance and child-friendliness. The following discussion will cover principles, objectives, and specific strategies to achieve the organic integration of culture and spatial design.

3.1 Design Principles and Objectives

When designing child-friendly urban parks based on Chinese traditional cultural elements, the following principles should be observed: First, respect for history and culture, maintaining the authenticity and integrity of Chinese traditional culture; second, focus on children's needs and interests, creating spaces suitable



for children's play and learning; third, emphasis on interactivity and experience, allowing children to appreciate the charm of Chinese traditional culture through participation and experience (Yang, 2022). The design objective should be to create an urban park that possesses both cultural heritage and childlike interest, enabling children to experience the charm of Chinese traditional culture during play and cultivate their interest in and love for Chinese traditional culture.

3.2 Design Strategies

Based on the above principles and objectives, design strategies need to combine specific characteristics of Chinese traditional culture, using appropriate design methods to help children perceive the essence of Chinese traditional culture in a relaxed interactive environment. The following are specific strategy developments.

3.2.1 Integration and Refinement of Chinese Traditional Cultural Elements

Deeply explore Chinese traditional cultural elements, including Chinese traditional architectural forms, pattern symbols, and folk stories, and skillfully integrate them into various corners of the park through modern design techniques. In playground equipment design, Chinese traditional architectural forms such as pavilions and towers can be referenced, using Chinese traditional patterns for decoration, making the facilities not only practical but also rich in Chinese ethnic characteristics and cultural heritage.

3.2.2 Interactive Experience and Technological Innovation

Focus on enhancing the park's interactivity and experiential quality. Design highly interactive games and activities, such as Chinese traditional cultural activity scene design, placement of interactive Chinese traditional ornaments, Chinese traditional culture-themed role-playing, treasure hunts, etc., allowing children to personally experience the charm of Chinese traditional culture through participation. Meanwhile, utilize modern technological means such as virtual reality and augmented reality to create immersive cultural experiences for children, enabling them to understand and learn Chinese traditional culture more intuitively and vividly.

3.2.3 Strengthening and Expanding Educational Functions

In park design, emphasize educational functions through enriched cultural education programs to enhance children's understanding of Chinese traditional culture. Chinese Traditional culture lectures can be arranged, inviting experts and scholars to explain Chinese traditional cultural knowledge to children; organize

handicraft-making activities to let children experience the charm of Chinese traditional culture firsthand; and combine festival celebrations to hold Chinese traditional culture-themed performances and exhibitions, allowing children to experience the flavor of Chinese traditional culture in a joyful atmosphere.

3.2.4 Cultural Communication Through Wayfinding Systems

The wayfinding system is an indispensable part of parks, serving not only as an important tool for guiding visitors but also as a significant carrier of cultural information. Chinese Traditional cultural elements can be integrated into the wayfinding system design, such as using Chinese traditional patterns and colors for decoration, or adopting calligraphic fonts for signage, making the wayfinding system itself a window for displaying Chinese traditional culture. Additionally, the wayfinding system can incorporate storytelling design, guiding children to explore and discover cultural elements in the park through interesting storylines, enhancing their interest and participation.

4. EXPRESSION CARRIERS OF CHINESE TRADITIONAL CULTURAL ELEMENTS IN CHILD-FRIENDLY URBAN PARK DESIGN

The specific expression carriers of Chinese traditional cultural elements in child-friendly urban park design cover multiple aspects. The following analysis examines their implementation forms from the perspectives of playground equipment, spatial layout and landscape design, educational programs, and public art and wayfinding systems.

4.1 Playground Equipment Design

As an essential component of children's parks, playground equipment design needs to skillfully integrate Chinese traditional cultural elements while meeting safety and entertainment requirements, enhancing cultural influence and educational functions.

4.1.1 Creating Playground Equipment with Chinese Ethnic Characteristics

In the park's play area, ancient pavilion-style playground equipment can be designed, with Chinese traditional upturned eaves on top and classical painted decorations on the body, giving the equipment an overall classical and elegant quality. Such design not only allows children to experience the atmosphere of Chinese traditional culture during play but also adds a unique cultural touch to the park (Qiu & Cai, 2022).



4.1.2 Creating Playground Equipment with Chinese Traditional Flavor

Utilize Chinese traditional bamboo weaving techniques to create playground equipment seats and railings, which are both environmentally friendly and rich in Chinese ethnic characteristics. Meanwhile, we can also employ Chinese traditional stone carving and brick carving techniques to integrate Chinese traditional cultural elements into facility decorations, making the equipment more artistic and culturally meaningful.

4.1.3 Combining Chinese Traditional Cultural Elements with Modern Playground Equipment

Design interactive playground equipment incorporating Chinese traditional mythological stories, allowing children to learn about Chinese traditional cultural stories while playing, enhancing their interest in and identification with Chinese traditional culture. Additionally, we can utilize modern technological means such as virtual reality and augmented reality to provide children with immersive Chinese traditional cultural experiences, enabling them to understand and learn Chinese traditional culture more deeply through play.

4.2 Spatial Layout and Landscape Design

Spatial layout and landscape design are core elements of child-friendly urban park design and important aspects for displaying Chinese traditional cultural elements. In terms of spatial layout, we can draw from Chinese traditional garden layout techniques to create spaces with rich layers and changing scenery with each step. First, we can use Chinese traditional garden layout techniques such as borrowed scenery and corresponding scenery to create mutual referencing and echoing between natural and

cultural landscapes within the park, forming a harmonious and unified spatial atmosphere. For example, placing a Chinese traditional-style gate at the park entrance with a lush bamboo forest behind it creates a beautiful scene while guiding children into the park and allowing them to experience the flavor of Chinese traditional culture. Second, we can create landscape environments with Chinese traditional charm by combining topography and vegetation characteristics. For instance, in the park's lake area, we can use Chinese traditional rock-stacking landscape techniques to create scenery where mountains and waters depend on each other, creating profound artistic conception. Meanwhile, we can also select and arrange plants with local characteristics to form distinctive regional plant landscapes, enhancing the park's cultural identity. In landscape design, we can employ Chinese traditional garden-making techniques and plant configuration methods to create an atmosphere that is both classical and naturally harmonious (Qiu & Cai, 2022). For example, along the park's walkways, we can place Chinese traditional-style stone carvings and landscape lighting to add cultural atmosphere to the park. Meanwhile, we can also utilize terrain changes and water system distribution to create rich spatial layers and landscape variations, allowing children to experience different landscape experiences during play. Furthermore, we can design some cultural landmark nodes based on the park's theme and functional positioning. For instance, we can place Chinese traditional culture-themed sculptures or murals in the central plaza as iconic landscapes; in the leisure area, we can set up Chinese traditional-style seats and pavilions to provide children with a comfortable resting environment.



4.3 Educational Program Design

Educational programs are an important function of child-friendly urban parks and a crucial pathway for inheriting Chinese traditional culture. Through designing various cultural education programs, we can help children understand and learn Chinese traditional culture through participation. By regularly organizing Chinese traditional culture lectures and exhibitions, inviting experts, scholars, or folk artists to explain Chinese traditional cultural knowledge to children in the park, and displaying Chinese traditional handicrafts and cultural relics, children can experience the charm of Chinese traditional culture through listening and viewing. We can also conduct handicraft-making activities by setting up handicraft-making areas, providing Chinese traditional handicraft materials and tools, allowing children to experience the Chinese traditional handicraft-making process firsthand, cultivating their hands-on abilities and

creativity. Meanwhile, we can invite craftsmen to provide on-site guidance to children in their creation, helping them understand and learn Chinese traditional handicrafts more deeply. Furthermore, we can develop outdoor education activities combining the park's natural landscape and cultural environment. For example, organizing Chinese traditional culture-themed outdoor adventure activities for children to learn about Chinese traditional cultural stories and historical legends through exploration, or conducting Chinese traditional culture-themed outdoor performances for children to demonstrate their understanding and love of Chinese traditional culture through performance. Through the design and implementation of these educational programs, we can help children understand and learn Chinese traditional culture more deeply through play, cultivating their cultural confidence and ethnic pride.



4.4 Public Art and Wayfinding System Design

Public art and wayfinding systems are important visual elements within parks and significant means of displaying Chinese traditional culture. Through designing public art works and wayfinding systems with Chinese traditional cultural characteristics, we can add more cultural atmosphere and artistic charm to the park. In public art design, we can create sculptures, murals, and other works with Chinese traditional cultural

characteristics based on the park's theme and style positioning. These works can present Chinese traditional cultural stories, historical figures, or folk tales, allowing children to experience the charm of Chinese traditional culture through appreciation. Meanwhile, we can also utilize modern artistic methods and technical means to create public art works that possess both Chinese traditional characteristics and meet modern aesthetic needs.





5. CONCLUSION

Integrating Chinese traditional cultural elements into child-friendly urban park design not only enriches the park's cultural connotation but also enhances its educational function and social value. This design strategy holds significant importance for inheriting and promoting excellent Chinese traditional culture and cultivating children's cultural confidence and ethnic pride. Through Chinese traditional cultural elements in parks, children can gradually absorb Chinese traditional culture while playing, strengthening their cognition and understanding of Chinese traditional culture. Meanwhile, this design approach also helps enhance the park's cultural identity, making it an important window for displaying urban cultural image. Furthermore, as an important component of urban public space, child-friendly urban parks' design should fully consider children's needs and interests, while the integration of Chinese traditional cultural elements adds more interest and exploration to parks, helping attract children to actively participate in outdoor activities and promoting their physical and mental health development. Therefore, applying Chinese traditional cultural elements in child-friendly urban park design not only has profound cultural value but also significant social importance, playing a positive role in promoting urban cultural construction and social harmonious development.

In practical design processes, we need to deeply explore the essence of Chinese traditional culture, combining it with modern design concepts to create designs that possess both Chinese traditional characteristics and meet modern aesthetic needs. During the design process, we should also focus on children's participation and experience, allowing them to experience the charm of Chinese traditional culture while playing, thus inspiring their love and respect for Chinese traditional culture. With continuous social development and progress, child-friendly urban park design will face new challenges and opportunities. In future designs, we should continue to focus on changes in children's needs and interests, continuously explore and innovate ways to apply Chinese traditional cultural elements, creating a better

growing environment with richer cultural connotation for children.

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INFLAMMATORY PERIODONTAL DISEASES: PATHOGENESIS, PRINCIPLES OF COMPLEX TREATMENT

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ABSTRACT

The article presents modern ideas about the features of the occurrence and course of gingivitis and periodontitis, taking into account the hormonal, immune and age status of the patient. An algorithm of therapeutic measures and medication is presented, including the use of extemporaneous paste BKM and medicinal films developed by the author.

KEY WORDS: Periodontitis , Periodontitis Treatment , Medicinal Films, Extemporaneous Paste

PATHOGENESIS

Inflammatory periodontal diseases are one of the most complex problems in dentistry, which is explained by both its multicomponent nature and the persistence of the course due to the insufficient effectiveness of the proposed means and methods of their application. From the moment of teeth eruption, microorganism aggression unfolds in the oral cavity, to which the macroorganism responds by turning on numerous protective mechanisms. These include immune factors secreted into the gingival fluid and saliva, and the migration of normal, very active macrophages and the sufficiently intensive blood supply that ensures their entry into the arena of action, and the rapid change of the integumentary epithelium, and the extremely intensive process of collagen regeneration. On the side of bacteria, there are such damaging factors as thermal (temperature changes from the lowest to barely bearable high), and mechanical damage when using too coarse food and malocclusion, and chemical aggression in acute and chronic poisoning with heavy metals. The process is aggravated by insufficiently effective or completely ignored oral hygiene by the patient. Deeper development of the process with loss of calcium from the hard tissues of the dental and jaw system is often associated with hormonal disorders combined with vitamin imbalance. This long-term process develops against the background of the slow but sure aging process of the body.

It is recognized that the initially vulnerable link is the gingival groove, adjacent to the enamel and covered with transitional epithelium. Directly adjacent to it is a dense vascular plexus. Through the walls of its capillaries there is a constant flow of polymorphonuclear neutrophil granulocytes (NG), which, passing through the transitional epithelium layer, end up in the gingival sulcus fluid and then in the oral cavity. Healthy and full-fledged NG accumulate and function between the gum tissue and microbial plaque, forming a protective barrier. This leads to the limitation of the spread of microbial plaque. The second line of defense against bacterial aggression are fibroblasts of the connective tissue of the gums, supporting and renewing the fibrous matrix of the connective tissue. At the same time, near the blood vessels are and mast cells, which are

a reservoir of inflammatory factors, which at first also have a defensive function.

At some stage, as a result of primary damage, microcirculation in the gums is disrupted, pO₂ in the tissues decreases, which leads to a short-term spasm with a longer-term vasodilation. This is manifested in an increase in vascular permeability with the penetration of plasma proteins into the walls of blood vessels, and then perivascularly.

These metabolic disorders can arise as a result of a banal deficiency of ascorbic acid or as a manifestation of diabetes. The collagenase activated in this case leads to depolymerization of collagen against the background of weakening of fibroblast function. Disorganization of connective tissue occurs due to the breakdown of hyaluronic acid against the background of lypoxia. Vasculitis develops, and local accumulation of PNH constitutes a pathological syndrome of capillary-trophic insufficiency.

Over time, the damage expands, the number of plasma cells increases, and an initial gingival pocket is formed. It is filled with migrants - PNG, which go further - into the oral cavity. Initial signs are most often observed in the area of the gingival groove in the interdental spaces.

Such damages - of moderate and even moderate severity - can disappear spontaneously, more often - remain stable or turn into a destructive process with alteration of the gum edge and resorption of the alveolar bone.

Chronic periodontitis is characterized by the presence of gingival pockets with ulceration of the epithelium lining the pockets, the formation of a dense infiltrate of lymphocytes, plasma cells, macrophages and a variable number of neutrophils. At the same time, there is a decrease in the amount of collagen with fibrosis, destruction of the normal structure of the connective tissue adjacent to the root of the tooth, as well as osteoclastic resorption and destruction of the alveolar bone and root of the tooth with a cyclical or disordered course of the process.



The described damage to connective tissue and periodontal ligament occurs against the background of a reduction in periodontal collagen with a simultaneous increase in its synthesis – with the formation of type J collagen and weakly intertwined soluble collagen.

In accordance with these pathological changes in the matrix of connective tissue of the gums, both the transitional epithelium and the epithelium of the pockets are greatly weakened, the connection between the tissues of the gum and the tooth is broken, and the epithelial barrier is lost, which further increases inflammation.

From this point on, the growth and development of subgingival bacterial plaques increases. The transitional epithelium shifts in the apical direction, which correspondingly deepens the pocket. Bacteria now begin to actively penetrate the periodontal tissues, causing a further response from the host. With timely removal of the bacterial factor, inflammation subsides: the number of neutrophils and other "inflammatory cells" is significantly reduced, the structure of the connective tissue, the epithelial barrier, including the transitional epithelium, is restored.

Epithelium.

Clinic. Inflammatory periodontal diseases - gingivitis and periodontitis are a single process that developed gradually in the early years (from childhood to 25-30 years) and does not yet lead to a violation of the tooth-gingival junction, which is considered as gingivitis of varying severity. With the appearance of a periodontal pocket, the stage of the process is considered as periodontitis, in which deeper (in anatomical and functional terms) changes occur.

Gingivitis is an initially localized and later generalized inflammation of the mucous membrane of the alveolar process of the gum. It is characterized by the presence of soft (non-mineralized) plaque, food particles and, rarely, tartar. The severity of the process in the gum directly

proportional to the degree of oral hygiene. Often a combination of gingivitis with caries in the spot stage (focal demineralization of enamel) in the cervical area. As a rule, swelling and inflammatory infiltration of the gums are observed, sometimes with signs of proliferation in the area of the gingival papillae. Increased bleeding and pain upon contact with the gum are typical. The general condition of patients is not disturbed, except for cases of general intoxication of patients.

With gingivitis of any severity, there is no periodontal pocket, tooth mobility, or signs of alveolar bone resorption.

Severity of gingivitis: mild gingivitis is characterized by damage to the interdental gums, moderate gingivitis is characterized by damage to the interdental and marginal gums, and severe gingivitis is characterized by damage to the entire gums, including the alveolar gums.

Localized gingivitis is recognized if the gum is affected in the area of 1-2-3 teeth. Generalized gingivitis is characterized by

damage in the area of all teeth of the upper and lower jaw. In the clinic, chronic catarrhal gingivitis in the acute stage is most often observed. In some cases, acute catarrhal gingivitis is accompanied by serous inflammation of the entire mucous membrane of the oral cavity, and then it is regarded as gingivostomatitis .

Acute catarrhal gingivitis : severe swelling of the gums causes the epithelium to be shiny and tense, accompanied by pain and bleeding when touched. Acute catarrhal gingivitis often occurs in acute intoxication (with bismuth, mercury, and lead salts).

Chronic catarrhal gingivitis usually causes little concern to patients; they rarely seek medical attention due to the weak severity and inconsistency of the symptoms of inflammation.

Chronic catarrhal gingivitis is often accompanied by chronic diseases such as liver cirrhosis, chronic glomerulonephritis , thyrotoxicosis and myxedema, as well as hypovitaminosis C.

Periodontitis is the next stage of gum inflammation, when the process affects the underlying periodontal tissues. It is characterized by progressive destruction of the periodontium and bone structures of the interdental septa. This is usually detected at the age of 30-40 years.

Characteristic signs of periodontitis: the presence of a periodontal pocket and, in addition to plaque, significant deposits of supragingival and subgingival tartar; tooth mobility, displacement, impaired chewing function, tremas , traumatic articulation. Radiographs show signs of tissue destruction of the interdental septa with the destruction of the cortical plates. Foci of spotted osteoporosis and blurred contours of the septa are noted.

Patients show signs of general malaise, elevated body temperature, changes in the peripheral blood picture according to the type of non-specific inflammation - leukocytosis, increased ESR.

Localized periodontitis can develop in the area of 1-2-3 teeth due to occlusal trauma, rupture of the circular ligament during prosthetics, introduction of filling material into the interdental space. With poor oral hygiene, the localized process can transition to a generalized form. With timely elimination of the causative factor, the prognosis is favorable - with possible regeneration of bone tissue. Generalized periodontitis is an inflammatory lesion of all periodontal tissues. It is characterized by heterogeneity of the periodontal tissue lesion: periodontal pockets of varying depth, and the degree of mobility of individual teeth is also different. Even within one tooth, bone resorption is uneven. This leads to early removal of individual teeth and the formation of traumatic occlusion. The course of the disease is progressive, with frequent exacerbations, abscess formation . Abscesses and fistulas are located closer to the gingival margin against the background of edematous and hyperemic mucosa. At the same time, the general condition suffers - headache, temperature reaction with general malaise are observed. This leads patients to see a specialist. With active complex treatment using surgical



intervention, stabilization of the process with partial regeneration of bone tissue is possible.

The severity of the process is determined by the depth of periodontal pockets and the degree of bone tissue resorption. This determines the amount of tooth mobility, as well as the choice of surgical and orthopedic treatment tactics.

A mild degree of periodontitis is characterized by the following indicators:

periodontal pocket depth up to 3.5 mm;

- no loose teeth;
- no displacement of teeth;
- induced bleeding;
- the general condition of the patient is not disturbed;
- radiologically: disintegration or disappearance of the compact plate;
- reduction of interdental septa to less than 1/3 of their height.

The average degree of periodontitis is characterized by the following indicators:

periodontal pocket depth up to 5.5 mm;

- pathological mobility of teeth of 1-2 degrees;
- there is displacement of teeth, tremas, diastemas;
- traumatic occlusion appears;
- resorption of interdental septa from 1/3 to 1/2 of their height;

Severe periodontitis is characterized by:

- periodontal pockets more than 6 mm;
- teeth mobility of 2-3 degrees;
- teeth are displaced;
- significant tremas;
- pronounced traumatic articulation;
- there are defects in the dental arches;
- resorption of tissue of interdental septa from 1/2 the length of the root to complete.

In addition, with moderate and severe periodontitis purulent discharge from periodontal pockets and abscess formation are possible.

In the remission phase of periodontitis the following is typical:

- the gums are pale pink, tightly adjacent to the surface of the tooth;

- possible exposure of the tooth root;
- the depth of the periodontal pocket can be maintained, but with some types of surgical treatment it may decrease to 1-2 mm with light probing or be absent;
- there are no radiological signs of active progression process – new foci of osteoporosis are not visible, no progressive loss of bone tissue is observed;
- chewing function, diction and aesthetics improve.

A characteristic anamnesis, which confirms the implementation of complex treatment and other anti-inflammatory measures, helps in establishing the diagnosis of “periodontitis in remission”.

Typical complaints with advanced periodontitis: bleeding gums, pain when biting, sticky plaque on the teeth, bad breath (often “sweetish”), the appearance of severe pain deep in the jaw, lasting for several minutes. During such an attack, percussion on the teeth does not change nature of pain. Sometimes the only complaint is an increase in the gaps

between teeth that have become mobile or the release of pus from under the gum.

Treatment. A modern comprehensive approach to the treatment of inflammatory periodontal diseases should become the realization of the idea of great doctors: “treat the patient, not the disease.”

This involves a thorough examination of previous and current suffering, consideration of the patient's hormonal and age status, medications previously used and currently used, allergy susceptibility, vitamin balance and possible genetic predisposition. This information should be contained in the patient's medical record and, ideally, in the patient's electronic medical history.

Taking into account the above, oral hygiene should be in the first place in terms of prevention and therapy. This will significantly reduce bacterial aggression, which has often been unsuccessful when using only pharmacological antibacterial drugs: they may be ineffective in the presence of antibiotic-resistant strains. In addition, the bactericidal effect does not at all mean the exclusion of the effect of bacterial exotoxins remaining in the tissue. And in the case of anaerobic microflora – also endotoxins, which are especially harmful to the deep sections of the periodontium and especially its bone base.

A comprehensive therapy for inflammatory periodontal diseases should be built taking into account the main links in pathogenesis and the essence of the disease process:

- the presence of diverse flora in the form of plaque, plaque and hard dental deposits;
- the adhering fungal flora is insensitive to antibacterial agents;
- inflammatory tissue swelling;
- deterioration of microcirculation and pO₂ deficiency;
- decrease in the production of complete collagen;
- the release of calcium from the protein matrix;
- the presence of excess pathological granulation in the pockets;
- shift of pH towards the acidic side.

oral hygiene comes first, both during the period of prevention and treatment of this pathology. It includes mechanical, including the use of ultrasound, removal of tartar, bacterial plaques and excess granulation.

In the presence of periodontal pockets, the first stage is their curettage followed by sanitation of the surfaces with a 0.06% chlorhexidine solution. In the case of a more widespread and deep process, the second stage should be carried out – a flap operation, which is necessarily carried out under conduction anesthesia (application anesthesia is insufficient both in depth and duration). Upon completion of the procedure, the flap is pressed tightly to the surface of the tooth, leaving blood in place, which is organized into a blood clot as a source of epithelial cells for the formation of a tooth-gingival junction close to normal.

Better fixation of the flap is also facilitated by the use of gingival dressings and the reduction of tooth mobility by their



temporary application . splinting . In case of using medicinal preparations, their effectiveness depends on the duration of their contact with tissues. In order to increase this indicator, it is advisable to use medicinal films or extemporaneous pastes containing a complex of preparations. In case of using medicinal preparations, their effectiveness depends on the duration of their contact with tissues. Longer contact is achieved by using extemporaneous pastes with increased adhesion, as well as medicinal films. The complex of preparations included in their composition has antibacterial, fungicidal , anti-inflammatory, anabolic and calcium-sparing effects.

Deeper penetration of the paste components is ensured by the inclusion of dimethyl sulfoxide (DMSO), which has some analgesic effect.

Briefly, these manipulations can be represented as follows:

Ulcerative gingivitis:

- after anesthetizing the gums, soft dental plaque and hard dental deposits are removed, then - applications of enzyme preparations (chymopsin , trypsin or chymotrypsin) diluted in an isotonic solution of sodium chloride or distilled water. After mechanical cleaning of the ulcer surfaces from necrotic masses and antiseptic treatment of the gums, BKM paste is applied to the affected areas of the gums on sterile gauze strips for 20 minutes, after isolating it from saliva. At home, it is recommended to carry out antiseptic mouth rinses every 1.5-2 hours, hygienic care with a soft toothbrush 3-4 times a day. Anti-inflammatory and antimicrobial drugs are prescribed internally (depending on the severity and taking into account the indications) (co- trimoxazole 480 1 tablet 2 times a day, metronidazole 1 tablet 3 times a day) for 7-10 days, and after eliminating inflammation in the gum - drugs that help increase the body's natural resistance (methyluracil 1 tablet 3 times a day for 10-15 days), vitamin therapy (vitamin "A" in oil locally in the form of applications on the gums, Aevit 1 capsule 3 times a day, Ascorutin 1 tablet 3 times a day, etc.).

Generalized periodontitis: - local therapy begins with oral cavity sanitation (removal of dental plaque, treatment of carious teeth, removal of roots of teeth and prostheses that do not represent functional value, etc.). Depending on the indications, selective grinding of teeth (to create multiple uniform contacts, eliminating overload of periodontal tissues) and temporary splinting to stabilize loose teeth. As a result of orthopedic treatment methods, hemodynamics and metabolic processes in the periodontium are normalized, the resistance of periodontal tissues to mechanical stress and the effects of unfavorable factors increases. Removal of dental plaque should be carried out very carefully using modern ultrasonic devices.

Local treatment of periodontal tissues consists of 3 stages:

- 1) drug therapy, the purpose of which is to eliminate pathogenic microflora and eliminate inflammation in the gums;
- 2) surgical treatment, the purpose of which is to eliminate the periodontal pocket (curettage – removal of subgingival dental deposits, granulations, altered cementum, epithelial strands from the inner surface of the gum; flap surgery, method of guided regeneration, etc.)
- 3) postoperative stage until the patient is fully rehabilitated.

When treating with BKM paste, at the first stage of treatment it is necessary to adhere to a strict sequence of therapeutic interventions on the periodontium: after removing dental plaque and irrigating the pockets from a syringe under pressure with antiseptic solutions, drying the area of the affected periodontium with a stream of compressed air, it is necessary to introduce BKM paste into the periodontal pockets under the gingival dressing. The procedure is repeated until the inflammation in the gum is completely eliminated. However , in some cases, the inflammatory reaction stubbornly persists. This is explained by the fact that chronic inflammation significantly increases the activity of physiological mechanisms that play a protective role and ensure the viability of tissues in conditions of impaired hemodynamics and the action of pathogenic factors. Therefore, if inflammation in the gum persists, then it is necessary to continue treatment with BKM paste until the inflammatory reaction is completely eliminated. The method of using a particular drug is of no small importance. In case of minor exudation from pockets, BKM paste can be introduced into periodontal pockets under the gingival medicinal and protective layer in order to prolong its action.

Bandage. In case of abundant suppuration, the use of bandages is excluded in order not to cause the formation of a periodontal abscess. For the same reason, active drug therapy in the form of irrigation of pockets from a syringe under pressure, the introduction of BKM paste into periodontal pockets under

Gum dressings are not used in the case of abscessed periodontitis, severe exudation from pockets, and symptoms of general intoxication of the body. Applications of BKM paste are prescribed 2-3 times a day with an exposure of 20 minutes. After the exacerbation has been eliminated, treatment is carried out according to the above-mentioned method and averages from 2 to 4 procedures, depending on the severity of periodontitis.

In the postoperative stage, until the patient is fully rehabilitated, it is possible to use BKM paste as part of therapeutic and protective gum dressings.

The described procedures on the periodontium should be supported by the resorptive effect of a complex of drugs - vitamins of targeted action, non-steroidal anabolics, inhibitors of bone resorption, factors promoting remineralization . The direction of the effects of drugs of resorptive use

Vitamins:

C (ascorbic acid) – participates in oxidation-reduction reactions, improves protein synthesis (including collagen), participates in the synthesis of steroid hormones, increases the resistance of capillaries (in cooperation with vitamin P – rutin).

B 1 – participates in carbohydrate metabolism, reducing the level of pyruvate , increases the energy supply of tissues.

B 2 - participating in protein, fat and carbohydrate metabolism, prevents the development of cheilitis , gingivitis. B 6 - participates in protein metabolism, transamination of tryptophan, methionine, cysteine, glutamine, thereby strengthening the protein matrix of the gums .



D- ergocalciferol ensures the absorption of calcium from food and reduces its loss through the kidneys. Non-steroidal anabolics:

Methyluracil – has an anti-inflammatory effect, improves nucleic acid metabolism and regeneration in bone pathology and ulcerative processes.

Orotate is an anabolic that does not cause calcium loss and stimulates regeneration and protein synthesis.

Bone resorption inhibitors : K alclitonin - a preparation of the natural hormone calcitriol (obtained by genetic engineering) is an analogue of a bone mineralization stimulator. 1 ml contains 50 IU.

Xidifon (etidronic acid) is an inhibitor of osteoclastic bone resorption.

Osteogenon is an ossein- hydroxyapatite compound. It is an osteoblast stimulator and an osteoclast inhibitor.

Remineralization preparations : calcium carbonate, calcium gluconate, calcinate (a complex of retinol , ergocalciferol , pyridoxine, calcium) and a complex of vitamins A , D, B6 with calcium phosphate. The duration of the achieved

This therapeutic effect is also determined by the formation of a stable motivation of the patient for regular and properly performed oral hygiene.

10. 2 p.

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PRIORITIZING FAMILY COMMITMENTS OVER EDUCATION: A MULTIPLE CASE STUDY OF ENGLISH MAJOR STUDENTS' TRANSITION FROM CAMPUS TO CAREER

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ABSTRACT

This research project is a qualitative multiple-case study that examines the experiences of English major students as they transition from campus to their professional careers. The study incorporates in-depth interviews with three participants and their respective informants to gain a comprehensive understanding of how family commitments impact the educational and career paths of these students during this critical juncture. The research aims to fill a gap in the literature by focusing on the experiences of English major students and the role of family commitments in shaping their educational and career paths. The study is informed by previous research that suggests that family commitments can significantly influence a student's ability to pursue their academic and career goals. By exploring the experiences of English major students, the study seeks to shed light on the ways in which these commitments impact the transition from campus to career. The study's findings will contribute to our understanding of the challenges that English major students face when transitioning from campus to career, particularly in the context of family commitments. The study will also provide insights into the ways in which students navigate these challenges and the strategies they use to balance their academic and career goals with their family commitments.

KEYWORDS: Family Commitments, Education, multiple case study, English major students, Davao del Norte, Philippines

INTRODUCTION

The decision to prioritize family responsibilities over educational and career goals is multifaceted and influenced by a variety of factors, including cultural values, socioeconomic backgrounds, personal circumstances, and societal expectations. Understanding the motivations and experiences of English major students who make this choice can shed light on the complex interplay between family commitments and educational and career aspirations. Career choice is a lifelong process of decision-making for those who seek major satisfaction from their work. A preference belief that individuals want to have or consider important in career decision-making, have certain guidance for people's professional behavior and play an indispensable role in career choice. It changes depending on events or experiences, and childhood and adolescence are considered critical periods for value development, but this change decreases with age until it stabilizes (Knox-Hayes, 2021).

In the United States, it was found that international students reported higher levels of stress compared to Europeans or students with U.S. residencies who tend to choose to work enable them to prioritize their family commitments. A recent study found

that the prevalence of depression among international students, which ranged from 22.6% to 45.3%, was higher than that of local students and even the general population. Accountable factors for such disparities included English incompetence, population. Acculturative stress, social belonging, and perceived discrimination (Shadowen, 2019).

In the Philippines, it was revealed that students in the Philippines are increasingly choosing to work in order to fulfill their familial responsibilities. This tendency is mostly in relation to financial issues. This trend is putting Filipino students in a difficult situation, where they have to manage various aspects of their lives, including academic requirements, job responsibilities, and personal commitments, such as family, social, and romantic relationships. This can have a significant negative impact on their academic performance and well-being. On the other hand, the pressing issue of work-life balance in our society is not foreign to us. Sometimes, family commitments can take precedence over educational pursuits. This has implications for individuals, particularly those pursuing careers in fields like English, as they navigate the challenges of reconciling career aspirations with family responsibilities.



The study's societal significance stems from its examination of how family responsibilities, education, and professional goals intersect, especially for English major students. Through an analysis of the variables that influence students' choices to put family obligations ahead of their academic and professional aspirations, this study aims to set a broader discourse by analyzing how students juggle the pressures of employment and school while attending to their families. In a world where the lines separating work, school, and personal life are becoming too hazy, this is socially relevant. The study's conclusion can help guide programs or in what way can we improve the career development, counseling, and planning services that cater the unique needs of English major students and other who face similar challenges, which would be beneficial to both individuals and the society as a whole. The situation calls for an urgent need to understand the challenges these students face and develop strategies that can help to better support working students in the Philippines.

There were various studies being conducted that is somewhat related to this study. A study conducted by Oztabak et al. (2018) entitled, "Career Decision-Making Self-Efficacy", Halim et al. (2018) entitled, "Family Influence and Academic Satisfaction on Career Decision-Making Self-Efficacy" and a study carried out by Kocak et al. (2021) "The Role of Family Influence and Academic Satisfaction on Career Decision-Making Self-Efficacy and Happiness". These studies focused on contributing to our understanding of the various factors that shape individuals' confidence in making career decisions and highlight the importance of family support and academic satisfaction in this process. However, none of their studies explored the experiences of students who prioritize family commitments over education. This study aims to address a gap in the literature by examining the decision-making processes of students who prioritize family obligations and responsibilities over their education, exploring the practical challenges, conflicts, and trade-offs they face, and how they manage those in order to achieve their academic and career aspirations.

The findings will be presented at conferences and, if possible, published in reputable publications or on a reliable website. It might also be presented at conferences and specialist forums on topics including international student conferences, work-life balance, and cultural influences on education. This could offer more accessibility to the fundamental themes conveyed in commencement speaker success tales. The study will be made physically available to staff, faculty, and students in the school library. To provide distant access, an electronic version can also be used in the organization's digital repository.

Research Questions

1. What are the unique characteristics and personalities of each English major students as they transition from campus to career?

2. What are the experiences that challenge English major students from each cases on their transition from campus to career?
3. What are the ways of coping of each case of English major students with challenges that they have experienced during their transition from campus to career?
4. What are the insights of each case of English major students gain regarding the interplay between family commitments and their personal and professional development during the transition?

RESEARCH METHODOLOGY

Research Design

This study employed a qualitative research methodology based on various case studies, to more fully comprehend the informants' experiences. In order to obtain a deeper understanding of the experiences of the participants, qualitative research design emphasizes exploring the experiences and perceptions of individuals in their natural setting. The findings of qualitative research are regarded as descriptive rather than predictive. The technique also aids in the researcher ability to connect with the participants. Therefore, the researcher might report to the participants for further clarification and verification to make the date more reliable and authentic (Neubauer et al., 2019).

Participants

This study was conducted at Kapalong College of Agriculture, Science, and Technology, three (3) participants were selected for their specific characteristics and their willingness to participate. All participants were English major students pursuing a Bachelor of Secondary Education Major in English (BSED) degree program at the institution. The study aims to explore the impact of prioritizing family commitments over education, particularly in the context of English major student. The research delved into the challenges faced by students who balance family responsibilities and academic pursuits, shedding light on the potential effects on their academic performance, mental well-being, and overall success. By focusing on the experiences of English major students, the study seeks to provide valuable insights into the complexities of managing familial obligations alongside educational endeavors, ultimately aiming to contribute to the development of supportive strategies and interventions for students facing similar challenges in academic settings.

The researcher selected the participants through the following inclusion criteria: Case 1, chose to prioritize work to provide the needs of family, Breadwinner; Case 2, chose to make his/her own business over education; and Case 3, consistent student chose to prioritize work for being call center. Each unique case will represent an individual's experience and journey in taking the responsibility for their family within the context of their respective majors. Understanding the diverse experiences of these participants during their transition from campus to career is crucial for effective support and guidance. This demographic information shed light on the multifaceted dynamics of their lives



and helps in designing effective interventions to support them in their journey toward success.

Data Collection

The researcher employed in-depth interviews (IDIs) as the primary data collection method, ensuring that participants were available at the agreed-upon time and location. Qualitative research, which emphasizes understanding individuals' perspectives and the reasons behind them, utilizes techniques like IDIs and focus group discussions (FGDs). The study began with purposive sampling to select informants, who were required to review and sign consent forms that emphasized voluntary participation and confidentiality. A detailed orientation session outlined the study's objectives, interview duration, and potential benefits to participants. This approach ensured a thorough understanding of participant perspectives while maintaining ethical standards. Qualitative data complemented by quantitative findings provided insights into the factors shaping behaviors and attitudes.

Data Analysis

All the gathered data was analyzed using thematic analysis. Thematic analysis was used as a method that provides a systematic element to data analysis. It allows the researcher to associate the analysis of the frequency of the theme with one of the whole contents. Therefore, the participants' interpretations were significant in terms of giving the most appropriate explanations for their behaviors, actions, and thoughts. As described, thematic analysis has link stages: data reduction, data display and data conclusions which were all useful in verifying and drawing the data collected (Miles & Huberman, 1994; Hatch, 2002; Creswell, 2003; Marks & Yardly, 2004).

Additionally, the process of selecting, focusing, simplifying abstracting and transforming data refers to data reduction. Data reduction often forces choices about which aspects of the assembled data should be emphasized, minimized or set aside completely for the purposes of the project at hand. The data should need to be condensed so they can be made intelligible in terms of the issues being addressed. Moreover, data reduction often forces choices about which aspects of the accumulated data should be emphasized, reduced or set aside completely to shed lights on the topic at hand (Huberman, 1984).

RESULTS AND DISCUSSION

CROSS-CASE ANALYSIS

Table 1. Experiences that Challenge English Major Students on the Transition from Campus to Career

Emerging Themes	Supporting Statements
Fulfillment through Family Support and Career Choices	"My life now is satisfying because I have chosen a career over education. I have a job, I am being compensated well, and my salary greatly helps sustain my family's needs. Knowing that my family's happiness is what satisfies me" –IDI-01 "Summing up my current life post-transition from academia to a career in one word would be "fulfilling." Despite the hurdles and sacrifices faced along the journey, the sense of achievement and purpose derived from supporting my family through entrepreneurship has added a profound level of fulfillment to my existence." –IDI-03
Family Responsibility and Sacrifice for Support	"As I mentioned earlier, my parents are senior citizens unable to find jobs to support the family or my education. This led me to choose a career path to repay everything to my family, ensuring their happiness and satisfaction without worries." –IDI-01 "While I have a strong desire to finish my education, my family holds the utmost importance in my life. I am willing to prioritize their needs over my personal educational goals, making them the primary motivation behind choosing my career over furthering my studies at this time." –IDI-05
	"Describing my current life brings two thoughts to mind: being employed and the breadwinner of the family. Pursuing my career brings me happiness as I can provide for my family's needs. Despite the challenges, I take risks to make my family proud, ensuring their happiness and satisfaction during their senior years." –IDI-01 "Transitioning from being an English major student on campus to becoming a business owner to support my family has brought significant changes to my life. While my initial focus was on literature and language,



Balancing Family Support and Personal Development	<i>the shift towards entrepreneurship was driven by the responsibilities and challenges of providing for my family." –IDI-03</i> <i>"My current life is markedly different as I now prioritize work over studies. While working entails focusing on self-development for career advancement and financial stability, being a student involves meeting academic requirements and graduating under the guidance of professors. This shift in focus highlights the distinction between pursuing personal growth through work and academic achievement through education." – IDI-05</i>

Experiences that Challenge English Major Students' on the Transition from Campus to Career. The At this point, after the retrieval of the data analysis, it comes to an end that the English major students have their challenges due to transition from campus to career. It was found that the English students facing different challenges from their experiences were fulfillment through family support and career choices, family responsibility and sacrifice for support, and balancing family support and personal development. These themes are supported by various related literature and theories.

To begin with, the first theme in the study revealed that English major students' **fulfillment through family support and career choices**, fulfillment through family support and career choices suggests that an individual's sense of fulfillment and satisfaction in life can be influenced by the support they receive from their family in making career decisions and pursuing their professional goals.

This idea is supported by Ruggeri et al. (2020) that prioritizing family commitments over education can potentially impact the positive relationships and interactions that younger individuals have in their lives. As they prioritize their family commitments, they may have less time and energy to devote to their friendships and other social relationships. This can lead to feelings of isolation and reduced overall levels of life satisfaction, which may ultimately impact their academic success and future opportunities. While family commitments are important, finding a balance between these commitments and maintaining positive relationships and interactions can be key to achieving overall life satisfaction and success.

Meanwhile, the second major theme mentioned is **family responsibility and sacrifice for support**. In each case, it was discovered that making sacrifices, such as giving up personal time, resources, or career opportunities, in order to meet the needs of the family. This can include caring for children, supporting

one's spouse, and providing for extended family members when needed.

This idea was supported Seo (2019) that the study also explores the changing social environments and increasing opportunities for women in many societies. With more women pursuing higher education and entering the workforce, the traditional role of women as caregivers and homemakers is being challenged. This raises questions about whether women should continue to prioritize their children's needs over their own, or whether they should pursue their own career and happiness.

The third major theme is **balancing family support and personal development**. This balance requires careful attention, intentional choices, and effective communication within the family unit. Prioritizing self-care, setting boundaries, seeking support from friends, mentors, or professionals, and being flexible are key strategies to achieve this balance.

This idea is supported by Lesener (2019) that focus on work-life balance (WLB) and the strategies entrepreneurs can adopt to address the challenges of balancing work and personal commitments is relevant to the study of prioritizing family commitments over education. It acknowledges that many individuals struggle to find a balance between their work and personal lives, which can lead to stress and burnout. The study highlights that adopting appropriate strategies for achieving WLB can help individuals effectively manage their roles in both work and non-work domains. It further emphasizes that those who can achieve WLB not only experience better overall wellbeing but also exhibit higher levels of satisfaction in their everyday lives. These findings underscore the importance of employers supporting their employees in achieving WLB, as this can create a conducive work environment that enables individuals to prioritize their family commitments and pursue their educational goals without compromising their overall well-being.



Table 2. Coping of English Major Students with the Challenges Experiences during Transition from Campus to Career

Emerging Themes	Supporting Statements
Adaptation and Interpersonal Skills in Career Transitions	• "Adjustments will involve learning how to interact with new people as you embark on a new career path. Understanding their personalities, backgrounds, race, gender, and beliefs is crucial to building relationships, making friends, and adapting to different dynamics." –IDI-01 • "Transitioning from studying English to becoming a business owner to support my family required significant adjustments in my career path. I focused on acquiring business skills, honing time management abilities, and building connections within the business community." –IDI-03 • "Student life differs significantly from working life, requiring adjustments such as early mornings to reach the workplace and interacting with people, especially in roles like being a call center agent. This entails adapting to diverse situations to effectively address customer queries, particularly from different nationalities. In contrast, as a student, the focus is on meeting academic requirements and adjusting to classmates who may have varying backgrounds." –IDI-05
Edge of Communication in Career Success	• "As I pursue my career path, I recognize the power of communication in the workplace. Effective communication is essential for collaboration and ensuring tasks are carried out efficiently." –IDI-01 • "I defended my decisions by leveraging the critical thinking, communication, and creativity skills honed during my English major studies to tackle challenges in my new entrepreneurial journey." –IDI-03 • "As mentioned earlier, the training I received in English communication is crucial in my role as a call center agent. Despite facing various challenges, being proficient in English speaking has been immensely beneficial. This proficiency allows me to communicate fluently and effectively with individuals from different nationalities, facilitating smooth interactions and overcoming language barriers in my job." –IDI-05
Family as a Source of Motivation and Strength	• "When feeling uncomfortable with my chosen career path, I turn to thoughts of my family for strength. I believe in releasing negativity through tears and find solace in prayer, trusting that surrendering to God will lead me towards the right path." –IDI-01 • "To sustain motivation in my career amidst discomfort, I focus on my family's needs, set realistic goals, seek feedback, engage in continuous learning, and prioritize self-care practices." –IDI-03 • "Family remains a constant source of motivation, driving me to persist even when fatigue sets in. While exhaustion is inevitable and human limitations are acknowledged, the unwavering focus on family serves as a powerful motivator in pursuing this career path for their well-being above personal comfort or convenience." –IDI-05
Managing Pressure through Strategic Methods and Mindset	• "My strategy revolves around dedicating my efforts to my family, handling pressure with them in mind. I rely on prayer for strength to navigate challenges and work effectively with others." –IDI-01 • "To manage the pressure during this transition, I broke down tasks into manageable steps, concentrated on progress, and celebrated accomplishments to maintain motivation." –IDI-03



Coping of English Major Students' with the Challenges that Experience. During Transition from Campus to Career. At this point, after the retrieval of the data and analysis, it was found out that adaptation and interpersonal skills in career transitions, edge of communication in career success, family as a source of motivation and strength, and managing pressure through strategic methods and mindset. These four themes are supported by various related literature and theories.

First, **adaptation and interpersonal skills in career transitions** means that ability to adjust to changes in one's career path and effectively interact with others in the workplace during periods of transition. Adaptation involves being flexible, open to new ideas, and willing to embrace change, especially when transitioning to a new career. It requires the capacity to respond to unexpected situations with grace and problem-solving skills to achieve positive outcomes even in challenging circumstances.

This idea is supported by Ketnoigiaoduc (2018) that the study highlighted in the media source emphasizes the delayed focus on career orientation in Vietnam compared to other developed countries, where it has been a longstanding practice even at the secondary school level. This delay in implementing comprehensive career orientation programs in Vietnamese education has led to challenges in guiding students towards suitable career paths and making informed decisions about their future.

Second is **edge of communication in career success** refers to the importance of effective communication skills in achieving career success. Communication skills are the tools used to interact, negotiate, and build relationships with others in the professional world. They are essential for expressing ideas clearly, understanding others, and building strong relationships with colleagues and clients. Effective communication can make the difference between career stagnation and career progression.

This idea is supported by Santi- teerakul et al. (2019); Senova (2020) Skills Development Scotland, (2018) as cited by Yadollahi & Yazdani (2020). In this publication, they put in place to potentially impacts a student's ability to fully explore and identify their meta-skills during their higher education journey. While it is understandable that family commitments hold immense value, it is important to strike a balance between personal responsibilities and educational development. By dedicating sufficient time and effort towards understanding and honing their meta-skills, students can enhance their preparedness for the future job market. It was supported by Escandallo and Baradillo (2024) that

communication among students is important as it develops their English speaking skills that is essential in their future career.

The third theme is **family as a source of motivation and strength**. Family as a source of motivation and strength refers to the idea that one's family can serve as a driving force in achieving personal and professional success. Family can provide unconditional love, support, and encouragement, which can boost one's self-esteem and confidence, leading to increased motivation to pursue one's goals. Family members can also serve as role models, inspiring individuals to strive for excellence and work hard to achieve their dreams.

This idea is supported by Rastogi & Chaudhary (2018) that the family motivation is a powerful motivational force that can enhance job performance, especially in less interesting jobs. It can provide a sense of purpose and meaning, compensate for the lack of intrinsic motivation, and act as a third motivational force for employees. By recognizing and supporting family motivation in the workplace, organizations can create a more engaged and motivated workforce. This is because family motivation can provide a sense of purpose and meaning, which can compensate for the lack of interest in the job itself. When employees see their work as a way to support their families, they are more likely to perform well, even if they do not enjoy the work itself.

The fourth theme is **managing pressure through strategic methods and mindset**. Managing pressure through strategic methods and mindset refers to the ability to handle and cope with high-pressure situations in a proactive and effective manner. This involves adopting a strategic approach to task management, prioritizing tasks, and setting clear expectations.

This idea is supported by Klimechi (2019) in which he established the importance of providing proper education and training to professionals who work with people suffering from trauma. It is essential to equip these professionals with the knowledge and tools necessary to understand the complexities and challenges that come with trauma. Without this understanding, professionals may experience insecurity and fear, which can lead to a self-preserving state that ultimately hinders the healing process for the traumatized individual. By establishing proper support systems and providing ongoing training, professionals can ensure that they maintain a compassionate and empathetic approach, even in the face of conflict or challenging communication. This ultimately leads to better outcomes for those who have experienced trauma and improves their chances of successful recovery.



Table 3. Insights of English Major Students' Gain regarding Interplay between Family Commitments and their Personal and Professional Development during the Transition

Emerging Themes	Supporting Statements
Balancing Family Needs and Educational Aspirations	• "The realization I have come to is the challenge of balancing responsibilities between education and family. It's tough because you reach a point where you must choose between your family's needs and your educational aspirations. I opted to pursue a career path due to witnessing my family's financial struggles as seniors, making it heartbreaking to see them working hard to support me through school. Achieving balance in such circumstances is incredibly challenging." – IDI-01 • "He realized the challenge of balancing family and education, and he chose to prioritize his family over his personal aspirations. He decided to risk his dream for the sake of his family's needs." –IDI-02 • "Recognizing the delicate balance between family obligations and educational pursuits was a pivotal realization. While education is valuable, prioritizing the immediate needs of my family took precedence, even if it meant deviating from the conventional academic trajectory." –IDI-03 • "Her realization is that having an education, and a degree is important, but providing for her family's needs is more significant." – IDI-04 • "My advice to others is to make decisions that they won't regret. Understanding the consequences of each choice is vital, as decisions made in haste or without foresight can lead to regrettable outcomes. It's possible to prioritize education before entering a career, or vice versa, depending on individual circumstances and aspirations. Finding a balance between personal goals and family responsibilities requires thoughtful consideration and planning." –IDI-05 • "His lesson for others is to make decisions thoughtfully, considering the consequences and ensuring they are not regretted in the future. He emphasizes the importance of making informed decisions that align with one's goals." –IDI-06
Thoughtful Decision-Making for Family Well-Being	• "In my view, I base my decisions on the situation at hand, particularly focusing on my family. With my parents being seniors and unable to find work to support the family, I made the difficult choice to sacrifice my education and dreams of becoming a teacher to secure a job that can provide for our entire family." –IDI-01 • "When confronted with decisions like transitioning from an English major student to a business owner to support my family, the optimal approach involves thorough assessment, long-term planning, seeking guidance from experienced individuals, and aligning choices with personal values and goals." –IDI-03 • "When it comes to decision-making, I believe it is essential to thoroughly contemplate your choices. It is crucial not to rush into decisions based on fleeting emotions like happiness or sadness, or during moments of great achievement. Instead, decisions should be carefully considered multiple times, ensuring a balanced approach and aiming for a win-win situation." –IDI-05 • "His lesson for others is to make decisions thoughtfully, considering the consequences and ensuring they are not regretted in the future. He emphasizes the importance of making informed decisions that align with one's goals." –IDI-06



Transformative Influence of Education and Personal Growth in Facing Challenges	• "Lessons for students facing similar circumstances encompass prioritizing responsibilities based on current needs, exploring growth opportunities beyond formal education, embracing non-traditional career paths that suit individual circumstances, viewing challenges as avenues for personal and professional development, and fostering resilience and adaptability during periods of change." –IDI-03 • "Her inspiration for continued learning comes from the desire to develop skills, advance her career, achieve financial stability, and make practical decisions for her family." –IDI-04 • "My inspiration stems from recognizing the enduring value of education. Despite initial hesitations, I am determined to return to school and complete my education. Education serves as a catalyst for personal growth and development, motivating me to pursue further learning and academic achievements." –IDI-05 • "The values he has learned emphasize the significance of making decisions without regrets and prioritizing family above all else. He finds meaning in his work as it supports his family's needs." –IDI-06

Insights of English Major Students' Gain Regarding Interplay Between Family Commitments and their Personal and Professional Development During the Transition. After retrieving and analyzing the data gathered from the participants, it was revealed that English major students have various insights regarding in their transition from campus to career. The researcher identified three themes: balancing family needs and educational aspirations, thoughtful decision-making for family well-being, transformative influence of education and personal growth in facing challenges.

One significant theme that the researcher emerge is **balancing family needs and educational aspirations**. The ability to manage and prioritize both one's family responsibilities and personal educational goals. This involves making conscious decisions and setting boundaries to ensure that both areas receive adequate attention and resources.

This idea is supported by Pelta (2022) reveals the challenges of work-life balance in today's evolving work landscape are relevant to the study of prioritizing family commitments over education. As the blurring of work and personal lives becomes increasingly prevalent, individuals who prioritize family commitments over education may face additional difficulties in achieving a healthy balance. The study emphasizes that simply having flexible work arrangements, such as remote work options, is insufficient. It underscores the importance of employers providing employees with adequate time off to disconnect from work and attend to their personal and family responsibilities. These findings highlight the pressing need for labor policies that prioritize work-life balance, recognizing the significance of offering workers the necessary breaks from the constant presence of remote work.

The second theme is **thoughtful decision-making for family well-being**. Making choices that prioritize the emotional and mental health of all family members. It encompasses considering the impact of decisions on the well-being of each family member,

fostering open communication, and promoting a supportive and nurturing family environment.

This idea is supported by Zhang (2021) revealed that concept of choice is central to understanding the decision-making process that individuals undertake in order to reach their goals. In this case, Zhang's research confirms that students may exercise their freedom to make different choices in terms of their academic and career paths. Such choices have potentially both positive and negative outcomes, as the specific circumstances and available options will affect the consequences for each student. These variables give each individual the opportunity to create their own unique path, while at the same time emphasizing the importance of making informed choices to achieve optimal outcomes.

The last major theme is **transformative influence of education and personal growth in facing challenges**. The profound impact that education and individual development can have on one's ability to overcome obstacles and navigate difficulties effectively. Education, when conducted ethically and diligently, serves as a catalyst for personal growth, enabling individuals to challenge conventional wisdom, overcome limitations, and effect meaningful change.

This idea is supported by International Commission on the Futures of Education (2021) that regenerative education is based on the idea that education should not only transmit knowledge but also empower individuals to contribute positively to society and the environment. It emphasizes the importance of developing skills and values that promote sustainability, social justice, and regeneration. It was also supported by Escandallo and Escandallo (2024) that students develop their personal growth by constant communication with their peers and their classmates.

CONCLUDING REMARKS

As the challenge of writing this research as a partial fulfillment as not graduated student in secondary education was announced, the



research study focusing on English major students transitioning from campus to their careers sheds light on the intricate process of changing fields of study and the implications it holds for higher education and student experiences. The findings from this study offer valuable insights into the challenges, coping mechanisms, and meaning-making processes of students navigating the transition between majors. By exploring the themes of endings, neutral zones, and new beginnings, the study underscores the importance of understanding major changes as significant educational transitions that impact students' academic journeys and post-graduation outcomes.

Moreover, the research study highlights the need for tailored support systems and interventions to assist students in successfully transitioning between fields of study. The implications for practice emphasize the value of providing detailed guidance, career counseling, and structured programs to help students navigate the complexities of changing majors. By addressing the gaps in support and offering tailored resources, educational institutions can better equip English major students for a smooth transition to their careers, fostering resilience, growth, and success in their professional endeavors. Overall, this research study underscores the importance of studying major changes as pivotal educational transitions and calls for continued exploration and development of support mechanisms to enhance the transition experiences of English major students as they embark on their career paths.

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FACTORS RELATED TO THE POOR NUMERACY LEVEL IN MATHEMATICAL FUNDAMENTAL OPERATIONS AMONG GRADE 7 STUDENTS

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ABSTRACT

This study investigates the factors that contribute to the low numeracy level in mathematical fundamental operations, such as addition, subtraction, multiplication, and division, among Grade 7 students. The research used a descriptive research design to assess the identified factors in terms of student-related factors, environmental factors, and home and family-related factors and their impact on students' numeracy skills and teachers-related factors in terms of teaching methods, teacher competency, and instructional materials. A total of 225 Grade 7 students were selected from Can-avid National High School as respondents. Data were gathered through the use of a structured survey questionnaire and analyzed using descriptive statistics, such as frequency counts, means, and percentages. Results indicated that most of the respondents showed below-average performance with regard to fundamental mathematical operations. Lack of motivation and prior knowledge, among other student-related factors, coupled with poor attendance, were the major causes of low numeracy levels. Environmental factors, such as the home environment, socioeconomic status, and lack of access to learning resources, added to the students' plight. The teacher-related factors included the use of traditional teaching methods and inadequate instructional materials, which negatively affected the performance of the students.

KEY WORDS: Numeracy skills, mathematical operations, Grade 7 students

INTRODUCTION

Background of the Study

The development of analytical reasoning, problem-solving techniques, and critical thinking all depend on the fundamental subject of mathematics. But numeracy—especially in basic arithmetic operations—remains a major obstacle for children everywhere, including in the Philippines. The capacity to comprehend and manipulate numbers, known as numeracy, is essential for pupils' performance in the classroom and in daily life (OECD, 2020). Although important, the problem of low numeracy in Grade 7 students will have serious implications on the student's future academic and professional careers.

There has been an issue regarding the abilities of children to perform mathematical operations at a global level. From data on the Programme for International Student Assessment 2018, more than 60% of students aged 15 in the participating countries did not attain the level of mathematical aptitude (OECD, 2019). This research focuses on a common issue that usually

presents itself: it has been a challenge to comprehend the concepts of addition, subtraction, multiplication, and division among other basic ideas in mathematics and operations. Many children fail to achieve these basic skills, although they are very important for the understanding of more complex mathematical concepts. Such a tendency is caused by a number of factors, such as poor teaching strategies, socioeconomic inequality, and restricted access to high-quality educational resources (UNESCO, 2021).

Recent studies suggest that pupils' numeracy levels are highly affected by socioeconomic conditions, language difficulties, and cultural attitudes toward mathematics. For instance, Chinn S. (2020) found that students of low socioeconomic background usually perform low in mathematics because they are not exposed to much help and resources at home or even in school. Another important aspect is language proficiency; those students who are not fluent in the language of instruction often find



it hard to understand mathematical concepts, which adversely affects their numeracy scores (Domingo et. al, 2019).

The problem of under-numeracy among Filipino seventh-grade children is at its worst. The report from the Enhanced Basic Education Act of 2013 and the Philippine Informal Reading Inventory (Phil-IRI) shows that for the last few years, Filipino pupils have shown their poor reading and numeracy competencies (Department of Education, 2019). According to the Department of Education (2019), a significant percentage of the seventh-grade students did not perform above the passing score in mathematics, especially in arithmetic operations, as indicated by the 2019 National Achievement Test (NAT).

More evidence of the numeracy challenges is reflected in the scores of the Philippines from the international assessments. The Philippines ranked last of 58 countries in the 2019 Trends in International Mathematics and Science Study (TIMSS) for Grade 4 mathematics, which implies that the students in the Philippines experience a lot of challenges from the beginning stages with regards to mathematical operations that linger in their later grade levels (Escarez et.al, 2022). These include an outdated curriculum that cannot address the needs of a multi-cultural group of learners appropriately, outmoded teaching methodologies, and insufficient teacher training (Daker et.al, 2021).

Sociocultural factors that aggravate the problem are a majority of bilingual classrooms, parental perceptions about education, and economic struggles. In a study conducted by Kunwar et.al (2020), there seems to be a large association between the socioeconomic background of pupils and mathematical fluency in the Philippines. Low achievement in arithmetic usually results from pupils who hail from poor backgrounds not enjoying extracurricular activities, the internet, or remedial education.

Many factors directly impact students' numeracy skills in the classroom. These include student involvement, classroom environment, teaching methodologies, and teacher effectiveness. Studies have shown that using effective pedagogical methods, such as differentiated instruction and manipulatives, can dramatically enhance students' understanding of mathematics concepts (Chinn, 2020). A number of issues, however, hampers effective mathematics education in many classrooms, especially in public schools in the Philippines, including overcrowding, poor learning resources, and inadequate teacher preparation (Fernandez & Robles, 2019).

Teacher competency is another essential aspect. According to Navarro and Ogena (2021), a large number of math teachers in the Philippines are not adequately trained in pedagogical skills and subject matter content, which negatively affects their capacity to successfully teach difficult mathematical topics. Due to a lack of preparation for teachers, the most common traditional teaching methods applied are rote memorization and procedural learning, which have been proven through research to be less effective in aiding students to develop their conceptual understanding and problem-solving skills (Boaler, 2016).

Despite a lot of research, gaps still exist in our knowledge of numeracy and mathematical competency, especially regarding the special causes of low numeracy scores among Filipino kids in Grade 7. Most of the previous studies focus on mathematical literacy or achievement in general, often neglecting the special challenges related to basic operations-the four basic arithmetic operations-at the Grade 7 level. Further, the interaction between social-economic, cultural, and classroom-specific factors in relation to Filipino education has gained less attention in study.

Research on the underlying cause of low numeracy is so badly needed, especially on the transitional grade of 7, where basic ability will be a must in achieving success in later academics. In order to bridge those gaps, this research seeks to explore the factors causing pupils in Grade 7 having low numeracy levels when it comes to basic mathematical operation. Understanding these factors would allow for targeted interventions and adjustments in policies to better instruction in mathematics and strengthen pupils' numeracy skills that benefit them in terms of increasing their chances of higher school achievement and opportunities for Filipino young people.

Objectives of the Study

The study aims to investigate the "Factors Related to the Poor Numeracy Level in Mathematical Fundamental Operations Among Grade 7 Students."

Specifically, the study seeks to answer the following questions:

1. What is the current level of numeracy skills in mathematical fundamental operations (addition, subtraction, multiplication, and division) among Grade 7 students?
2. What factors contribute to the poor numeracy level in mathematical fundamental operations among Grade 7 students in terms of:
 - 2.1. Student-related factors (e.g., motivation, prior knowledge, and attendance);
 - 2.2. Environmental factors (e.g., home environment, socio-economic status, and access to resources);
 - 2.3. Teacher-related factors (e.g., teaching methods, teacher competency, and instructional materials); and
 - 2.4 Family/Parents-related factors?
3. What are the factors that affect the teacher's competency in teaching Mathematical fundamental operations to the Grade 7 students in terms of:
 - 3.1 teaching methods;
 - 3.2 teacher competency;
 - 3.3 Instructional materials?

METHODOLOGY

Research Design

This study employed a descriptive research design using a survey questionnaire as the primary data collection tool. The descriptive design is appropriate for this study as it aims to identify and describe the factors both students and teachers that influences the numeracy skills in mathematical operations of fractions among Grade 7 students at Can-avid National High School.

As Kombo and Tromp (2006) suggest, descriptive research seeks to provide a detailed understanding of the subject under



investigation—in this case, the factors influencing the numeracy skills of Grade 7 students in mathematical operations. A descriptive survey design involves gathering data from a specific group to assess their characteristics, attitudes, and opinions. This study collected data through a structured questionnaire administered to a sample of Grade 7 students and as well as their Math teachers.

Locale of the Study

The study was conducted at Can-avid National High School, located in Can-avid, Eastern Samar, Philippines. This locale was chosen as it represents a typical rural educational setting where Grade 7 students face challenges in mastering numeracy skills in mathematical operations, specifically in fractions. The school's environment and its student population provide a relevant context for exploring the factors influencing numeracy skills among Grade 7 learners.

Respondents of the Study

The respondents of this study were the 225 Grade 7 students and of Can-avid National High School, located in Can-avid, Eastern Samar, Philippines. These students were selected because they are the primary focus of the study, which aims to investigate the factors influencing their numeracy skills in mathematical operations, specifically involving fractions. The selection of Grade 7 students provides insight into the challenges and factors that affect their mastery of numeracy skills in a rural educational context.

Research Instruments

For this study, the researcher utilized an adapted survey questionnaire from the research study titled “Factors Affecting Numeracy Skills” by Jerlyn Jean Latiban and Mary Lovely Suzzeth P. Mendez, published in 2022. The instrument used a 5-point Likert scale to collect data addressing the research questions outlined in Statements of the Problem 1, 2 and 3. The questionnaire comprised three parts:

Part 1 focuses on gathering data from the learners' SF10 (Permanent Record) and Report Card, specifically examining their weighted average in the Mathematics Learning Area to gauge their overall performance in mathematics.

Part II focused on the factors influencing the numeracy skills in the mathematical operations of fractions among Grade 7 students at Can-avid National High School. This section aimed to identify student-related, environmental, and teacher-related factors impacting numeracy skills.

Part III consisted of a survey questionnaire designed to identify the factors that influence teachers' performance in teaching Mathematical Fundamental operations involving fractions.

Before administration, the survey and test questionnaires underwent a validation process by school heads and master teachers to ensure reliability and accuracy. Additionally, the instruments were pilot tested in a selected school to further establish their effectiveness.

Validity is defined as the extent to which an instrument measures what it is intended to measure (Kombo & Tromp, 2006). To ensure the validity of the study's content, careful measures were taken to confirm that the questionnaire accurately captured the factors and mastery levels it was designed to assess. Content validity was further established to ensure the questions effectively addressed the research objectives.

Data Gathering

After the research proposal was thoroughly evaluated and approved by the academic panel, the researcher obtained the necessary permissions to conduct the study. Permission letters, cover letters, and informed consent documents were prepared and sent to the Schools Division Superintendent, Supervisors, and School Head of Can-avid National High School, Eastern Samar. These documents were essential to secure authorization to administer the survey and test questionnaires and to access pertinent student records required for the study.

Upon receiving the necessary approvals, the researcher personally distributed the survey questionnaires to the Grade 7 students at Can-avid National High School. Parental consent was obtained prior to involving the students in the study to ensure ethical compliance and to respect the rights of the participants. The students along with teachers were then asked to complete the questionnaires honestly and thoroughly.

Once all the questionnaires were collected, the researcher immediately began the process of tabulating the raw data. The data was systematically organized and prepared for analysis using appropriate statistical tools to draw meaningful conclusions and interpretations relevant to the study's objectives.

Analysis of Data

In this study, descriptive statistics were utilized to analyze the data, employing univariate analysis techniques such as computing frequencies, means, and percentages to address Statements of the Problem 1, 2 and 3. These descriptive statistics provided a clear overview of the factors influencing numeracy skills and the mastery levels of mathematical operations involving fractions among Grade 7 students at Can-avid National High School.

The level of significance for this study was set at 0.05, ensuring a 95% confidence level in rejecting or accepting the null hypotheses. This significance level was chosen to minimize the risk of Type I errors while providing robust insights into the relationships between the study variables.

Ethical Considerations

During the conduct of this study, several ethical issues and concerns were carefully considered to ensure the study was conducted with integrity, confidentiality, and respect for all participants. The researcher adhered to strict ethical standards and protocols, particularly in the areas of data collection and management, including but not limited to the following:



Voluntary Participation. Prior to collecting data from the selected respondents, the researcher fully explained the purpose and aims of the study, emphasizing its contribution to the academic body of knowledge. Participation was entirely voluntary, and the decisions of the respondents were respected and valued without any coercion.

Privacy and Confidentiality. All information gathered from the respondents was kept private and treated with the utmost confidentiality. The data were used solely for the purposes of this study, and all personal identifiers were removed to protect the anonymity of the participants.

Benefits. The findings of the study are intended to benefit the Department of Education Schools Division of Eastern Samar by providing relevant insights and recommendations to improve numeracy skills among Grade 7 students.

Plagiarism. The study adhered to strict academic integrity standards. It did not contain any instances of plagiarism, as all sources were appropriately cited. The research underwent a plagiarism check using Turnitin software to ensure originality and avoid any misappropriation of others' work.

Fabrication. The study maintained high standards of honesty and integrity, with no evidence of fabrication or falsification of data. The results presented are an accurate representation of the findings without any manipulation to fit a preconceived model or theoretical expectation.

Conflict of Interest (COI). There was no conflict of interest in the conduct of this study. The researcher had no personal or financial interests that could have influenced the study's outcomes or compromised the welfare of the participants.

Deceit. The study was conducted transparently, with no intent to deceive or mislead respondents about any aspect of the research. All potential risks and benefits were clearly communicated to participants.

Authorship. The researcher, a candidate for the Doctor of Philosophy in Educational Management and a Licensed Professional Teacher, conducted the study following the standards set by the Eastern Samar State University Ethics and Review Committee. The study underwent several revisions as advised and recommended by the research adviser to ensure compliance with ethical guidelines.

These ethical considerations were crucial in ensuring the study's validity, reliability, and credibility while safeguarding the rights and welfare of all participants.

RESULTS

Mastery Level of Numeracy Skills

Table 1 provides a distribution of respondents based on their mastery level of numeracy skills. The categories range from "Outstanding" to "Did Not Meet Expectations."

Table 1. Distribution of respondents in terms of mastery level of numeracy skills

Performances	Frequency N=242	Percentage
Outstanding	6	2.4
Very Satisfactory	27	11.1
Satisfactory	25	10.3
Fairly Satisfactory	105	43.4
Did Not Meet Expectations	73	30.2
Total	242	100

Only 2.4% of the respondents achieved an "Outstanding" level of numeracy skills. These individuals demonstrated exceptional proficiency and mastery in mathematical operations involving fractions. Around 11.1% of the respondents achieved a "Very Satisfactory" level of numeracy skills. These students have demonstrated a high level of competence in mathematical operations with fractions. The majority of respondents, comprising 43.4%, achieved a "Fairly Satisfactory" level of numeracy skills. Overall, the distribution of respondents'

mastery levels of numeracy skills highlights variations in performance levels. While a small percentage achieved outstanding or very satisfactory levels, a substantial portion demonstrated satisfactory to fairly satisfactory performance.

Student-Related Factors

Student-related factors, including motivation, prior knowledge, and attendance, were measured using a survey. Table 2 presents the mean scores of these factors as reported by the students.

Table 2: Mean Scores of Student-Related Factors Influencing Numeracy Skills

Student-Related Factor	Mean Score	Interpretation
Motivation	2.45	Seldom/Low
Prior Knowledge	2.61	Seldom/Low
Attendance	2.21	Occasional/ Poor

As shown in Table 2, the mean score for motivation is 2.45, indicating that students have low motivation toward learning

math. Prior knowledge, which refers to students' mastery of foundational concepts from earlier grade levels, was rated at a



moderate level (mean = 2.61). Attendance, a key factor affecting learning outcomes, was rated poor (mean = 2.21). The low motivation and poor attendance levels reflect findings by Schiefele *et al.* (2022), who emphasized the importance of intrinsic motivation and consistent school attendance in promoting academic success, especially in mathematics.

Environmental Factors

Environmental factors, such as home environment, socio-economic status, and access to resources, were also examined. Table 3 summarizes the findings.

Table 3: Environmental Factors Affecting Numeracy Skills

Environmental Factor	Mean Score	Interpretation
Home Environment	2.85	Seldom/Moderate
Socio-Economic Status	2.40	Occasional/Low
Access to Learning Resources	2.10	Occasional/Very Low

The results in Table 3 indicate that socio-economic status (mean = 2.40) and access to learning resources (mean = 2.10) are significant barriers to students' numeracy performance. Students from low socio-economic backgrounds often lack access to supplementary educational materials and technology that could support their learning

. These findings are supported by Jensen (2013), who argued that socio-economic disadvantages create learning gaps, especially in subjects like math, where extra practice and resources are critical for mastery.

Table 4: Family/Parents Factors Affecting Numeracy Skills

Environmental Factor	Mean Score	Interpretation
Parental Education Level	3.25	Seldom/Moderate High
Parental Expectations and Motivation	3.10	Occasional/Moderate

Parental Education Level (Mean = 3.25): This result suggests that the level of education of the parents is moderately high, as indicated by the mean score of 3.25. The interpretation "Seldom/Moderate High" shows that many parents have attained a sufficient level of education, and their education positively affects their children's numeracy skills. Parents with higher education tend to engage more effectively in their children's learning, often assisting with homework or providing educational resources.

Studies have shown that parental education is a significant predictor of children's academic performance. Research by Jeynes (2007) found that higher parental education levels are linked to better academic achievement in children. This is consistent with the findings in this study, where a moderately high parental education level positively correlates with numeracy skills in students. Parents with a higher level of education are more likely to engage in their children's academic life and provide necessary support.

Parental Expectations and Motivation (Mean = 3.10): The mean score of 3.10 suggests that parental expectations and motivation are moderate, meaning that parents show some degree of involvement in motivating their children to excel in academics, particularly in numeracy skills. However, it also indicates that the level of motivation and expectations varies among parents, and some might not always provide consistent support in this area.

Similarly, Desforges & Abouchaar (2003) also found that parents' educational background positively influenced children's academic outcomes, including skills in mathematics.

Factors Influencing Teachers' Performance

Teacher-Related Factors

Teacher-related factors, including teaching methods, teacher competency, and instructional materials, were measured. Table 4 presents the results.

Table 5: Teacher-Related Factors Influencing Numeracy Skills

Teacher-Related Factor	Mean Score	Interpretation
Teaching Methods	2.30	Occasional/Ineffective
Teacher Competency	3.15	Seldom/Satisfactory
Instructional Materials	2.05	Occasional/Very Insufficient

Table 5 shows that while teacher competency is rated as satisfactory (mean = 3.15), teaching methods (mean = 2.30) and the use of instructional materials (mean = 2.05) are rated low. These results suggest that the traditional teaching methods being used in math classes are not engaging students effectively, and the lack of updated instructional materials is hindering their understanding of mathematical concepts.

According to Hattie (2021), teacher quality and the use of interactive teaching strategies have a significant impact on student learning outcomes, particularly in challenging subjects like math.

CONCLUSIONS

Based on the findings, the following conclusions were drawn:



1. The comprehensive analysis of SOP 1 reveals a multifaceted landscape of factors influencing numeracy skill mastery, with teacher-related factors demonstrating the most substantial impact, highlighting the critical role of effective teaching practices in shaping students' mathematical proficiency.
2. Factors Contributing to Poor Numeracy Levels:
 - o Student-Related Factors: Low levels of motivation, poor attendance, and limited prior knowledge were significant contributors to the poor numeracy levels. Students who were less motivated and frequently absent exhibited lower mastery of mathematical skills.
 - o Environmental Factors: Students from lower socio-economic backgrounds and those with limited access to learning resources faced additional challenges. A lack of supportive home environments and inadequate learning materials significantly impacted their ability to master mathematical operations.
 - o Family/Parents Factors. The analysis showed that family and parents-related factors play a significant role in shaping students' numeracy skills. Active parental involvement, a supportive home environment, adequate resources, and realistic expectations were associated with better numeracy outcomes. However, socioeconomic challenges, lack of parental education, and minimal engagement negatively impacted the students' performance in mathematical fundamental operations.
3. Teacher-Related Factors: Ineffective teaching methods, insufficient instructional materials, and moderate teacher competency were identified as major barriers to improving numeracy levels. The absence of engaging, interactive learning experiences and the lack of appropriate teaching tools hindered the development of students' mathematical skills.

RECOMMENDATIONS

In light of the conclusions, the following recommendations are proposed:

1. Schools should implement more interactive and student-centered teaching methods that foster engagement and motivation. Group activities, games, and technology-enhanced learning can help spark students' interest in mathematics. Programs that encourage regular attendance should be implemented, including reward systems, parent-teacher partnerships, and interventions for at-risk students.
2. Schools and the Department of Education should provide more learning resources, such as math textbooks, manipulatives, and digital tools, to ensure students have adequate support materials for learning. Schools should foster stronger community involvement and encourage parents to participate in their children's academic journey, creating a more supportive home environment for learning. Teachers should receive additional training in modern

pedagogical methods, particularly those focused on math instruction. Workshops, seminars, and professional development opportunities should be offered to help teachers adopt innovative teaching strategies that improve student learning.

3. Future research could focus on longitudinal studies to explore the long-term impact of interventions on numeracy skills. Additionally, investigating the role of specific teaching strategies, such as differentiated instruction or problem-based learning, could provide more insight into effective ways to improve numeracy among students.

Conflict of Interest

No potential conflict of interest relating to the conduct of the study has been declared by the authors. The authors made all endeavours to ensure objective integrity in the research procedure and derived findings independently.

No funding, sponsorships, or affiliations from outside sources have influenced the objectivity of this research process or its results. The authors of this study declare full transparency in the development, execution, and reporting of this study, ensuring that conclusions drawn are free from bias and only based on the data collected and analyzed. This declaration reflects the commitment of the authors to ethical research practices and the integrity of academic inquiry.

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AN ANTHOLOGY OF ORAL LITERATURE FROM THE WILDERNESS OF MT. HAMIGUITAN—PHILIPPINES: A NARRATIVE INQUIRY

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ABSTRACT

Oral narratives reveal deeply embedded indigenous connections within the community, environments, and supernatural traditions. It is a living record how locals have interacted with the mountain and enabled to produce its local literature and history passed down since old times. The stories also depict values, belief systems, and ecological consciousness of the community. The study suggests the need for preserving oral literature as one of the means of maintaining both cultural identity and biodiversity for generations to come.

KEYWORDS: Oral Narratives, Mt. Hamiguitan World Heritage Site, Narrative Inquiry, Cultural Identity, Local Literature in Mindanao

INTRODUCTION

An anthology of Philippine literature is a collection of selected works that represent the voices and genres of the nation, which usually consists of poems, short stories, essays, plays, and excerpts of novels. However, there is still a scarcity of local literature resources for young learners, as put by Pattalitan & Valerio (2016), which can reduce the productivity and survival of literary communities, as noted by Afdholy et. al (2020). In this study, the focus is to document oral narratives of forest dwellers in Mt. Hamiguitan in the province of Davao Oriental. The anthology is a compilation of culture-based narratives aimed at preserving the stories and origin of the mountain as world heritage site.

This qualitative inquiry contributes to the limited literature database in the oral literary landscape in Mt. Hamiguitan. The results of this study may inspire local government policymakers in the education sector and academicians to utilize the local

literary materials as tools for teaching through formal and non-formal education, to understand and appreciate our own culture, and to invigorate our heritage for future generations. This may be a basis for contextualized resource materials for students and literary scholars exploring oral literature in Mindanao.

METHODOLOGY

In qualitative research, the researcher collects and interprets the data. Narrative research is one of the approaches within qualitative inquiry. It involves collecting and analyzing the stories or life experiences of one or more individuals (Creswell & Poth, 2018). This approach engages with participants, understanding their perspectives, and interpreting their experiences within the context of their social and cultural environment in Mt. Hamiguitan. The goal is to provide narratives that are rich and reflective about the mountain from the mouths of the forest dwellers.

RESULTS

The Narratives of Forest Dwellers in Exploring Mt. Hamiguitan—Philippines

Classification of Oral Literature	Title of the Story	Description
Personal Narratives	The Path Before Tourism in Mt. Hamiguitan	This narrative captures the pre-tourism situations developed in Mt. Hamiguitan. The community in Tumulite was small and faced challenges like difficult roads, lack of electricity until 1987.
	The Dwarfed Tree	The Dwarfed Tree tells the story of a group of twelve hunters who discovered the bonsai-like trees of Mt. Hamiguitan.



	Attention of the Media and Local Tourists	The discovery of the hidden sea and the bonsai-like trees of Mt. Hamiguitan gained media attention, leading to increased tourism.
	The Discoverers of Mt. Hamiguitan	The discovery of Mt. Hamiguitan in 1987 by a group of local hunters uncovered areas like the Bonsai Field and hidden sea.
Folktales	The Maysadok and the Little Monkeys	The mountain called Maysadok got its name from a ladle-sized dry patch left after a flood.
	The Elders with Large Ear Holes	This story recounts the interactions between the narrator's mixed Bisaya and Mandaya family with the elder Nong Isma, who witnessed the natives with large ear piercings.
	Uncle Santos Guimare and the Great Python	Uncle Santos, a hunter, once encountered a giant python while hunting wild boar.
	Tiboy and the Eel	Two weeks after a major flood, Tiboy encountered a large eel (<i>kasili</i>) in a shallow pool while crossing the Tumulite River.
Myths	Ang Amag-amag	A mysterious white figure seen at night in Tinagong Dagat, resembling a person, was eventually discovered to be bioluminescent lichens called "Amag-amag," glowing brightly in the darkness.
	Mga Tingog sa Dumaguok	In Dumaguok, despite its isolation, mysterious radio sounds and voices can be heard at night, accompanied by the scent of soap and the sound of water.
	Ang Agta sa Puente	In Puente, locals hear mysterious disco sounds and voices around a large balete tree, believed to be inhabited by a supernatural being called Agta.
	Ang mga Suetas	According to the elders, the Suetas are a group of people with half-immortality, appearing normal but invisible to others.
	Ang Bukid nga Mobagting	The mountain known as Bagting got its name from the mysterious ringing of a bell that locals could hear every day at 3:00 PM and 8:00 PM, but never saw. This phenomenon dates back to the 1970s when a chapel was built in the area.
	Ang Simbahan nga Bato	In a recurring dream, the narrator discovers a stone church after leading a group through a flood, only to later receive religious statues at home, leaving her puzzled about the church's real location.
	Ang Propesiya sa Dakong Baha	In a prophetic dream, the narrator saw a great flood and warned others to prepare, which came true a few days later, confirming her fears of impending disaster.

DISCUSSION

Personal Narratives

There were various narratives from my participants during my actual interviews with them. Indeed, they were very meticulous in sharing their individual stories about Mt. Hamiguitan. In this discussion, I want to disclose that all the oral narratives from my participants were transcribed or written down as raw material. This means that I followed the process of recording the oral narratives, then listened to each one, and wrote them down without alterations of their stories.

In these narratives, it is clear that the participants' statements were made in their local or regional language—the Binisaya language. This type of regional language is commonly used by people in the province of Davao Oriental or even by many people on the island of Mindanao. The importance of using regional languages for preserving cultural heritage is well-documented. For instance,

Panague et al. (2021) explore the methods and efforts to preserve the Binukid language, highlighting the positive attitudes of speakers towards their language and the challenges faced in maintaining its use. Similarly, Alejan et al. (2021) discuss the significance of maintaining and revitalizing indigenous languages to prevent endangerment and ensure the continued transmission of cultural heritage.

Folktales

Folktales are a critical aspect of cultural heritage, capturing the traditions, values, and wisdom of a community. The recent study by Tsuji (2022) on the mouse deer as a trickster in Philippine folktales highlights the use of animal characters to convey cultural narratives. Similarly, the tiny monkeys in this folktale serve as symbols of the natural world's unpredictable and potentially dangerous aspects, reflecting the community's relationship with their environment.



The Elders with Large Ear Holes describes the cultural practices and societal norms of the Mandaya people, particularly their initial reaction to external influences and eventual adaptation. The study by Bermas (2021) underscores the importance of understanding local traditions and cultural practices. The narrative of Nong Isma and the elders with large ear piercings highlights the traditional customs and the community's cautious approach to modernization.

Uncle Santos Guimare and the Great Python is a gripping tale that underscores themes of bravery, survival, and the symbiotic relationship between humans and nature. According to Eslit (2023), such tale often arises from a community's need to articulate their experiences and relationship with their environment. Marks (2016) points out that the inclusion of supernatural elements in legends often serves to deepen the cultural and spiritual dimensions of the story, connecting the physical struggle with a broader, metaphysical context.

In the tale of Tiboy and the Eel encounters following a flood showcases courage and the enduring fight, against nature's might that resonates with experiences. This story echoes a theme to the legend by underscoring the significance of oral tradition to document pivotal moments and individual acts of heroism. According to Eslit (2023) this tale plays a role by upholding values and historical milestones, for future generations to inherit and cherish over time.

Myths

Myths are an essential part of human culture, creating stories that explain natural events, moral values, and the origins of the world. Passed down through generations, these tales often feature gods, supernatural beings, and heroes that reflect the beliefs and ideals of a society. This suggests that there are local mythological figures in our communities that are not yet widely recognized. These myths are neither taught in schools nor included in curricula. This gap in teaching mythology in schools is supported by Capellan (2024) in his study "PAHIMAKAS: Uncovering the Unspoken of Mythological Creatures." He states that myths, such as supernatural stories, are a medium of cultural aspects that encompass systems, ideologies, and shared memories. These stories are part of our heritage and fundamental to our social traditions. However, they have not been given significant attention in universities, where Greek and Roman mythology are more commonly taught.

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TEACHER DEVELOPMENT COORDINATOR PROGRAM & ITS FUNCTIONING IN SCHOOLS OF DIRECTORATE OF EDUCATION

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INTRODUCTION

In-service teacher training programs have been a significant trend in our education system. When equipping in-service teachers with new strategies and pedagogy, a power-packed capsule of training or workshops is planned at the state and national levels. Like any other in-service training program, the Teacher Development Coordinator (TDC) Program helps to achieve significant strategic goals. The only difference is that it supports teachers in creating schools as learning institutes. A TDC contributes to the development and management of consistent and cohesive academic development in the school, where everyone learns from each other. The Teacher Development Coordinator works with all the in-school teachers to achieve the program's vision, "A System where everyone can learn".

It's a program that doesn't need any external resource person. Every stakeholder in the school acts as a resource person, and in this way, a continuous process of learning and development takes place. This program was started in 2017, and by now, 1023 schools in Delhi have become part of it in the 13 districts in Delhi. An International NGO, Schools, and Teachers Innovating for Results Education (STIR Education), has also partnered with State Council for Educational Research and Training (SCERT) to plan and implement the TDC program. According to STIR Education, a UNESCO-conducted case study has shown this program's significance in teaching-learning.

A program like that requires well-trained and supportive teachers, as TDCs take the responsibility of capacity-building of their schools. Unlike mentor teachers, a TDC can only assist the teachers of their school with the help of the HoS of the same school. Here comes the role of the mentor teachers appointed to contribute to the capacity building in their school along with others.

Mentor teachers are supposed to take care of 5 nearby schools and assist them in improving the teaching methods and environment.

Further, Academic Resource Team (ART) members were selected from each school to help TDCs and MTs. So, we can see a network of teachers is made to take care of each other's problems and to enhance each other's capacity, which is finally expected to bring positive changes in the learning and achievement levels of the students.

One cannot deny that a program like this requires well-trained teachers to be given the role of teacher development coordinator. It requires well-planned sessions or meetings to decide the themes of LICs and a comprehensive follow-up. A whole set of resources is required to fulfil the purpose of this program, which calls for continuous support and feedback from the SCERT and DIETs. These requirements must be assessed to make sense of what has been achieved and what needs to be done. This study is just an attempt to understand the program To understand the intention of the study, one must understand all the aspect of the TDC program.

Teacher Development Coordinator Program (TDC Program)

The Teacher Development Coordinator Program is an initiative introduced by SCERT in the year 2017 as the extension of their flagship Mentor Teacher Program, with the vision of creating a collaborative network of teachers teaching in DOE Schools. This program primarily focuses on professional development through multiple platforms and envisages a Co-Learning environment where everyone will get the opportunity to experience the journey of professional growth.

As part of this program, one intrinsically motivated teacher volunteers to be a TDC, who is deployed as a Teacher Development Coordinator (TDC) in all government schools under the Directorate of Education. The major role of TDC is to provide teachers with specific academic support and encourage peer learning and collaboration among them. The TDC program has successfully reached out to all 13 districts in Delhi, covering 1023 schools.



252 MTs



9 DIETs



1023 TDCs (Source: SCERT)

The District Institute of Education and Training (DIET) is the academic lead of the TDC program. Nine DIETs with 45 facilitators, including DIET Principals, DIET lecturers, and District Coordinators across Delhi, play a central role in the facilitation and operation of the program.

Alongside DIET staff, more than 250 Mentor Teachers (MTs) provide regular school-level support to the TDCs, and 5 Program Managers from STIR Education support the TDC program in districts. As per the requirements of the program, various avenues and platforms of engagement were created that aimed at the professional development of the teachers and officials.

Teacher Development Coordinator took forward the government's Mentor-Teacher programme, introduced in 2016. With the vision of creating a collaborative network of teachers teaching in all DoE Schools (1029) where 'everyone learns together'. Teacher Development

Coordinator (TDC) programme had the following objectives:

- Improve students' foundational skills (Literacy and Numeracy levels)
- Achieve learning outcomes through child-centred pedagogies and the overall student learning outcome.
- Improving teachers' classroom practice to be more engaging and support learning with understanding
- Classroom observation and support through constructive feedback
- Teacher's collective and individual capacity and career development

A TDC is appointed in each school by the HOS, preferably a TGT in that school. They have a role similar to that of a mentor teacher but confined only to their respective schools. A TDC was supposed to be the most active and most motivated teacher of that school, having the ability to demonstrate best teaching practices, self-motivated as a teacher and ready to undertake the responsibility of influencing others.

Within the purview of the TDC Program

1. *A Teacher Development Coordinator is expected to*

- Facilitate teachers to share learning and experience of classroom practice.
- Provide developmental, focused feedback following classroom observations.
- Focus on improving teaching across the schools

2. *Teachers are expected to*

- Work hard to make classroom practice more engaging and support other teachers to do the same.
- Observe each other's classrooms to gain perspective about classroom practices.
- Choose practices to bring to their classroom based on their observations.
- Be a part of the school-level drives to bring positive changes to schools and classrooms.

3. *Academic Resource Team (ART)*

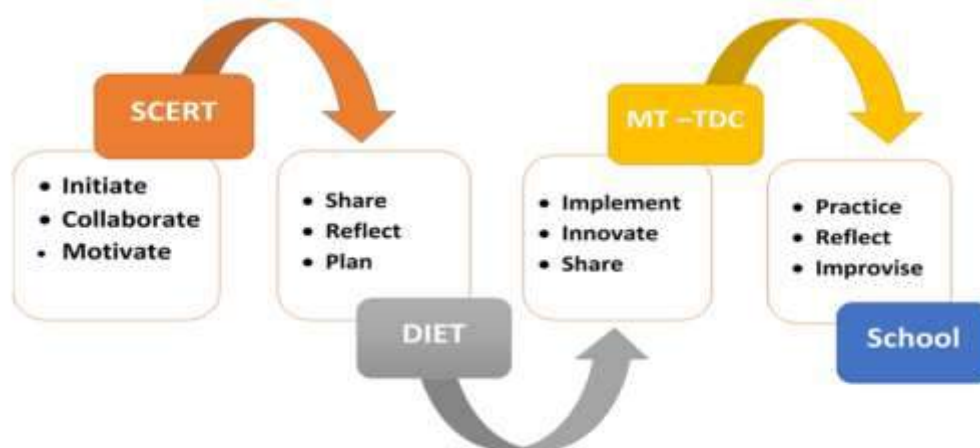
It is a diverse group of secondary teachers (at least 10 % of total teachers, with a minimum of five teachers) who came forward voluntarily to implement and share new classroom strategies on the theme. They could be both regular teachers and guest teachers. An ART team consists of at least one representative of the faculty. They are usually a group of the school's most active, innovative and self-motivated teachers. Each school has a group of ART members. These members were supported by TDC, MT, HOS and District officials. The composition of ART was to be decided by TDC with the support of HOS and the Mentor Teacher.

4. *ART members are expected to*

- Be open to trying new classroom practices and sharing their experiences with colleagues.
- Focus on the learning of all the students and encourage a growth mindset.
- Welcome colleagues into their classrooms for observation.

Tasks of ART members:

- ART members led by improving their classroom practice and influencing other teachers in their department to do the same.
- ARTs worked with TDCs and HoS to build a culture of academic discussions within the schools.
- To attend the monthly ART meetings with TDC. Implement the strategies discussed in these meetings to be role models for other school teachers.
- Support TDCs in effectively facilitating 30-minute sessions (Subject-wise discussions, class-wise discussions, student-specific discussions)





Functioning of the Program

The Teacher Development Coordinator program is an initiative introduced by SCERT as an extension of the flagship mentor teacher program, with the vision of creating a collaborative network of teachers in all the DoE schools.

• Need Analysis

The Core Design Team leads the need analysis. The need analysis works with Mentor Teachers and Teacher Development Coordinators in all districts to identify a specific theme of interest and the needs of teachers and students that to be discussed.

• Creation of Learning Improvement Cycles (LIC)

An LIC runs for 3-4 months and highlights a particular theme and two strategies (For ex. Psychological Safety: Normalising Mistakes & Culture of Appreciation). After the need analysis, the

Core Design Team (members of DIETs, STiR, PMs and MTs) and volunteer Mentor Teachers create the material for the LIC, and learning sessions are designed.

• Co-Learning Sessions

The co-learning sessions with the DIET faculty members, Mentor Teachers and Teacher Development Coordinators are conducted in three stages at the beginning of each LIC. The first round is led by the Core Design Team along with STiR for DIET faculty, second round is led by DIET faculty for MTs and third round is led by MTs for TDCs. The Co-Learning Sessions focus on understanding, discussion and contextualization of the skills and strategies of that particular LIC. At all levels, facilitators of sessions are free to modify sessions based on the needs of their participants.

Overview of LICs

Theme	Summary	Suggested Strategies
LIC 1: Building Connect	Helped teachers build a culture of trust and positive communication in the classroom, ensuring that students feel valued.	Name Tags Class Tree
LIC 2: Look for Understanding and Respond	Helped teachers use assessments to identify gaps between teaching and learning and adapt teaching strategies to fill those gaps.	Differentiated Groups Peer Learning Sign for Understanding and Respond
Pre-LIC Mission Buniyaad	Helping teachers learn more about developing reading skills in students, ART members discussed Mission Buniyaad and how it can be strengthened in their schools.	Linked to the strategies suggested by the material developed for Mission Buniyaad by the state
LIC 3: Lesson Planning	Helping teachers plan and sequence lesson activities engagingly. Planning also helped teachers be more deliberate in their strategies and questions.	Opening Routine Main Activity Closing Routine
LIC 4: Teaching Learning Strategies	Helping teachers integrate simple techniques into their teaching to help learners understand and remember what they learn.	Elaborative Questioning Retrieval Practices
LIC 5: Classroom Routines	Helped teachers build routines that help students take ownership of their learning and improve engagement.	Do Now No Hands
LIC 6: Teaching & Learning Strategies 2	Helped teachers incorporate writing and talking methods to enable students to consolidate their learning.	Scaffolded Student Discussion
LIC 7: Social-Emotional Well-being	Responding to the sudden pandemic crisis, this LIC helped teachers implement strategies that supported the social-emotional well-being of their students.	Active Self-Reflection Student Collaboration
LIC 8: Review LIC (Current)	Review of all previously completed LICs to give teachers a chance to revisit and revise those strategies that are most suited to their current needs.	All previous themes and strategies



LIC 9: Building a Stronger Community	This LIC focussed on improving collaboration and engagement for Mentors and TDCs. At the teacher level, it focussed on contextualisation and planning the various training teachers received.	Collaboration Engagement
LIC 10: Psychological Safety	How to offer psychological safety to enhance learning. Especially to support the Implementation of Mission Buniyaad,	Creating comfort around mistakes. Culture of Appreciation.

• Academic Resource Team Meetings

Academic Resource Team (ART) as the name of the team suggests is a core group of teachers who engage in discussions on pedagogical techniques and strategies to improve learning. On average it is best to have 10-12% of the school teachers of a school consisting of highly diverse (consisting of all subjects, grades, etc) teachers. The Academic Resource Team (ART) members get together once a month to discuss the focus areas of the LIC. The TDC introduces them to the ideas and concepts, and the members then go on to engage in activities that help them contextualize and plan their implementation of those ideas. They also get feedback from each other.

• ART and Co- ART Meetings

Further, the ART Members discuss the strategies with their subject-specific groups in the weekly ART to Co-ART (remaining faculty of school) meetings in the schools. In the meeting, the members discuss, contextualise, and make an action plan for the classroom.

• Observation and Feedback

As teachers implement the strategies, TDCs and ART members observe their classrooms (teachers also observe each other), followed by developmental feedback discussions. Observation & Feedback processes are established throughout the system. TDC Facilitators from each DIET and the District Coordinators observe Mentor Teachers and offer developmental feedback discussions. The Mentors, in turn, observe TDCs conducting ART meetings and giving feedback and offering developmental feedback for their growth.

• District Progress Check Meetings

TDC Facilitators from every DIET meet with their Mentor Teachers once a month to look at collected data and plan for the month ahead. Internal progress checking is done using quantitative data and qualitative reflection to assess where we are and identify key actions for the upcoming month. Qualitative and Quantitative Data obtained from Google Forms (filled by DIET officials, DCs, PM, MTs, TDCs and ART members) is jointly analysed with the district officials in order to decide further priorities.

• District Alignment Meetings

Co-chaired by the DEO and District Lead, these meetings provide an opportunity for all district stakeholders to analyze data, share learning, and develop plans together to strengthen program delivery. These are mostly held with DDE Districts, DDE Zones,

DIET and MTs on quarter basis in order to help align priorities of the TDC Program with those of the district.

• Classroom Observations

Supported by head teachers, teachers are either observed by a senior colleague or peer and receive specific feedback on how to improve. MT and TDC jointly observe any ART member's class, and based on the observation provide developmental feedback to the teacher to improve teaching learning cycle. ART members are also encouraged to observe at least 2 non-ART members.

Above details show about the TDC Program and its functioning. This program fulfils the needs of National Education Policy-2020 as it demands for the professional development of the teachers and the joyful, experiential and competency-based education for students, which are the themes of LICs of the program. The program also works on the framework of continuous review of progress based on sustained research and regular assessment by educational experts. Here, we can see the framework of continuous review of progress by conducting ART meetings regularly to work on LICs. This cycle of planning together, forming the LICs, executing the LICs, meeting again to discuss the challenges and working and planning again on building capacity can be seen as action research which again points towards continuous research with practice.

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UNDERSTANDING GARBHA MATRU PARATHANTRATA WITH RESPECT TO FETO-PLACENTAL CIRCULATION

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ABSTRACT

Introduction: The concept of Garbha Matru Parathantrata is concerned with the dependency of fetus on its mother for its proper growth and development. The transport of Rasa (nutrients) between the mother and fetus shows the Garbha Matru Parathantrata. Dependency of fetus on mother can be understood by feto-placental circulation. **Aims and Objectives:** To know the Garbha Matru Parathantrata with reference to feto-placental circulation. **Materials and Methods:** Ayurveda classics were searched regarding the references and explanations for Garbha Matru Parathantrata and Aparā. Also the feto-placental circulation and functioning of placenta was studied from modern embryology, obstetric, physiology and anatomy text books and relevant research articles. **Discussion and Conclusion:** The concept of Garbha Matru Parathantrata relates to the dependency of fetus on its mother for its nutrients. The Aahara Rasa from mother being conveyed to the Garbha via two anatomical structures namely Aparā and Garbha Nabhi Nadi for its growth and development. Since Maturahara Rasa is the major source of nourishment for the fetus which will be obtained to it through feto-placental circulation via umbilical vessels, understanding detailed knowledge about it is important as dysfunction in fetal circulation can lead to respiratory distress in the fetus or neonatal hypoxemia which can be fatal.

KEYWORDS: Garbha Matru Parathantrata, Feto-placental circulation, Aparā, Garbha Nabhi Nadi

INTRODUCTION

Swastha Sharir is a need for achieving the Purushartha Chatushtaya i.e., Dharma, Artha, Kaama and Moksha. Maintenance and protection of Swastha Sharir is the main aim of Ayurveda science. Historical aspects of vedas have the concept that mature age of woman including physical and psychological both are an essential factor for a good progeny¹. The union of Shukra (sperm), Shonita (ovum) and Atma (soul) in the Garbhashaya (uterus) is termed as Garbha². Health and wellbeing of the fetus depends upon the health and nutrition of the mother. The health of the fetus during gestation plays a major role in its survival post-delivery. Health is provided by the proper nutrition and care. This begins in the mother's womb. From the time of fertilization till its birth, the fetus receives nutrition and care from its mother. Nourishment of body gets established just after conception which causes the gradual development of fetus. Fetal growth is largely dictated by the availability of nutrients in maternal circulation and the ability of these nutrients to get transported into fetal circulation via placenta. Everything that affects the health of mother has an impact over the fetus.

AIMS AND OBJECTIVES

To critically analyze the concepts of Garbha Matru Parathantrata given in Ayurvedic literature with special reference to the concept of feto-placental circulation.

MATERIALS AND METHODS

Ayurveda classics were searched regarding the references and explanations for Garbha Matru Parathantrata and Aparā. Also

the concepts of fetoplacental circulation and functioning of placenta was studied from modern embryology, obstetric, physiology and anatomy text books and relevant research articles.

OBSERVATIONS AND RESULTS

Due to constant use of congenial diet by the pregnant woman the Garbha (fetus) grows normally and gets delivered at appropriate time with all Indriyas, complete body parts, Bala, Varna, Satva and Samhanana along with Matrja, Pitrja, Atmaja, Satmyaja and Rasaja Bhavas having constant association of Mana³. The Matura Ahara Rasa reaches the Aparā and through the Garbha Nabhi Nadi it travels and reaches the Garbha and nourishes the Shareera Dhatu of Garbha. The fetus is connected by the umbilical cord to the placenta, the organ that develops and implants in the mother's uterus during pregnancy. The circulatory system of the fetus is connected to the maternal circulatory system through the placenta. Nutrients and oxygen from the mother's blood pass through the placenta to the fetus, and waste products from the fetus pass back through the placenta for elimination. Through the blood vessels in the umbilical cord, the fetus receives all the necessary nutrition, oxygen and life support from the mother⁴. Hence the relationship between the mother and the developing fetus is crucial for the proper growth and development of the fetus.

DISCUSSION

Garbha Poshana is mainly occurring through the Matru Ahara Rasa because of its Apakwa Dhatu. After the Pachana Kriya,



formed *Ahara Rasa* from the *Matru* reaches the *Apara* which conveys the *Matru Ahara Rasa* to the *Garbha* through *Garbha Nabhi Nadi*⁵. This *Rasa* gets metabolised by *Garbha Kayagni* present in *Pakvashaya* and utilized for *Garbha Shareera Pushti*. Major *Pachana Kriya* is not necessary in *Garbha* as *Rasa* is available in *Prasada Rupa*. *Matru Ahara Rasa* forms the *Ambu* part of the *Garbhotpathhi Samagri* (*Ritu*, *Kshetra*, *Ambu* and *Beeja*)⁶. It refers to lymph- chyle containing nutritional substance and is formed in the *Amapakwashaya* later reaches the *Hrdaya* after which it is called as *Rasa Dhathu* and this *Rasa* is directed to the whole body through *Rasavaha Dhamani*. This *Rasa* nourishes the *Shareera Dhathu* of *Garbha*. Soon after fertilization till the implantation, cytoplasmic contents of ovum as well as the secretions from the uterine tube provide the necessary nourishment to the embryo⁷. From the time of implantation till the formation of placenta the secretions from trophoblastic cells, uterine tube and endometrial cells provide nourishment. After the formation of placenta, the fetal circulation is established and it becomes the major nutritional source for the fetus. Fetal circulation is a complicated process as in this case, the placenta functions similar to the lungs of the newborn after birth. The placenta even functions as the gastrointestinal tract, liver and kidneys for the growing fetus. Oxygenated, nutrient-rich blood from the placenta is carried to the fetus by the umbilical vein. This blood enters through the inferior vena cava. After oxygenated blood arrives at the right atrium, it flows through the foramen ovale to the left ventricle, then into the aorta. Some amount of blood from the aorta flows to the two umbilical arteries and re-enters the placenta, where carbon dioxide and other waste products from the fetus are taken up and enter the maternal circulation. The placenta accepts the blood without oxygen from the fetus through the umbilical arteries. In the placenta the blood picks up oxygen and returns to the fetus via umbilical vein. The oxygen-rich blood that enters the fetus passes through the fetal liver and enters the right atrium of the heart. Blood returning back from the fetus also enters the right atrium through the superior vena cava and coronary arteries. This doesn't shunt through the foramen ovale, but the fetus is able to send this oxygen-poor blood from the right atrium to the right ventricle. Most of the blood that leaves the right ventricle in the fetus bypasses the lungs through the ductus arteriosus. The ductus arteriosus sends the oxygen-poor blood to the organs in the lower half of the fetal body. This allows for the oxygen-poor blood to leave the fetus through the umbilical arteries and get back to the placenta to pick up oxygen. Circulatory system of mother is not directly connected to that fetus, so the placenta functions as the respiratory centre for the fetus, site of filtration for the plasma nutrients and excretion of waste products through the umbilical cord⁸. Fetus breathes and sleeps in unison with the mother. Fetus depends on its mother for its *Kshud*, *Pipasa* when inside the womb⁹. The *Garbha* is dependent upon the mother for all its activities¹⁰. The concept *Matru Parathanrata*, which emphasize that *Matru Ahara Rasa* gets absorbed by the *Garbha* can be compared with the *Kedaara Eva Kulya Nyaya* where the *Garbha* can be compared to the *Kedaara* and *Matru Ahara Rasa* to the *Kulya* as the *Ahara Rasa* is transported from the *Matru* (Higher concentration) to the *Garbha* (Lower concentration) for the *Poshana* of *Garbha*. It can be referred to the systemic fetal circulation. According to modern science

nutrients, oxygen and antibodies are provided to the fetus from the maternal circulation. Major activities like oxygenation, digestion and absorption are not yet started and these will start after birth i.e., nutrition through feeding and oxygenation through breathing. Other than *Matru Ahara Rasa*, the development of fetus is also influenced by *Matrujadi Shad Bhava* and *Panchabhootatmaka Bhava*. Their influence is more towards the neurological aspects like faulty of sense, tactile sensations and individuality development. *Maatruja Ahara Vihara Dosha*¹¹ refers to improper diet and regimes of mother during *Garbhadana Kala* are one of the contributing factors for *Garbha Vikruti* and *Anuvamshika Vyadhi*¹². Development of healthy fetus and to prevent the nutritive anomalies of the fetus, *Ayurveda* has elaborated *Garbhini Ahara Paricharya* and also importance of *Garbhini Ahara Rasa* is mentioned in terms of *Masanumasika Ahara*. If we compare the concept of *Garbha Poshana* and foetal nourishment explained in *Ayurveda* and modern science, a similarity related to dependency of fetus on mother can be established. Fetus gets nourished by fetoplacental circulation similar to the concept told in *Ayurveda* that *Garbha* acquires *Poshana* through *Matru Ahara Rasa*. All the *Bhrihatrayees* have explained the relation between the fetus and mother as the former's dependency on the latter for its nourishment and a safe environment for its development. Dysfunction in fetal circulation can cause respiratory distress in the fetus or neonatal hypoxemia which can be fatal. The balance and health of this fetoplacental circulation are essential for the well-being of both the mother and the unborn child.

CONCLUSION

The concept of *Garbha Matru Parathanrata* relates to the dependency of fetus on its mother for its nutrients. The *Ahara Rasa* from mother being conveyed to the *Garbha* via two anatomical structures namely *Apara* and *Garbha Nabhi Nadi* for its growth and development. After placenta formation fetus gets nourished through the circulation from placenta to fetus through fetal placental circulation. *Maturahara Rasa* is the major source of nourishment for the fetus which will be obtained to it through fetoplacental circulation via umbilical vessels. Since *Rasa* is the major source of nourishment for the fetus, the knowledge about *Garbha Poshana* can be used in both prevention and treatment of *Garbha Vikruti*. So, understanding about it, is important as dysfunction in fetal circulation can lead to respiratory distress to the fetus or neonatal hypoxemia which can be fatal.

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IMPACT OF ELEVATED CO₂ ON *in vitro* PROPAGATION OF IMPORTANT MEDICINAL PLANT *Nyctanthes arbor-tristis* L.

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ABSTRACT

Nyctanthes arbor-tristis L. is an important ornamental as well as medicinal plant known for its flowers. The axillary nodes of this plant are cultured on Murashige and Skoog medium, which results in the direct organogenesis. The M.S. medium is supplemented with 3 mg/L Indole-3-acetic acid. The *in-vitro* regenerated shoots are sub-cultured on the MS medium supplemented with IAA and BAP and subjected to elevated level of CO₂ viz 0.5% and 2% in airtight CO₂ chamber. The comparative analysis is performed on various physical and biochemical parameters after an 8-week treatment at elevated CO₂. The results of the present study show that the enhanced CO₂ level proves beneficial for *in vitro* growth of *Nyctanthes arbor-tristis* L.

KEYWORDS:- *Nyctanthes arbor-tristis* L., Elevated CO₂, M.S. Medium, Direct Organogenesis

INTRODUCTION

Nyctanthes arbor-tristis L., commonly referred to as Night-flowering Jasmine or Parijat, is a plant renowned for its significant medicinal, ornamental, and cultural value. This versatile plant has been utilized extensively in traditional medicine, with every part of the plant, including its leaves, roots, stems, bark, and seeds, demonstrating therapeutic properties. (Himanshi Rawat *et al.*, 2021 ; Jaspal Singh *et al.*, 2021.). The leaf juice is commonly used to aid digestion, act as an antidote to reptile venom, and serve as a tonic, laxative, diaphoretic (promoting sweating), and diuretic (increasing urine output). Additionally, the leaves are employed in the treatment of an enlarged spleen, highlighting their role in addressing specific organ-related conditions.

Traditionally, powdered dried leaves are known to alleviate malaria symptoms and rheumatic joint pain, reflecting their importance in treating both infectious diseases and inflammatory conditions. (Ashokkumar, K., Dharshini, M., Janani, T. *et al.* ; 2024) Beyond these uses, the plant exhibits a wide array of pharmacological activities, including antihistaminic effects (to manage allergic reactions) and central nervous system (CNS) actions such as hypnotic (sleep-inducing), tranquilizing (calming), and anesthetic properties. Its pharmacological spectrum further includes analgesic (pain-relieving), anti-inflammatory, antipyretic (fever-reducing), antiulcer, anti-amoebic, anti-helminthic (against parasitic worms), anti-trypanosomal (against trypanosome parasites), antidepressant, antiviral, and immunomodulatory (immune-regulating) activities.

Phytochemical studies of *Nyctanthes arbor-tristis* L. have revealed the presence of a wide range of bioactive compounds, including phytosterols, phenolics, tannins, flavonoids, glycosides, and saponins. (Mansi , Rajhans, Sanjukta *et al.*, 2021; Samir Panda *et al.*; 2024) Glycosides and alkaloids are particularly abundant in the plant, with iridoid glycosides and phenylpropanoid glycosides being the most frequently identified glycosides. Among the alkaloids, nyctanthine is

found to be the most prominent, playing a significant role in the plant's therapeutic efficacy.

The seeds of the plant are rich in iridoid compounds and arbortristins (A, B, D, and E), which have demonstrated immunomodulatory properties and antileishmanial activity (effective against *Leishmania* parasites). The leaves contain a diverse array of bioactive compounds, such as 6,7-di-O-benzoylnystantins, 6-O-trans-cinnamoyl-6 β -hydroxyloganin, 7-O-trans-cinnamoyl-6 β -hydroxyloganin, and desrhamnosylverbascoside, which are known for their potent anti-inflammatory and antipyretic effects. The stem is characterized by the presence of naringenin-4-O- α -glucopyranoside and 1- β -xylopyranoside, which contribute to the plant's overall medicinal value. (Champa Rani, Sunaina Chawla *et al.*; 2012)

Environmental changes, particularly the rising levels of carbon dioxide (CO₂) due to anthropogenic activities, have forced plants like *Nyctanthes arbor-tristis* L. to adapt by altering their secondary metabolism. Elevated CO₂ levels are known to stimulate the production of secondary metabolites, which are often associated with enhanced pharmacological activities. Studies involving *In vitro* cultivation of *Nyctanthes arbor-tristis* L. Under elevated CO₂ conditions have provided insights into these adaptive changes, offering valuable knowledge about how such environmental factors influence the plant's phytochemistry and potential medicinal applications.

MATERIAL AND METHODS

Young axillary buds of *Nyctanthes arbor-tristis* L. which was collected from the campus of IITE, Gandhinagar, were used as explants. The explants were surface sterilized with 0.1% HgCl₂ for 2 minutes, followed by washing with sterilized distilled water, and then sterilized with 1% sodium hypochlorite for 2 minutes. After sterilization, the explants were washed with distilled water 5-6 times and then inoculated onto MS (Murashige and Skoog) media, supplemented with 3 mg/L Indole-3-acetic acid (IAA).



Direct Organogenesis

Axillary buds of approximately 1 cm² in length were inoculated onto MS media containing 3% sucrose and 0.8% Agar-agar. The medium was supplemented with 3 mg/L IAA.

Once the shoots were regenerated and the axillary buds reached sufficient length, they were sub-cultured onto MS media with 2% sucrose, and supplemented with 3 mg/L IAA and 1 mg/L BAP (6-benzylaminopurine). The inoculated culture bottles were placed in an airtight CO₂ chamber with CO₂ levels maintained at 0.5% to 2%.

The pH of the medium was adjusted to 5.8 and autoclaved at 121°C (15 psi) for 20 minutes. The cultures were incubated at 25°C under a 16-hour photoperiod.

RESULT AND DISCUSSION

The current study investigated the *in vitro* propagation of *Nyctanthes arbor-tristis* L through direct organogenesis, focusing on the role of varying carbon dioxide (CO₂) concentrations in influencing growth, physiological responses, and biochemical composition. Axillary nodes of approximately 1 cm² length were inoculated on MS medium supplemented with 3 mg/L indole-3-acetic acid (IAA). Within 10 days, initial shoot formation was observed, indicating that the explants were responsive to the culture medium and hormonal treatment. By the 20th day, multiple shoots were observed, each producing an average of 3±0.8 leaves. This robust growth suggests that the chosen medium and hormonal conditions effectively supported organogenesis. However, unhealthy explants showed reduced growth and organogenesis, underscoring the importance of explant health in achieving optimal results.

After 25 days of culture, the shoots were sub cultured and transferred to a fresh MS medium containing 3 mg/L IAA and 20 g/L sucrose and placed in airtight chambers with controlled CO₂ concentrations of 0%, 0.5%, and 2.5%. Organogenesis was observed in all treatments by the 12th day, but significant differences in growth were noted based on the CO₂ levels. Plants cultured under 2.5% CO₂ demonstrated the most vigorous growth, producing an average of 6±0.1 leaves per shoot, which was significantly higher compared to the 0.5% CO₂ treatment, where shoots produced only 5±0.3 leaves on average. Notably, no shoot or leaf formation was observed in the absence of CO₂ (0% treatment), highlighting the essential role of CO₂ in plant development and organogenesis.

Micropropagation can also be conducted on sugar-free media under photoautotrophic conditions, utilizing elevated CO₂ as a carbon source. This method has been demonstrated to lower the risk of microbial contamination (Kozai, 1991; Pospisilova *et al.*, 1999; Deng and Donnelly, 1993; Yoon *et al.*, 2009). However, in the current study, when CO₂ was used as the sole carbon source (without sucrose supplementation), leaf explants survived only for 6–8 days before deteriorating. Similar outcomes were reported in photoautotrophic cultures of *tobacco* (Solarova *et al.*, 1989; Ticha, 1996), *Wrightia tomentosa* (Vyas and Purohit, 2003), and *Chlorophytum*

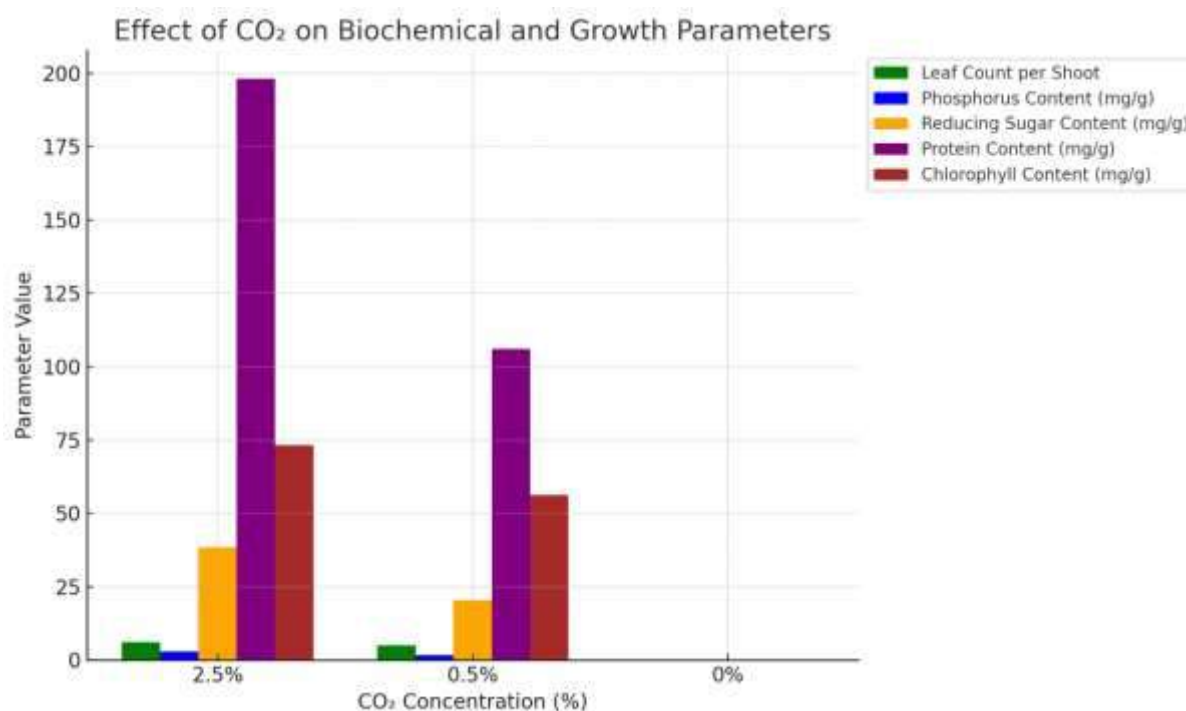
borivilianum (Joshi *et al.*, 2009), where plantlets failed to sustain growth in sucrose-free media (Solarova and Pospisilova, 1997). In contrast, potato plantlets were able to grow in sugar-free media, although media containing sucrose resulted in superior growth (Rahman and Alsadon, 2007). Additionally, shoot cultures of *Achras zapota* cultivated on sucrose-containing media under CO₂ free conditions exhibited a significant decline in all growth parameters.

Biochemical analyses revealed clear trends in nutrient and metabolite accumulation. Plants grown under 2.5% CO₂ exhibited the highest phosphorus content (2.85±1.04mg/g of leaf), **followed by the control plants, while those grown under 0.5% CO₂ showed the lowest phosphorus levels** (1.65mg/g of leaf). Similar trends were observed for reducing sugar and protein content, with plants at 2.5% CO₂ recording the highest levels (38.5±2.04 mg/g and 198±4.02mg/g of leaf respectively), **followed by the control plants, and plants at 0.5% CO₂ having the lowest values** (20.34±1.09mg/g and 106±2.08mg/g of leaf respectively). These results suggest that elevated CO₂ levels enhance nutrient assimilation and promote the synthesis of critical biomolecules required for plant growth.

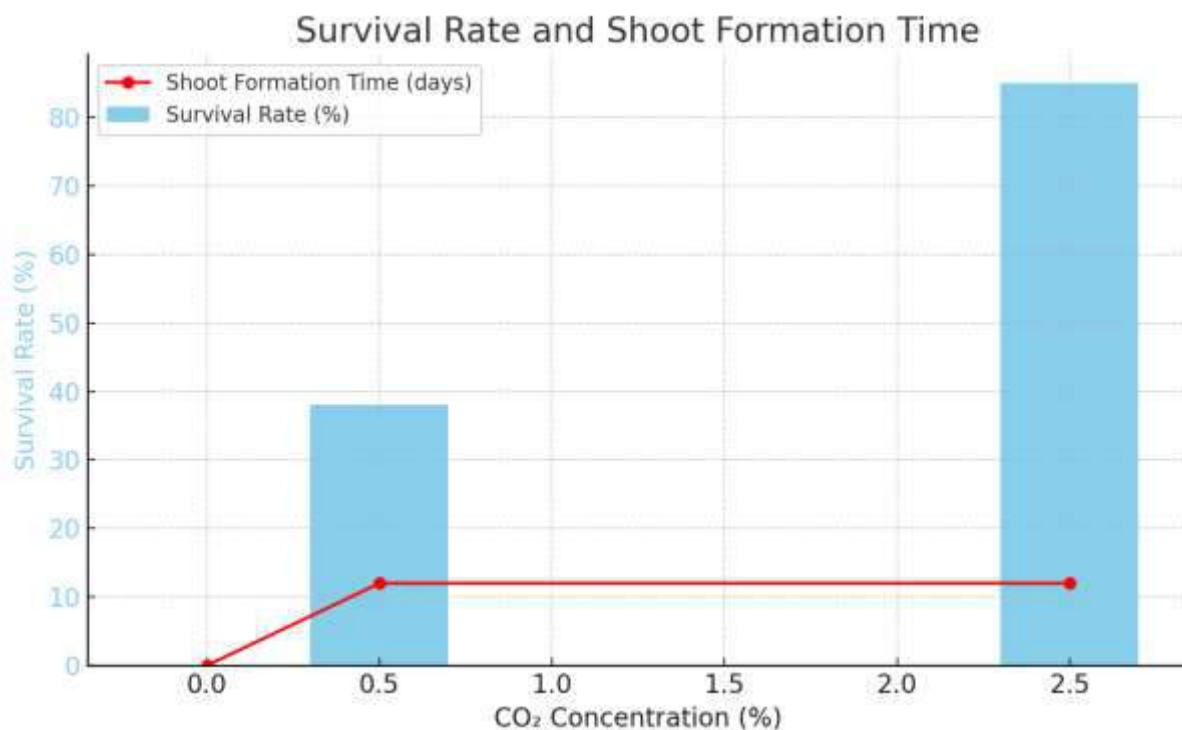
Physiological parameters such as stomatal frequency and chlorophyll content also varied significantly with CO₂ levels. Plants grown under 2.5% CO₂ exhibited the highest stomatal frequency (22.34±2.12), **facilitating efficient gas exchange, while those under 0.5% CO₂ recorded the lowest frequency** (19.8±1.2). Chlorophyll content was likewise highest in plants cultured at 2.5% CO₂ (73.208mg/g), **correlating with increased photosynthetic efficiency, and lowest in plants at 0.5% CO₂** (56.178mg/g of leaf). The absence of CO₂ in the 0% treatment resulted in no detectable growth, indicating a complete lack of physiological activity.

Following the culture phase, plantlets were transferred to thermocol cups containing a 1:1:1 mixture of soil, sand, and compost for the hardening process. Plants grown at 2.5% CO₂ showed exceptional adaptation to the *Ex-Vitro* environment, achieving a survival rate of 85% and demonstrating vigorous growth. Conversely, plantlets from the 0.5% CO₂ treatment exhibited limited growth and a lower survival rate of 38%, reflecting the adverse effects of inadequate CO₂ on plantlet Vigor and acclimatization.

The findings of this study emphasize the critical role of CO₂ in driving *in vitro* organogenesis, enhancing biochemical composition, and supporting robust plant growth. Among the tested concentrations, 2.5% CO₂ emerged as the most favourable, promoting superior shoot formation, metabolic activity, and adaptability to *Ex Vitro* conditions. In contrast, lower CO₂ levels (0.5% and 0%) negatively affected all parameters, including growth, nutrient assimilation, and survival rates. These results highlight the need to optimize CO₂ levels during *In Vitro* culture to maximize propagation efficiency and plantlet quality.



Graph 1



Graph 2

CONCLUSION

The research on the in vitro cultivation of *Nyctanthes arbor-tristis* L. emphasizes the essential influence of carbon dioxide (CO₂) levels on plant development, physiological traits, and biochemical properties during direct organogenesis. The findings demonstrate that elevated CO₂ concentrations significantly enhance shoot formation, nutrient assimilation, and overall plant vigor, with 2.5% CO₂ proving to be the most effective concentration. Plants grown under this condition exhibited superior growth parameters, including a higher

number of leaves, enhanced phosphorus, protein, and reducing sugar content, as well as increased stomatal frequency and chlorophyll levels, which collectively indicate improved metabolic and photosynthetic efficiency.

In contrast, suboptimal CO₂ conditions (0.5%) and the absence of CO₂ (0%) resulted in reduced growth and organogenesis, with the latter condition leading to complete failure of shoot and leaf formation. These results underscore the critical necessity of CO₂ for successful in vitro plant culture, especially under conditions designed to simulate photoautotrophic growth.



Plantlets propagated under 2.5% CO₂ also showed the highest adaptation and survival rates during the Ex-Vitro acclimatization phase, indicating their superior robustness and readiness for transplantation. The study confirms that optimizing CO₂ levels during in vitro culture not only enhances the efficiency of propagation protocols but also improves the quality and resilience of the plantlets.

Overall, this research provides valuable insights into the role of environmental factors in plant tissue culture and suggests further exploration of the interaction between CO₂ and other variables, such as light and humidity, to refine propagation techniques for diverse plant species.

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EFFECTIVENESS OF GAMIFICATION IN IMPROVING SKILLS IN DEVELOPING DIGITAL AND NONDIGITAL RESOURCES

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ABSTRACT

The study investigated the effectiveness of gamification in improving skills in developing digital and nondigital resources among the 30 sophomore teacher education students at Benguet State University-Bokod Campus. The research employed pretest and posttest with experimental and control groups to compare the outcomes of gamification intervention and normal instruction methods. The mean, mean percentage score, standard deviation, independent and dependent t-tests were used in analyzing the data. The results suggest that both groups initially possessed basic skills in developing digital and non-digital resources. Following the gamification intervention, the control group's mean score improved, indicating a basic skill level. In contrast, the experimental group's mean score exhibited an increase, reflecting a proficient level of skill. These results demonstrate that while the control group showed some improvement, they remained within the basic skill category. Contrary, the experimental group progressed from basic to proficient skill level. The findings suggest that gamification had a positive effect in enhancing skills in developing both digital and non-digital resources among sophomore teacher education students. The significant improvement observed recommends the importance of integrating gamification into teacher education programs and the need to provide trainings and seminars to educators to effectively implement gamification techniques into teaching practices. Further studies may examine the long-term effects of gamification on skill retention and application in real-world teaching scenarios.

KEYWORDS: Gamification, skills in developing digital and nondigital resources

INTRODUCTION

Today's learners have short attention spans and are easily distracted during lecture hours due to various factors, including the evolution of technology. The technological shift has significantly altered the learning styles of digital natives and technology adopters. With these challenges, educators are confronted with the challenge of finding strategies to motivate, excite, and engage students through educational learning. Various studies have found these strategies positively connect with learners' academic performance.

On the other hand, technological advancement has significantly transformed teaching dynamics, empowering teachers to create lively and interactive learning environments that cultivate student engagement, collaboration, and academic achievement. Given the increasing digital reliance of today's educators and learners, the integration of new learning modalities in today's situation is suitable in an educational setting. It is presumed that gamification in education empowers skill improvement by integrating learning with games, strengthening the impact of instructional material development.

Developing instructional material resources, including customized or personalized resources, has been a concern for decades. Based on the researcher's experiences, pre-service teachers frequently need help producing digital and non-digital resources, resulting in poorly done assignments and projects. In the 21st century, educators must possess the essential skill of creating digital and non-digital resources to be effective in their teaching endeavors. The absence of competence in preparing these resources may hinder students' efficacy while teaching and interacting with their future students.

The infusion of gamification technology into globalization has gathered attention as a promising approach to engage and motivate students in the contemporary learning landscape, resulting in enhanced academic attainment. According to Hipol et

al. (2020), incorporating technology has dramatically improved the capabilities of learners and expanded the range of educational opportunities. In light of this, gamification can effectively catalyze skill development in crafting digital and non-digital instructional materials. In digital resources, gamified learning platforms enable creators to refine their skills in structuring content, designing interactive elements, and optimizing user experiences. In developing non-digital instructional materials, gamification can elevate the creation process by infusing creativity into content design.

As Rashied (2018) outlined, gamified approaches enhance the efficacy of conveying complex concepts, making learning more interactive and memorable. By using game mechanics such as rewards, challenges, or progression systems, educators can effectively captivate audiences, sustain attention, and facilitate a more profound understanding of the subject matter, regardless of whether it is conveyed through digital or non-digital instructional materials.

Gamification is a pedagogical and assessment approach rooted in innovative technological trends that shape education. The study is about integrating gamification technology to improve skills in developing digital and non-digital resources in teaching and learning. It is anchored on the National Research Agenda for Teacher Education (2019-2023) on Theme A.2: Content Knowledge and its Application within and Across Curriculum Areas. Specifically, it is under Pedagogical and assessment approaches that support the teaching and the learning of 21st-century competencies and fluencies. Likewise, it is anchored on the Research and Development Agenda (2019-2023) of the College of Teacher Education on technological trends under innovative technologies in education. Combining gamification with these emerging technologies drives education towards dynamic, interactive, and adaptive learning experiences. It caters to individual needs, fosters skills beyond academic knowledge,



and encourages a lifelong learning mindset in an increasingly technology-driven world.

Educators actively seek innovative methods to enhance students' academic achievement, aiming to produce graduates who are knowledgeable and globally competitive in the workforce. Hence, the study aimed to investigate the impact of gamification, a strategy incorporating game elements into developing digital and non-digital resources prepared by sophomore teacher education students. By exploring how gamification can enhance instructional development skills, the study's findings suggest the integration of gamification into lessons. The integration could improve the ability of students to create effective educational materials, ultimately leading to better academic performance and equipping students with the competencies required in a dynamic, technology-driven global market.

Pre-service teachers often need help producing digital and non-digital resources, leading to poorly done assignments and projects. In today's era, proficiency in creating adequate resources across digital and traditional platforms is vital. The lack of competence in this area may not only compromise the quality of educational materials but also hinder the efficiency of future educators. This underscores the urgent need for comprehensive skill development among educators to ensure an enriching and impactful educational experience for all learners. Creating influential digital and non-digital resources is a must for the future teachers of the 21st century, according to Furqan (2023), to integrate gamification technology into teaching and learning to enhance skills in producing digital and non-digital resources (Rashed, 2018).

OBJECTIVES

The main goal of the study is to assess the effect of gamification on improving the skills of the sophomore teacher education students of Benguet State University-Bokod Campus in developing digital and non-digital resources in the subject Technology for Teaching and Learning 2 during the second semester of the academic year 2023-2024.

METHODOLOGY

The study utilized a quantitative research design to analyze the numerical data gathered from the target participants. An experimental research method, featuring a pretest and posttest, was employed to determine the quantitative relationship between the gamification intervention and the respondents' skill levels in developing both digital and non-digital resources. The participants of the study were the sophomore Bachelor of Technical-Vocational Teacher Education and Bachelor of Technology and Livelihood Education students who enrolled in Technology for Teaching and Learning 2 during the second semester of the academic year 2023-2024. Simple random sampling was employed, with participants selected randomly using the draw lots method. A researcher-made test served as the primary instrument for data collection. The study involved both a control and an experimental group. Initially, both groups took a pre-test to assess their prior knowledge. The control group received standard instruction, while the experimental group was exposed to gamified learning through quizzes on Kahoot, Quizizz, and Quizalize, integrated with their lessons. Each session involved online participation via QR codes and real-time feedback on a TV screen. After the intervention, both groups took a post-test, with the control group completing a written test and the experimental group taking gamified quizzes. Data were processed using mean, mean percentage, standard deviation and independent and dependent t-test. All inferences were drawn at the 0.05 level of significance.

RESULTS AND DISCUSSION

Before the implementation of gamification, both groups exhibited a basic level of skills in developing digital and non-digital resources, with the control group having a mean score of 16.7 and the experimental group having a mean score of 18.6. This indicates similar levels of skills before the intervention. Therefore, the initial skill levels among participants were relatively homogenous across both groups. The results align with the study of Caballero et al. (2022) on the role of gamification in the academic performance of students, which revealed that the experimental group exhibited a higher mean score but also demonstrated more significant variability in performance compared to the control group, indicating more consistent performance within the control group of respondents, which is similar to the findings of this study, laying the basis for assessing the impact of gamification on skill enhancement.

After the conduct of gamification intervention, the control group improved their skill performance but remained at a basic level with mean score of 17.73. In contrast, the experimental group achieved a higher mean score of 23, signifying a proficient skill level. This confirms the findings of the study of Caballero et al. (2022), which revealed that gamification improved the experimental group's academic performance compared to the control group. This implies that it has a positive impact on the learner's academic success. These results suggest that gamification positively influences learners' academic success, underscoring its potential as an effective educational strategy.

The independent t-test results before the gamification intervention showed no significant difference in pretest scores between the experimental and control groups, with a t-value of -1.58, p-value of 0.126, and a mean difference of -1.93. This indicates that both groups had similar skill levels in developing digital and non-digital resources. These findings align with previous studies by Caballero et al. (2022) and Sahin and Namli (2016), suggesting that both groups were homogeneous at the start, providing a solid basis for comparing the effects of gamification.

The independent t-test results for the posttest scores showed a significant difference between the experimental and control groups, with a t-value of -4.64, a p-value of 0.000075, and a mean difference of -5.27. These findings indicate that the gamification intervention had a significant positive impact on the experimental group's skill development in digital and non-digital resources, leading to a substantial increase in their posttest scores compared to the control group. This supports previous research by Caballero et al. (2022) and Papellero (2021), highlighting gamification as an effective strategy for enhancing student learning outcomes.

The paired samples dependent t-test for the control group showed no significant difference between the pretest and posttest scores, with a t-value of -0.680, a p-value of 0.508, and a mean difference of -1.00. This suggests that, while there was a slight improvement in the control group's skills in developing digital and non-digital resources, the change was not statistically significant. These findings align with previous research by Sahin and Namli (2016), indicating that the observed improvements were not substantial enough to attribute them to the intervention.

The paired sample t-test for the experimental group revealed a significant difference between pretest and posttest scores, with a t-value of -2.84, a p-value of 0.013, and a mean difference of -4.33. This indicates that the gamification approach used in the study significantly improved the experimental group's skills in developing digital and non-digital resources. The findings suggest that the gamified learning environment enhanced learning



outcomes, aligning with previous research on the positive impact of gamification on learner engagement and performance. The results reinforce the potential of gamification as an effective instructional strategy for skill development, supporting studies by Ghai and Tandon (2022) and Wahid (2018), which highlight the benefits of gamification in educational contexts.

CONCLUSIONS

The experimental and control group respondents possess the basic skill in developing digital and nondigital resources before the gamification.

After the gamification, the skill level of the experimental group remarkably increased from basic to proficient, while the control group's skill level remained in the basic category.

There is no significant difference between the pretest scores of the experimental and control groups.

There is a significant difference between the post-test scores of the experimental and control groups.

There is no significant difference between the pretest and posttest scores of the control group.

There is a significant difference between the pretest and posttest scores of the experimental group.

Recommendations

Both groups possessed basic skills before the gamification; considering the result, it is recommended that educators be supported with continuous training and resources on effective teaching strategies and student engagement techniques to enhance teaching and learning.

The experimental group's skill level increased after the gamification, which suggested adapting differentiated instruction

with technology integration to cater to individual student needs and interests. Utilize adaptive learning technologies and provide opportunities for self-paced learning.

It is highly recommended that additional learning interventions and capacity-building activities be implemented as remediation to tackle the challenges faced by the learners, thereby ensuring sustainable development outcomes.

The results showed a significant difference in posttest scores; the control group's skills remained at the basic level while the experimental group's increased to proficient. The researcher endorsed developing well-thought-out and captivating gamification techniques to enhance student learning.

The pretest and posttest of the control group that did not receive the gamification intervention showed little skill improvement. Hence, it is important to give timely feedback and reflection to support teachers in implementing various concepts or strategies in their teaching activities.

Given the remarkable improvement in the experimental group's skills following the implementation of gamification, it is strongly recommended that this approach be integrated into teacher education courses, particularly in technology for teaching and learning subjects. The integration of gamification will enhance students' abilities to create both digital and non-digital resources, preparing future teachers for the demands of the digital era.

Future research on the effectiveness of gamification in boosting teacher education programs and its influence on students' learning outcomes is recommended.

TABLE

Table 1
Population, Sample Size, and Percentage Distribution of the Respondents

Respondents	Population	Sample	Percentage (%)
Bachelor of Technical-Vocational teacher Education (BTVTEd)	21	15	50
Bachelor of Technology and Livelihood Education (BTLEd)	26	15	50
Total	57	30	100

Table 2
Level of Skills in the Pretest of the Experimental and Control Groups

Group	N	Mean	Mean Percent Score	SD	Interval Level Description
Pretest Control Group	15	16.7	55.67%	1.52	Basic
Pretest Experimental Group	15	18.6	62%	3.03	Basic

Table 3
Level of Skills in the Posttest of the Experimental and Control Groups

Group	N	Mean	Mean Percent Score	SD	Interval Level Description
Posttest Control Group	15	17.73	59.1%	3.13	Basic
Posttest Experimental Group	15	23	76.67%	3.68	Proficient



Table 4						
Independent t-test Results for Pretest of the Experimental and Control Groups						
Pretest		T value	df	P value	Mean difference	Remarks
(Control Group)	(Experimental Group)	-1.58	28	0.126	-1.93	Not significant

Table 5						
Independent t-test Results for Posttest of the Experimental and Control Groups						
Pretest		T value	df	P value	Mean difference	Remarks
(Control Group)	(Experimental Group)	-4.64	28	0.000075	-5.27	Significant

Table 6						
Paired Samples Dependent t-test Results for Pretest and Posttest of the Control Group						
Control Group		T value	df	P value	Mean difference	Remarks
(Pretest)	(Posttest)	-0.68	14	0.508	-1.00	Significant

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EMPOWERING LEARNERS AND EDUCATORS: A NEEDS ASSESSMENT-BASED FRAMEWORK FOR TRAINING AND EXTENSION PROGRAMS IN THE ALTERNATIVE LEARNING SYSTEM

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INTRODUCTION

The Alternative Learning System plays a crucial role in providing educational opportunities to individuals who cannot access or complete formal schooling. By offering flexible and adaptable learning pathways, ALS strives to empower learners of all backgrounds to reach their full potential. As a parallel learning system, ALS accommodates diverse learner needs, promoting inclusivity and accessibility in education (Department of Education, 2023). However, despite its significance, ALS faces various challenges that impede its effectiveness, including inadequate training for educators and a lack of tailored programs that address the unique needs of learners (Boholano et al., 2024).

To ensure the effectiveness and relevance of ALS programs, it is essential to continuously assess and address the evolving needs of both learners and educators. This study undertakes a needs assessment of the Alternative Learning System to develop a robust framework for training and extension programs tailored to these identified needs. As noted by Delmo and Yazon (2020), the successful implementation of ALS hinges on aligning program delivery with the specific needs and contexts of learners and educators. By understanding the specific challenges and aspirations of ALS learners and educators, this research endeavors to contribute to the ongoing development and improvement of the ALS system, ultimately empowering individuals and communities.

In recent years, significant reforms have been implemented under the ALS 2.0 initiative, which aims to enhance the curriculum and improve the overall quality of education provided through this system. These reforms emphasize the importance of needs assessment as a foundational element for developing effective training programs for learners and educators (Klenowski, 2002). A comprehensive needs assessment enables stakeholders to identify specific gaps in knowledge and skills, ensuring that training initiatives align with ALS participants' actual requirements (TrainingFolks, 2024).

OBJECTIVES OF THE STUDY

This study aims to establish a framework for training and extension programs within the ALS by conducting a needs assessment. This research provides insights into the challenges and aspirations by focusing on the perspectives of both learners and educators of ALS in the Municipality of San Isidro. The findings serve as a basis for designing targeted professional development opportunities that empower educators and enhance the learning experience for ALS learners.

Specifically, it seeks to provide significant answers to the following:

1. What are the current learning resources, materials, and teaching practices employed in the ALS program in San Isidro?
2. What are the perceived challenges and difficulties encountered by ALS learners and teachers in San Isidro?
3. What are the training and extension program preferences of ALS learners and teachers in San Isidro?
4. Based on the needs assessment findings, what training and extension program framework can be developed for ALS learners and teachers in San Isidro based on the existing programs of NEUST?

RESEARCH METHODOLOGY

This study employed a descriptive research design using qualitative method to gain a comprehensive understanding of the needs of ALS learners and teachers in San Isidro.

Participants

The participants of this study are twenty (20) ALS learners, two (2) teachers, and one (1) coordinator of the Alternative Learning System (ALS) in the Municipality of San Isidro, Nueva Ecija.

Data Collection Methods

Focus Group Discussions: Qualitative data were collected through separate focus group discussions with learners and teachers. These discussions facilitated in-depth exploration of:



Learners: Experiences in the ALS program, learning challenges, aspirations, and suggestions for improvement.

Teachers: Experiences in teaching ALS, insights into learner needs, challenges faced, and recommendations for training and support.

Data Analysis Techniques

Thematic Analysis: Qualitative data from the focus group discussions were analyzed using thematic analysis.

RESULTS AND DISCUSSIONS

1. Current learning resources, materials, and teaching practices employed in the ALS program in San Isidro
Interviews with ALS teachers and coordinator in the Municipality of San Isidro revealed that the program faces significant limitations regarding audiovisual learning materials. The Learning Center is equipped with only one LED TV, which remains underutilized due to a lack of internet access and laptops for connectivity. Additionally, many learners in this program are returnees who prioritize work or other responsibilities. Their flexible schedules allow them to complete modules at home, leading them to go to the learning center two to three times a week. This situation aligns with broader observations in the literature, where inadequate resources have been identified as a barrier to effective teaching and learning in ALS settings (Catyong, et.al, 2023).

The teaching methods employed primarily consist of traditional approaches, such as group discussions using whiteboards, pen-and-paper seat work, and completing activities outlined in the modules. This reliance on conventional instructional strategies highlights the need for more dynamic and engaging teaching practices to better accommodate adult learners' diverse needs.

As highlighted by Flores (2022), there is a pressing need for ALS educators to adopt more learner-centered approaches that facilitate active participation and cater to varying educational backgrounds.

2. Perceived challenges and difficulties encountered by ALS learners and teachers in San Isidro

During the focus group interview with the ALS learners, the researchers noticed they needed to be more open to communicating with the teachers. Most of them seemed intimidated, especially when speaking to them in English. This was one of the challenges they mentioned during the interview. They fear being judged because they cannot communicate confidently in English. When asked about other problems they face in ALS, they stated that they also need help in understanding the module when the topics are written in English. Another challenge is comprehending Mathematics lessons. When their teacher discusses topics with them at school, they easily comprehend them; nevertheless, when given simple activities or exercises, they tend to forget immediately.

Regarding ALS teachers' challenges and difficulties, their primary concern is their students' interest in learning. This is due to the learners' notion that ALS is informal schooling in which they are not required to attend class regularly, and attendance is not factored into the assessment system. A further concern is that parents of ALS learners are not fully supportive of their children's studies. They believe that enrolling them in ALS will immediately result in promotion or completion of their education. This school year, twenty-two students are officially enrolled in ALS San Isidro, but only 50% or less attend class every day.

These challenges for ALS students and teachers underscore the importance of focused interventions to improve communication skills, comprehension skills, and overall engagement with the learning process. Strategies such as encouraging parental participation, offering specialized learning resources, and creating a supportive school climate could help both students and teachers overcome these challenges. The study of Cartoneros (2024) also suggested a collaborative, multifaceted strategy for ALS education involving continual assessment and integration of various learning modalities.

Further, the ALS coordinator and teachers wish to have IT experts to assist them in fixing the computer units they already have in the center, and to equip them with basic computer skills like using PowerPoint and excel.

3. Training and extension program preferences of ALS learners and teachers in San Isidro?

The ALS teachers and coordinator are very much appreciative of the initiative of the researchers to collaborate with them through trainings and extension programs. They really look forward on working with NEUST to assist them in transforming the lives of ALS students. They highlighted the following trainings they need:

- 3.1. Training for ALS Learners' Communication Skills
- 3.2. Training to Improve ALS Learners' Mathematical Skills
- 3.3. Teachers' Training about Different Teaching Strategies for Diverse Adult Learners
- 3.4. Intervention Programs for Parents of ALS Learners
- 3.5. Training on Basic Computer Literacy

Effective communication is essential for learners to articulate their thoughts and interact with others. The training must emphasize the development of listening, speaking, reading, and writing skills, which are essential components of communication within the ALS curriculum. It will enable learners to express their ideas clearly and confidently across diverse contexts.

Mathematical proficiency is required for daily problem solving and critical thinking. This training should cover basic numeracy, problem-solving skills, and real-world mathematical applications. This will help students establish confidence in their mathematical ability, which is essential for personal and professional development.



Considering that ALS serves a diverse population of adult learners with different backgrounds and learning preferences, it is essential for educators to be equipped with an array of teaching strategies. This training should incorporate methods designed to effectively engage adult learners, including experiential learning, collaborative projects, and the integration of technology.

Engaging parents in the educational process is essential for the success of ALS learners. Intervention programs equip parents with essential tools and knowledge to effectively support their children's education at home.

Equipping teachers with basic computer skills will help them confidently use different tools for lesson planning, and creating learning materials.

4. Based on the needs assessment findings, what training and extension program framework can be developed for ALS learners and teachers in San Isidro based on the existing programs of NEUST?

The NEUST San Isidro Campus has its Extension flagship program having the following three components:

- 4.1. LIWANAG – ARAL for the College of Education
- 4.2. LIWANAG -TEKNOLOHIYA for the College of Information and Communications Technology
- 4.3. LIWANAG – KITA for the College of Business Management and Technology

Apparently, each component is based on the expertise of the faculty members in each department. For the findings of this study, LIWANAG-ARAL and LIWANAG TEKNOLOHIYA are the two components that can offer the training and intervention needs of the learners and teachers of ALS San Isidro.

The Project will be dubbed as Liwanag- Ar-ALS which means: **LIWANAG-** Assistance and **R**esources for **A**daptive **L**earning and **L**iteracy **S**kills

The project will be divided in five components

- o Language Literacy and Communication Skills
- o Mathematics or Numeracy Literacy
- o Teaching Strategies for Diverse Learners
- o Assistance and Intervention to the Parents of ALS
- o Basic Computer Skills

CONCLUSIONS

1. The lack of adequate audiovisual learning materials in ALS San Isidro, as well as the reliance on traditional teaching methods, highlighted the need for integrating technology and more engaging pedagogical approaches.
2. The challenges faced by ALS learners, particularly their apprehension towards English communication and difficulties in comprehending English-based learning materials, and difficulties in understanding Math topics, necessitate targeted interventions.

3. Similarly, addressing the concerns of ALS teachers, such as inconsistent student attendance, lack of parental support, and limited IT skills, is crucial. Providing professional development opportunities for teachers, particularly in technology integration and learner-centered pedagogies, as well as intervention programs for parents can significantly enhance the program's effectiveness.
4. Community engagement and partnership are essential to strengthen the ALS program in San Isidro.

Recommendations

1. Provide essential audiovisual equipment, including additional LED TVs, laptops, and reliable internet connectivity for the Learning Center. Also, provide professional development opportunities for ALS teachers on learner-centered teaching methods, such as project-based learning, collaborative activities, and differentiated instruction, using technology.
2. Provide trainings/ tutorials to improve ALS learners' English language proficiency, focusing on conversational skills, vocabulary development, and reading comprehension. Also provide trainings/ tutorials in Mathematics.
3. Equip ALS teachers with the necessary IT skills through targeted training programs. Focus on basic computer literacy, the use of educational software and online platforms. Also, develop strategies to increase parental involvement in ALS learners' education. Organize workshops or information sessions to educate parents about the program, address their concerns, and encourage their active support.
4. Create partnerships through MOA with educational institutions to provide additional resources, mentorship opportunities, or technical expertise to support the ALS program.

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