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SEXUAL DYSFUNCTION IN DIFFERENT DOMAINS AFFECTING HYPERTENSIVE PATIENTS- TIME TO ACT

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ABSTRACT
Sexual Dysfunction due to Hypertension and antihypertensives is well established in literature. Not only Erectile Dysfunction in males or lack of Sexual Desire in both genders are the only outward manifestations. Many other domains are equally affected that impair an individual from leading a sexually satisfying life. These become the core behind many psychiatric illnesses in them due to the its stress provoking capacity and impairments in other aspects of life too. Developing nations like India are mostly affected in this regard. Detailed longitudinal study and response to treatment in Indian scenario is the current need specially in Indian scenario.

KEYWORDS– Sexual Dysfunction, Hypertension, Antihypertensive, Domains

INTRODUCTION
Hypertension (HTN) is a leading risk factor for mortality mostly because of its high prevalence and associated risk of cardiovascular diseases¹¹. Almost 25% of the world’s adult population is estimated to have arterial hypertension by 2025. The estimated number is close to 1.5 billion²². Abnormalities of the vessels of our body both structurally and functionally are mainly associated with HTN. Long-term HTN causes blood vessel damage in general, the most frequent reason being vascular diseases³³. Thus vessels in the genital region are also involved. Reduced blood flow (secondary to hypertensive arteriosclerosis due to raised blood pressure) to the neural, systemic components of genitalia, subsequently leads to sexual dysfunction (SDys)⁴⁴,⁵⁵.

For the efficient functioning of vital organs such as the heart, brain and kidneys having systolic and diastolic pressure within normal level is important. WHO data suggest that, globally, hypertension is accountable for about 17 million deaths per year which is about 1/3 rd of all deaths occurring yearly in the world. The complications arising out of hypertension are the reason behind 9 million deaths worldwide each year.³⁴,³⁵ WHO stated in 2008 that about 40% of the adult population in the world have been diagnosed with hypertension. The number of cases rose from 600 million in 1980 to a staggering 1 billion in 2008. The prevalence in the African areas was maximum in the world with 46% of adults diagnosed with high blood pressure. The lowest prevalence was seen in American region, which was still a prominent 35% of the adults³⁶,³⁷.

Estimate of erectile disorder ranges from 0.4% to 37% in general treatment settings.³⁸ There is broad fluctuation in differences among assessment criteria, risk issue such as advanced age, medications³⁹, diabetes and hypertension⁴⁰. Current rates of erectile dysfunction varies from 1% to 53% in sexuality clinics. Rosser et al. reported a lifetime estimate of 40% having problems getting an erection and 46% having problems in maintaining erection.
One year prevalence in general population range from 0% to 10%\(^{19-20}\). As age increases there is rise in prevalence of erectile problems, co-morbidities like uncontrolled hypertension, diabetes mellitus. History of smoking, tobacco consumption also increases its likelihood\(^{21-24}\). Studies done in other population estimated prevalence of 9% to 73%\(^{25-26}\). Indian studies show that erectile dysfunction (EDs) affects 15% to 24% of males\(^{26}\).

Individual's personality includes sexuality. This is influenced by many factors that includes gynecological disorders, medical disorders, psychological state, and some drugs\(^{30}\). Indian women mostly regard intercourse as just a mean of reproduction. In 2001, it was stated by Berman et al. that with increasing age, there is rise of Female Sexual Dysfunction (FSD)\(^{27}\). Decline in hormones as the age goes forward toward menopause is one of the reason behind this. Arousal disorders are related to urogenital atrophy during menopause\(^{26}\). In a study done by Fajewonyomi et al. this dysfunction in females was mostly found in 26 to 30 years\(^{38}\). Effect of age on sexual life depends on various other factors such as psychological, medical illness, and drugs\(^{29}\). Fajewonyomi et al. showed that a population with higher educational status had more occurrence of FSD (43.4%) in comparison to those having no primary education (7.3%)\(^{30}\).

Sexual aspect of marriage also suffers negatively. Patients married more than 16 years had a prevalence of 40% FSD. Increased time of marriage leading to reduced frequency of intercourse supports this\(^{31}\).

In females, the prevalence of SDys is 55.55%. Quality of life and individuals personality both are affected by such dysfunctions\(^{35,32}\).

**DISCUSSION**

HTN itself and its treatment which includes various classes of antihypertensive drugs, which could contribute to SDys due to their side effects\(^{37-39}\). Certain antihypertensive medications especially the diuretics and beta blockers may have undesirable effect on the sexual functioning\(^{33,34}\). So, SDys may be because of the natural progression of the disease itself and/or the antihypertensive medications\(^{33,35}\).

SDys is reported to be more prevalent when other cardiovascular risk factors coexist\(^{36}\). HTN in both males and females\(^{37,38,39}\) have also been linked, with some reporting that HTN can cause decreased lubrication and dysfunction in orgasm in females\(^{40}\). HTN is also one of the most common comorbidities in people having problems with erection\(^{41,42,43}\).

According to guidelines issued in 2013 by the European Society for Hypertension (ESH) and the European Society for Cardiology (ESC), there is a prevalence of hypertension in the general population of approximately 30–45%\(^{44}\). There is 44% female representation in Randomized Control Trial\(^{45}\). Also, early development of problems in erection can predict an asymptomatic cardiovascular disease\(^{46,47}\). It was recommended that SDys should be routinely evaluated in hypertensive women by a proper sexual history, and managed sensitively\(^{48}\). Hypertensive women are more vulnerable to experience dysfunction, thus screening for it ought to be included in clinical care guidelines\(^{49}\).

**CONCLUSION**

This longitudinal data is sparse, and thus, a study to find out the impact of essential HTN in both genders is warranted. As outcome of the research, we can find the prevalence of SDys in different domains. This data will be useful giving particular focus on that domain during routinely examining cases of HTN with SDys. Proper screening and psychosexual counselling of the hypertensive patients by focusing on that domain can be done to decrease anxiety and depression arising because of improper fulfilment of sexual life. By following up these patients we will get a detailed history of the effect of HTN and effectiveness of therapy on these domains. This information can lay the foundation for future studies for studying efficacy of individual antihypertensive medications in different domains of sexual function. Better treatment of these side effects will increase compliance to antihypertensive medications.

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INTRODUCTION

Among birth complications, hypoxic ischemic encephalopathy (HIE) is one of the most serious birth complications affecting full term infants. As per global reports, it occurs in 1.5 to 2.5 per 1000 live births in most developed countries. Due to perinatal asphyxia and HIE mostly, many neonatal deaths occur in India. Those who survive remain with lifelong disability. It is a neonatal brain injury which occurs due to inadequate blood flow to the infant’s brain because of hypoxic-ischemic event during the prenatal, perinatal or postnatal period. By the age of 2 years, approximately 60% of infants with HIE will die or have severe physical and mental disabilities.

Prognosis associated with HIE is generally based on clinical grading. The outcome in mild HIE is generally considered to be normal but HIE with moderate and severe grades on Sarnat and Sarnat classification, have highest rates of motor deficit and mortality. Significant oromotor difficulties may be seen in infants with neurological conditions. More specifically, sucking and swallowing are affected due to early brain injury. Due to hypoxia-ischemia event and inadequate muscular control in oral area, consequences of difficulties in breastfeeding may be exhibited in infants with neonatal encephalopathy. It may be related to neurological deficits such as asphyxia. Early feeding problems can be noticed in infants diagnosed with HIE. Weak or absent primitive reflexes like rooting and sucking could be some of the factors associated with these feeding difficulties and it differs in all three stages of HIE.

The infant’s ability to achieve a correct latch-on for breastfeeding is highly impacted by HIE sequelae. It may furthermore inhibit state regulation, which may negatively influence an infant’s ability to feed successfully.

Breast milk is a complex biochemical fluid and 3,000 different components are found in breast milk. Certain bioactive components like cytokines, growth factors and hormones are found in it. Due to human milk nutrients, there is rapid brain, enteric and immunologic development occurs in neonates. Both mother-infant dyads get benefits because of breastfeeding practice. Many childhood communicable diseases, childhood lymphocytic leukemia, lower incidence of type 1 diabetes are some of short term benefits where as lower incidence of non communicable disorders, obesity, diabetes type 2 and hypercholesterolemia are some of long-term benefits of breastfeeding. Reduced postpartum bleeding, natural weight reduction are some of immediate breastfeeding effects for the mother. It has a contraceptive effect which helps natural spacing of children. Maternal premenopausal breast and ovarian

ABSTRACT

Neonates with HIE sequelae exhibit poor oromotor skills and have difficulty in initiating and maintaining breastfeeding. Sometimes mother of baby finds difficulty to lactate or produce adequate breast milk or to maintain proper latching due to medical, psychological or due to lack of proper breastfeeding knowledge. Due to these factors associated with mother-infant dyad, effective breastfeeding can’t be established. As direct breastfeeding has many health benefits for mother-infant dyad, it has high and positive impact on the development of children’s oral skills and to facilitate the bonding relationship between mother and baby, it should be encouraged by healthcare professionals at any health care set up. As occupational therapists are well trained to provide oromotor stimulation to babies, motivate, and counsel mothers, promoting breastfeeding is definitely a challenging role for them. In this context, a case study was conducted for two weeks to find out the effectiveness of Occupational Therapy treatment in promoting breastfeeding.

KEYWORDS: HIE sequelae, Breastfeeding, Occupational Therapy

ROLE OF OCCUPATIONAL THERAPY TO PROMOTE EFFECTIVE BREASTFEEDING IN HYPOXIC ISCHAEMIC ENCEPHALOPATHY SEQUELAE BABY: A CASE STUDY

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¹,²Occupational Therapist, Puducherry
cancer, obesity and its complications can be reduced due to breastfeeding.  

Due to oromotor issues in HIE diagnosed baby, long NICU stay, physical separation of mother-infant dyad, frustration, depression, low breastfeeding self efficacy and sometimes inadequate physical and psychological support by family and healthcare personnel, exclusive and effective breastfeeding can’t be established. As Occupational Therapists are part of transdisciplinary team, they can take the responsibility aimed at promoting, and supporting breastfeeding at Out Patient Department for continuation of exclusive and effective breastfeeding at least up to 1 year for babies. 

Although nurses and lactation consultants are well trained to support and promote breastfeeding, occupational therapists are also well positioned to become role players in this field. There are many studies which identify the role of Occupational Therapist at NICU to facilitate oromotor skills in babies to improve oromotor skills. Minimal researches have been done on breastfeeding as a method of feeding at NICU or Out Patient Department in the occupational therapy literature.

Therefore, this study was conducted to find out the effectiveness of Occupational Therapy to promote effective breastfeeding in a baby with hypoxic ischemic encephalopathy sequelae.

METHODOLOGY

Aims and objectives

➢ To find the effectiveness of Occupational Therapy intervention to facilitate effective breastfeeding in a baby with hypoxic ischemic encephalopathy sequelae.
➢ To assess and compare the pretest and posttest level of LATCH score.
➢ To assess and compare the pretest and posttest level of weight of baby.

Subject and Setting

The study was conducted in a private centre, Puducherry. A 20 days old male baby diagnosed as HIE (Stage I, Sarnat & Sarnat classification) by neonatologist was selected for this study. Baby was medically stable and referred to Occupational Therapy department for developmental therapy post discharge from NICU. Mostly baby was on formula feeding and less amount of expressed breast milk in paladai was given to the baby. 

LATCH Assessment Tool was used to get information regarding breastfeeding from the mother. The questionnaires were translated in mother’s known language. Assistance from care takers was allowed to fill up the questionnaire when mother found any difficulty in understanding. Weight of baby by digital weighing machine and LATCH Assessment Tool were used as outcome measures.

Procedure

The mother of the baby was explained about the purpose of this present study in her language and informed consent was taken from her. Complete demographic data, maternal history, birth history, medical history along with breastfeeding history were documented using a proper previously prepared questionnaire. The mother was asked to breastfeed baby. Mother–infant dyad was observed completely during breastfeeding trial. Breastfeeding observation form, adapted from WHO/UNICEF, was used to document breastfeeding in detail. Complete motor evaluation of baby was done to document any physical problems associated with baby. Weight of baby and LATCH Assessment Tool were used at baseline. Based on LATCH score at baseline, Occupational Therapy treatment protocol was planned and implemented for two weeks for mother-infant dyad. During the breastfeeding training session, mother was taught about the importance of exclusive and how to establish effective breastfeeding.

The mother of the baby was asked to come for therapy regularly for seven days for first week and then on 10th day and 14th day. Training session as part of Occupational Therapy program was focused on mainly proper guidance, proper techniques of breastfeeding such proper attachment or latching of baby at breast, correct body posture or proper ergonomics of body while breastfeeding, counselling and confidence development of mother.

Body Position of mother-infant dyad, responses of baby during breastfeed trial, emotional bonding between baby and mother, sucking response of baby and time spent for sucking were observed during breastfeeding and documented. Oral stimulation in form of perioral or intraoral stimulation was given to the baby before each breastfeeding trial. Even mother was suggested to include certain diets to increase lactation. 

After each oromotor stimulation given to baby, mother was encouraged to initiate breastfeeding by following proper latching and other important techniques associated with effective breastfeeding. Initially baby was properly placed at mother’s breast and nipple of mother was put into baby’s mouth. When baby was tired or taking his face away from breast, mother was instructed to express milk as much as possible and to give baby in paladai. In between baby was given formula as suggested by paediatrician when there was not enough breast milk from the mother. The baby was fed at interval of 2 to 3 hours or when the baby demanded for milk. On 5th, 10th and 14th day, weight of baby and LATCH Assessment Tool were used to
find out any changes in weight and components of LATCH Score respectively. The mother was suggested to practice and to implement learned techniques during breastfeeding at home too.

RESULTS

![LATCH ASSESSMENT TOOL](image1)

**Fig -1**

![WEIGHT OF BABY](image2)

**Fig-2**

DISCUSSION

The main aim of this single case study was to find out the effectiveness of Occupational Therapy intervention in promoting and facilitating effective breastfeeding in a baby with HIE sequelae. As so many physical and psychological health benefits are associated with breastfeeding for mother-infant dyad, positive impact on the development of children’s oral skills and to promote a strong and emotional bond between mother-infant dyad, it is very necessary for health care providers to promote exclusive and effective breastfeeding to maximum possible extent up to six months and to continue at least for 2 years along with complementary feeding.

After assessing LATCH score at baseline, it was found that there was poor effective breastfeeding and mainly in the components of Latch, Audible swallowing, comfort and Hold. It could be due to baby’s poor suck and swallowing skills because of oromotor issues associated with HIE.
sequelae. Baby was easily getting tired after few sucking efforts. Low muscle tone was also one of the factors for fatigue, poor suck and swallowing. Mother’s inefficiency or lack of correct breastfeeding knowledge, self-efficacy for breastfeeding and motivation was also found to be low. The mother had certain issues in relation to anatomy of nipple and mother was not following correct position to establish proper latch. Due to improper latching and certain physical issues of baby, effecting breastfeeding could not be established.

Fig-1 suggests that after occupational therapy intervention, there was improvement in LATCH scoring system on 5th day, 10th day and at 14th day. There was improvement in components of LATCH Assessment Tool (Latching, Auditory stimulation, Comfort and Hold). It could be due to techniques used as part of Occupational Therapy to stimulate oromotor area, techniques of proper latching and motivation to mother. Mother was also continuously encouraged to initiate and continue breastfeeding.

This present study is supported by a cross-sectional study which was conducted by Pooja et al., at rural health training centre in Nagpur in 2010. Majority of mothers could be able to keep their babies in proper breastfeeding position after breastfeeding education training to postnatal mothers. Another study done by Chandran et al stated that, intervention group showed statistical significant improvement in sucking frequency, LATCH scores, and weight in babies after structured oromotor stimulation

Fig- 2 suggests there is improvement in weight of baby as compared to baseline score. This weight gain can be attributed to oromotor stimulation provided to baby that improved the strength of the muscles required for sucking and swallowing and henceforth there is improvement in weight of babies.

This is supported by a study conducted by Bala, et al. who found significant increase in weight-gain per day and the duration of gavage feeding was decreased in infants in PIOMI group than infants in sham intervention group by structured oromotor stimulation. Another study reported by Einarsson LM et al. that stroking of the cheeks could enhance sucking rate and increase in volume intake during an oral feeding session

CONCLUSION

From the above study, it was concluded that HIE diagnosed babies exhibit premature reflexes and feeding issues, which can be noticed in breastfeeding behaviour of sucking and swallowing and inadequate knowledge of breastfeeding and psychological issues can lead to ineffective breastfeeding. The present study also concluded that Occupational Therapy intervention for both mother-infant dyads have significant impact on effective breastfeeding and weight of babies. So, Occupational Therapist can promote exclusive and effective breastfeeding not only at NICU but also at OPD level being part of transdisciplinary team.

LIMITATION

- Single case study
- Duration of study is small

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INCLUSIVE NATURE OF HIGHER EDUCATION: MYTH OR REALITY

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ABSTRACT
Globalization and Higher Education show an intrinsic link that is reflected through the current demands for newer forms of knowledge, skills, and performance across the world. The creation of knowledge, skill, and performance show direct dependence on higher education as the nature of the demand for goods and services has seen a change like never before. Higher Education is found to be diverse both structurally and functionally in different countries depending on the social and economic structure of a given society. The issue of inclusion has become a global agenda due to several contemporary reasons and needs; most importantly, the principle of equality that is the pillar of modern societies. Indian society is known to be diverse and complex, based on the social hierarchy. These factors directly influence social and economic development which is tied to education. At the same time, higher education is structured following such a society, reflecting these factors. In the Indian society, it plays a less positive and more negative role due to its inherent characteristics based on caste, tribe, gender, and religion, besides the colonial remnant of a strong bias in favor of the English language. This results in unequal access, inequality, and poor performance due to deterrents in access and continuation of higher education. Thus inclusivity of higher education gets restricted to a few who have been traditionally and historically accessing it. After independence, the constitution of India has ensured that the government adopts several special measures for inclusion especially for traditionally deprived sections such as SC, ST, OBC, and minority. However, the set goal of bridging the gap in higher education falls short of the expectations from these measures. The newer was the problem of globalization and privatization of higher education has further exacerbated the situation. The different sections from the majority of our society have no tradition of education in the family and community. It is observed that there is a market performance for general education and enrolment in government institutions where they can access affordable education. Privatization pronounces the quality caters only to the rich who are generally not from the deprived sections and do not suffer from traditional social barriers towards the attainment of education. So despite the expansion of higher education, deprivation continues to exist.

INTRODUCTION
India’s higher education system is the world’s third-largest in terms of students, next to China and the United States. In the future, India will be one of the largest education hubs. India’s Higher Education sector has witnessed a tremendous increase in the number of Universities/University level Institutions & Colleges since independence. The ‘Right to Education Act’ which stipulates compulsory and free education to all children within the age groups of 6-14 years, has brought about a revolution in the education system of the country with statistics revealing a staggering enrolment in schools over the last four years. The involvement of the private sector in higher education has seen drastic changes in the field. Today over 60 percent of higher education institutions in India are promoted by the private sector. This has accelerated the establishment of institutes that have originated over the last decade making India home to the largest number of Higher Education institutions in the world, with student enrolments at the second-highest (Shaguri, 2013). The number of Universities has increased 34 times from 20 in 1950 to 677 in 2014. Despite these numbers, international education rating agencies have not placed many of these institutions within the best of the world ranking. Also, India has failed to produce world-class universities. Today, Knowledge is power. The more knowledge one has, the more empowered one is. However, India continues to face stern challenges. Despite growing investment in education, 25 percent of its population is still illiterate; only 15 percent of Indian students reach high school, and just 7 percent graduate (Masani, 2008). The quality of education in India whether at primary or higher education level is significantly poor as compared to major developing nations of the world.

As of 2008, India’s post-secondary institutions offer only enough seats for 7 percent of India’s college-age population, 25 percent of teaching positions nationwide are vacant, and 57 percent of college professors lack either a masters or Ph.D degree (Newsweek, 2011). As of 2011, there are 1522 degree-granting engineering colleges in India with an annual student intake of 582,000 (Science and Technology Education, 2009) plus 1,244
polytechnics with an annual intake of 265,000. However, these institutions face a shortage of faculty and concerns have been raised over the quality of education (Mitra, 2008). Despite these challenges higher education system of India equally has a lot of opportunities to overcome these challenges and have the capability to make its identity at the international level. However, it needs greater transparency and accountability, the role of universities and colleges in the new millennium, and emerging scientific research on how people learn is of utmost importance. India provides highly skilled people to other countries therefore; it is very easy for India to transfer our country from a developing nation to a developed nation.

Inclusion has become a major active movement in the educational world in the 21st century. Through an inclusive educational approach, it is assumed that quality and equitable education can be accessible for learners (Tilstone & Rose, 2003) irrespective of their ability or disability. In other words, inclusive education can reinforce the idea of social justice in education. To include all learners in the educational process, it is essential to recognize the diverse needs of learners and address those needs through appropriate educational provisions. In that sense, inclusion has emerged as an ideology for looking after the needs of all children according to their level of ability irrespective of age, sex, religion, ethnicity, and socio-economic or disability background. Therefore, this has become increasingly a process of awareness to be able to meet the diverse needs of children.

The state of Kerala stands out as a model in the development of India. There has been wide appreciation for its achievements in social development, particularly for the spread of education, health, services, and implementation of land reforms. But these achievements have however not adequately filtered down to the weaker sections of the society especially the tribals. The tribal communities form 1.10 percent of the population of Kerala. The majority of tribal communities in Kerala remain outsiders to the development process. The literacy rate of the general population in Kerala stands at a high percentage of 93.91 per cent whereas the literacy rate of tribals is only 64.4 percent (2011 census). As far as the levels of education are concerned, as many as 33.5 percent of tribal literacy rates in Kerala are either without any educational level or have attained education below primary level. The proportion of literates who have attained education up to primary level and middle levels are 29.3 percent and 22.9 percent respectively. Persons educated up to higher secondary have a share of only 12.4 percent of the total literate population. Graduates and above are a meager 1.2 percent while non-technical and technical diploma holders constitute 0.8 percent only.

INCLUSIVE EDUCATION IN KERALA

Kerala is the most socially developed state in India having good indicators in Human Development and Physical Quality of Life Indices with high life expectancy, a low birth rate, low infant mortality, higher than usual (for India) rates of literacy, and almost universal school attendance (UNDP Kerala, 2005). The state has achieved its 'total literacy status' during the 1990s. In addition, it is the only state in India having a higher female population than male population (1000/1084). Unlike other parts of India, Kerala is a social welfare state providing free schooling, health care, financial support for unemployed people, and the working poor. Here education is considered as an important factor in ensuring a higher social status and better economic life for its citizens (National Council for Educational Research and Training-NCERT, 2006).

Therefore some of the interpretations of inclusive education in India are not particularly identifiable in this state. For example, girls outnumber boys, and the majority of children with 'identified special educational categories' gain access to education. The state of Kerala has fewer numbers of out of school children than other Indian states. It has been reported that a 'zero percentage' of children within the state have never attended schools (NCERT, 2005). This study also showed that this state had the least number (0.55%) of out-of-school children (6-10 age groups) in India after Himachal Pradesh (0.54%). Additionally, a census report by the Kerala Government (2007) showed that there were 1.69% of out-of-school children in the age group of 5-18 years old. Both national and state surveys similarly reported that a higher percentage of boys than girls are in the out-of-school children category in Kerala. This is in contrast to the national level figures. In terms of social groups, the percentage of children out of school is 1.73 for ST, 4.83 for SC, 0.20 for OBC, 0.48 for Muslims, 0.27 for others in the 6-13 age groups. This also contrasts with national-level figures, most notably the educational achievement of the Muslim community in Kerala.

THE STUDY

The general approach undertaken in this study was qualitative and quantitative. The study aimed to identify the education pattern of the Kattunaykkan tribal women in Wayanad. Because the Kattunaykkan community is the highest populated PVTG tribal community in Kerala and which is in the lowest spectrum of socio-economic development. Noolpuzhapanchayath and Ambalavayalpanchayath is selected for collecting the sample. Because Noolpuzha has the highest Kattunaykkan concentration and Ambalavayal has the lowest Kattunaykkan concentration in Wayanad district. Total households in these two Panchayats formed 500 consisting of 440 in Noolpuzha and 60 in Ambalavayal panchayath. That means 88 percent of the Kattunaykkan tribal community formed in Noolpuzha panchayath and the remaining 12 percent consisting Ambalavayal panchayath. The study takes 30 percent of 500 households as sample size (150 is the sample size). From Noolpuzha, 132 households are selected (88% of 150) and from Ambalavayal 18 households are selected (12% of 150). The households are selected randomly from the list of households provided by the Panchayath.

LITERACY AND EDUCATION

The social and economic backwardness of the STs can be gauged from an array of indicators. Nevertheless, here we choose a limited number of indicators to show that the community has been deprived of many amenities and they have been excluded from participating in, contributing to, and benefiting from the economic policies of the government. Literacy and education...
LACK OF ACCESS TO EDUCATION

Education is a vital instrument to make a change in the patterns and cultural norms of tribal women's lives. It would help them to organize themselves to analyze their situations and living conditions and be aware of their rights and responsibilities. Educated women will be able to face present-day society better than in earlier times.

Table 1
District wise literacy level among the STs (%) – 2011 census

<table>
<thead>
<tr>
<th>District</th>
<th>Persons</th>
<th>Male</th>
<th>Female</th>
<th>Gender Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiruvananthapuram</td>
<td>89.2</td>
<td>91.4</td>
<td>87.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Kollam</td>
<td>85.7</td>
<td>88.5</td>
<td>83.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>89.6</td>
<td>91.6</td>
<td>87.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>89.9</td>
<td>92.6</td>
<td>87.5</td>
<td>5.1</td>
</tr>
<tr>
<td>Kottayam</td>
<td>94.3</td>
<td>95.1</td>
<td>93.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Idukki</td>
<td>76.6</td>
<td>82.2</td>
<td>70.9</td>
<td>11.3</td>
</tr>
<tr>
<td>Eranakulam</td>
<td>85.4</td>
<td>88.3</td>
<td>82.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Thrissur</td>
<td>83.5</td>
<td>86.3</td>
<td>81.1</td>
<td>5.2</td>
</tr>
<tr>
<td>Palakkad</td>
<td>61.4</td>
<td>67.0</td>
<td>56.1</td>
<td>10.9</td>
</tr>
<tr>
<td>Malappuram</td>
<td>76.2</td>
<td>80.1</td>
<td>72.6</td>
<td>7.5</td>
</tr>
<tr>
<td>Kozhikode</td>
<td>85.3</td>
<td>89.1</td>
<td>81.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Wayanad</td>
<td>70.5</td>
<td>76.9</td>
<td>64.3</td>
<td>12.6</td>
</tr>
<tr>
<td>Kannur</td>
<td>77.9</td>
<td>83.4</td>
<td>72.7</td>
<td>10.7</td>
</tr>
<tr>
<td>kasargod</td>
<td>73.1</td>
<td>78.5</td>
<td>67.7</td>
<td>10.8</td>
</tr>
<tr>
<td>State</td>
<td>75.8</td>
<td>80.7</td>
<td>71.1</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Source: Census Report 2011

The tribal literacy rate is high in the districts, Kottayam, Thiruvananthapuram, Alappuzha, and Pathanamthitta (above 85%) Whereas, in Palakkad (61.4%), Malappuram (43.93%), Wayanad (70.5%), Kasarkode (73.1%) it is relatively low.

The main reason for the slower spread of education among the STs is the peculiar nature of their habitations. Majority of the tribes are living in remote areas, far away from schools and other educational institutions. Moreover, the socio-economic circumstances prevailing in the tribal settlements are not conducive for their studies. Effective educational development is hindered, to a great extent, by poverty. In a way, the parents of tribal children, most of them are illiterates, are also responsible for the educational backwardness, because, they neither attach much importance to education nor insist their children attend classes regularly (Government of Kerala, 1999).

As education is the most effective instrument for promoting economic and social advancement, prime importance had been given to their educational progress in all plans. Under various schemes, educational concessions, scholarships, and various other assistance are given to tribal students from primary education onwards. At post metric levels, the number of scholarships given to them has steeply increased during the period between 1985 and 2015 (Table No: 2). Apart from financial assistance, 5% of seats are reserved for the STs in every educational institution. For providing quality education to tribal students, 14 model residential schools have been established so far in the State. Likewise, 14 nursery schools and 104 pre-metric hostels are functioning in various parts of the State for their educational progress. Despite these, as well as special incentives, the dropout rate is higher, especially at the pre-metric level, among the tribal students compared to that of the general population (State Planning Board, 2002).

Table 2
Scholarships provided by the tribal students (lakh)

<table>
<thead>
<tr>
<th>Period</th>
<th>Pre-metric scholarships</th>
<th>Post-metric scholarships</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-90</td>
<td>297.640</td>
<td>8.644</td>
<td>306.284</td>
</tr>
<tr>
<td>1990-95</td>
<td>325.734</td>
<td>12.313</td>
<td>338.047</td>
</tr>
<tr>
<td>1995-2000</td>
<td>291.585</td>
<td>16.918</td>
<td>308.503</td>
</tr>
<tr>
<td>2000-05</td>
<td>306.817</td>
<td>23.550</td>
<td>330.367</td>
</tr>
<tr>
<td>2005-10</td>
<td>322.51</td>
<td>31.072</td>
<td>353.582</td>
</tr>
<tr>
<td>2010-15</td>
<td>347.65</td>
<td>39.247</td>
<td>386.987</td>
</tr>
</tbody>
</table>

Source: Directorate of Tribal Development Department, the Government of Kerala, Thiruvananthapuram
The non-literate ST females in rural areas are alarmingly high, which is above half of the total ST rural females. The illiterates among urban ST females are also high (31.3), whereas the illiterates among urban males and rural males are only 12.7 and 35.8 respectively. Even though the number of illiterate male STs is higher than that of all social groups ‘counterparts, the difference between male and female STs show the vulnerability of female STs. This difference is visible in all levels of education. When comparing the educational status of ST females with that of the female of all social categories, there is a wide difference. It reveals the challenges confronted by the female tribes in accessing and continuing education. Thus they are in a vulnerable position when compared to their male counterparts and that of the general female population.

Table 3
Percentage distribution of persons of age 15 years and above by level of higher education

<table>
<thead>
<tr>
<th>Social group</th>
<th>Non literate</th>
<th>Literate &amp;upto primary</th>
<th>Middle</th>
<th>Secondary</th>
<th>Higher secondary</th>
<th>Diploma/certificate</th>
<th>Graduation and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>35.8</td>
<td>26.4</td>
<td>18.3</td>
<td>11.1</td>
<td>5.7</td>
<td>0.6</td>
<td>2.2</td>
</tr>
<tr>
<td>All social group</td>
<td>26</td>
<td>25.3</td>
<td>20.5</td>
<td>14.7</td>
<td>8</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Rural Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>58.3</td>
<td>21.7</td>
<td>10.3</td>
<td>5.7</td>
<td>2.7</td>
<td>0.3</td>
<td>0.9</td>
</tr>
<tr>
<td>All social group</td>
<td>49.8</td>
<td>22</td>
<td>13.5</td>
<td>8.2</td>
<td>4.2</td>
<td>0.4</td>
<td>2</td>
</tr>
<tr>
<td>Urban male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>12.7</td>
<td>17.6</td>
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<td>18.2</td>
<td>14.3</td>
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<td>15.3</td>
</tr>
<tr>
<td>All social group</td>
<td>10.4</td>
<td>15.9</td>
<td>17.5</td>
<td>19.5</td>
<td>13.9</td>
<td>2.9</td>
<td>19.8</td>
</tr>
<tr>
<td>Urban female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>31.3</td>
<td>16.7</td>
<td>15.3</td>
<td>14.7</td>
<td>11.1</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>All social group</td>
<td>23.6</td>
<td>17.2</td>
<td>15.3</td>
<td>15.9</td>
<td>12.1</td>
<td>1.3</td>
<td>14.7</td>
</tr>
<tr>
<td>Rural person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>47</td>
<td>24.2</td>
<td>14.3</td>
<td>8.4</td>
<td>4.2</td>
<td>0.4</td>
<td>1.6</td>
</tr>
<tr>
<td>All social group</td>
<td>37.8</td>
<td>23.7</td>
<td>17</td>
<td>11.5</td>
<td>6.2</td>
<td>0.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Urban person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>21.8</td>
<td>17.1</td>
<td>17.3</td>
<td>16.5</td>
<td>12.8</td>
<td>1.8</td>
<td>12.6</td>
</tr>
<tr>
<td>All social group</td>
<td>16.7</td>
<td>16.4</td>
<td>16.4</td>
<td>17.7</td>
<td>13</td>
<td>2.1</td>
<td>17.3</td>
</tr>
</tbody>
</table>

Source: Report No. 543 of NSS round

Although literacy levels of the tribal population have improved, the gap in literacy levels between tribal men and women has not declined significantly. According to the data of statistical profile of Scheduled tribes in India, the male-female gap in literacy rate decreased from 24.41 percentage points in 2001 to 19.18 percentage points in 2011 for ST, and for the total population, it declined from 21.59 percentage points in 2001 to 19.18 percentage points in 2011.

THE EDUCATIONAL STANDARD OF THE SAMPLE FEMALE RESPONDENT

The extent and pace of development of any economy depend upon the participation of all segments of the population in the educational system. Many studies have highlighted the low participation of the tribal population in educational practices like delivery of education, imparting of education, and resultant socio-economic development. Most of the studies approached the socio-economic issues of tribes from an underprivileged or marginalized perspective concerning socio-economic determinants. However, effective measures and policies are required to bring them at par with the other social stratum in society concerning educational and socio-economic development.

Education plays a significant role in the socio-economic development of the individual. This part analyses and discusses the educational standard of the tribes particularly, the female sample respondent and the members of the family. Table 4 shows the educational standard of the female sample respondent in the study area. From the table, it is explicitly evident that 84 percent of the female respondents are still illiterate. It is observed that 10 percent of the sample female respondents completed primary education. 4 percent of the respondents completed upper primary education and only 2 percent of the sample respondents qualify high school.
Table 4
The Educational Standard of the sample female respondents

<table>
<thead>
<tr>
<th>Education qualification of the sample female respondent</th>
<th>Number of household</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>126</td>
<td>84.0</td>
</tr>
<tr>
<td>lower primary</td>
<td>15</td>
<td>10.0</td>
</tr>
<tr>
<td>upper primary</td>
<td>6</td>
<td>4.0</td>
</tr>
<tr>
<td>high school</td>
<td>3</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: field survey, September 2018

The majority of the respondents are illiterate. The main reason for the lack of education is the particular nature of their habitat.

EDUCATION STATUS OF THE FAMILY MEMBERS

Education plays a significant role in the socio-economic development of the family.

Table 5
Education status of the family members

<table>
<thead>
<tr>
<th>Education qualification of the family members</th>
<th>Number of family members</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>illiterate</td>
<td>210</td>
<td>44.3</td>
</tr>
<tr>
<td>lower primary</td>
<td>81</td>
<td>17.1</td>
</tr>
<tr>
<td>upper primary</td>
<td>102</td>
<td>21.5</td>
</tr>
<tr>
<td>high school</td>
<td>72</td>
<td>15.2</td>
</tr>
<tr>
<td>higher secondary</td>
<td>9</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>474</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, September 2018

This part analyses and discusses the educational standard of the tribals particularly, the members of the family. The above table shows the educational standard of the members of the tribal families in the study area. From the table, it is explicitly evident that 44.3 percent of the members of the families are still illiterate. It is observed that 17.1 percent of the family heads have completed lower primary education. 21.5 percent of the family heads completed upper primary education and 15.2 percent of the family members qualify high school. Only 1.9 percent of the family members qualify for higher secondary education.

DEPRIVATION BASED ON EDUCATION INDICATORS

Literacy and education are among the two important indicators in the Kerala Model of development. Visible inequality existed at the level of education and at the same time quality of education as well. Scheduled Tribes in Kerala are one of the most deprived and marginalized groups concerning education and literacy. The socio-economic and cultural factors among tribes can be outlined as poverty and poor economic conditions, social customs, cultural ethos, lack of awareness and understanding which are the major reasons for the lack of formal education. The following table reveals the educational deprivation of the Kattunaykkan tribal community in Wayanad. The years of schooling indicator shows that household is deprived of education. No one in the house completed five years schooling. The deprivation score in this study shows that 18 percent of tribal households are deprived in the year of schooling indicator. All household members are considered deprived if any of their school-age children are not attending the 1 to 8 grades of school. The table 5 shows those 2 percent of households are deprived of this indicator.

Table 5
Deprivation of Tribal Communities based on Education Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number of household</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of schooling *</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>School enrolment**</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Field survey, September 2018

* no household member in a household has completed five years of schooling
**any school-aged child in a household is not attending school in years 1 to 8
CONCLUSION

Tribal communities in Wayanad are heterogeneous communities and this aspect needs to be taken into consideration while planning and implementing educational programs. They have utilized the benefits of higher education for development, yet they are severely deprived in many aspects of development. The higher education system generates several crucial capabilities necessary for the tribes to have a valued and dignified life. Tribal students feel alienated in our educational institutions and to overcome these feelings institutions need to foster a culture that is convivial to all students. Support services should be provided to sustain these students at the college level. Tribal students need structures that will help them to build the social and cultural capital, necessary for engagement and success in and beyond the classroom. Higher education can cultivate such feelings and offer learning that is useful beyond the workplace.

The financial support provided by the government is quite inadequate and often the payment is delayed causing constraints to tribal students to continue their higher education. There is a need for enhancement of the amount of scholarship and as well as measures should be taken for prompt payment of the scholarship on time to continue their studies. There is a need to establish community colleges to design courses relevant to tribal communities and getting employment. The role of NGOs is critical in spreading higher education among tribes. They can provide career guidance, support admission; help in securing bank loans, and assist in placement after their higher studies.

Open and Distance Learning (ODL) has become an integral part of higher education globally. It is an effective tool for the provision of education to a heterogeneous group of learners as well as an alternative channel to democratize education all over the world. Tribes who are unable to join formal higher education due to financial constraints or failure at the school level and also those who complete equivalency courses can be brought under the purview of distance education. Distance education programs should be popularized among tribal communities of Wayanad.

The study reveals that the present higher education system falls short in providing quantitative and qualitative improvement in the lives of tribal women in Wayanad. There is a need for inclusive strategies to promote and retain tribes and other disadvantaged groups in higher education. Higher education can help them to overcome poverty and deprivation. In dynamic societies, it is the role of higher education to equip individuals with the skills and attitude necessary for them to adapt to changing conditions and for constructive participation in the task of social change.

REFERENCE

LEARNING STYLES OF SECONDARY SCHOOL STUDENTS IN ANAMBRA STATE, NIGERIA: IMPLICATIONS FOR GUIDANCE AND COUNSELLING

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²PhD Research Scholar, Department of Guidance and Counselling, Nnamdi Azikiwe University, Akwa, Anambra State, Nigeria

ABSTRACT
Understanding a student’s learning style preference is an important consideration when designing classroom instruction. This study investigated learning styles of secondary school students and their implication for guidance and counselling in Awka Education zone, Anambra State. The study adopted a descriptive survey research design. A multi-stage sampling procedure was adopted and used in selecting a sample size of 1,241 students from a population of 6,279 students in public secondary schools. A validated questionnaire titled, Learning Style Questionnaire was used to collect data for the study. The questionnaire has reliability coefficient alphas of 0.68, 0.64 and 0.77 on each of the learning style cluster. The questionnaire was administered through direct delivery approach. Data was collected and analysed using percentages. The findings revealed that majority of the students have good visual, auditory and kinaesthetic learning styles. Based on the findings, the following recommendations among others were made that school guidance counsellors should take into account the students’ diverse learning styles in order to design counselling strategies that take care of those diversities and remain sensitive of such during their learning process.

KEYWORDS: Learning Styles, secondary school, implications, guidance and Counselling, students

1. INTRODUCTION
The way people learn and process new information they are taught is one of the many factors that make each individual person unique. In order to enhance the learning experience of learners, it is purported by some that having an understanding of their learning styles can achieve this. Once these styles have been identified, curriculum can be developed which create an effective learning environment. Several inventories have been developed that assess both learning style and teaching style. By utilizing varied inventories, several aspects of learning can be evaluated.

Many researchers agree that learning styles play an important role in education. For example, Felder (1996) points out those learners with a strong preference for a specific learning style may have difficulties in learning if the teaching style does not match with their learning style. Learning style is both a characteristic which indicates how a student learns and likes to learn, as well as instructional strategy informing the cognition, context and content of learning. Thus, learning styles according to Reed and Oughton, (2007) refer to how individuals prefer to organize and represent information. Learning style is thus connected to both a set of behavioural strategies in the way of managing and organizing the information, as well as the way of implementing those strategies.

Moreover, according to Dunn (1994), the inability of schools and teachers to take account of individual learning preferences tends to produce endemic low achievement and poor motivation among students. In many cases, neither students nor teachers are aware that difficulty in learning may not rest solely in the material itself. This assertion was expounded by Domino (2010) whose study revealed that college students taught in their preferred learning styles scored higher on tests, fact knowledge, attitude and efficiency than those taught in instructional styles different from their preferred style. Mismatch of teaching styles and learning styles therefore could actually have negative impact to students learning process.

More so, research according to Felder and Silverman (2008) demonstrated that students whose learning style is not in accordance with their learning preferences tend to be bored and inattentive in class, do poorly on tests, easily get discouraged about the subject matter and may conclude that they are not good in the subject and give up. Learning style thus is used to describe individual differences in the way people learn, as each person has a unique way to absorb and process experiences and information. The learning style considered in this study include; visual, audio-visual and kinaesthetic learning capability.

Visual learners need to see information. They have strong visualization skills and can remember objects, shapes, and pictures. Hence they learn by reading, and by watching films, videos, and demonstrations. Visual earners like to learn through written language, such as reading and writing tasks. They remember what has been written down, even if they do not read it more than once. They like to write down directions and inattentive in class, do poorl
written language and do better with charts, demonstrations, videos, and other visual materials. They easily visualize faces and places by using their imagination and seldom get lost in new surroundings.

Similarly, auditory learners need to hear information. They have a good sense of hearing and can hear differences in tones and rhythm. Hence they benefit more from reading out loud and can easily remember what they hear in the classroom. Auditory learners tend to benefit most from traditional teaching techniques. Many teachers use a lecture-style format, presenting information by talking to their students. Regulating voice tone, inflection, and body language will help all students maintain interest and attention. Auditory learners succeed when directions are read aloud, speeches are required, or information is presented and requested verbally.

Kinesthetic learners on the other hand need to be physically active in doing things. They are hands-on learners, have good coordination and learn by doing. Kinesthetic learners are most successful when totally engaged with the learning activity. They acquire information fastest when participating in a science lab, drama presentation, skit, field trip, dance, or other active activity. Because of the high numbers of kinesthetic learners, education is shifting toward a more hands-on approach and manipulative approaches incorporated into almost every school subject, from physical education to language arts.

As classrooms continue to integrate more of these techniques, and once students understand their learning styles, they can better adapt to their learning environment. Therefore, in view of the above explanations, learning style as it relates to this study refers to the way in which secondary school students concentrate on, process, internalize and retain new and difficult academic information which is measured in terms of their visual, audio-visual and kinaesthetic learning competence.

Previous studies have reported that students’ learning performance could be improved if proper learning style dimensions could be taken into consideration when developing any learning or instructional process (Graf, Liu, & Kinshuk, 2010). An example of such studies include Akinbobola (2015) and Ibeh (2015) whose study ascertained the effects of learning styles on the performances of Senior Secondary School Biology and Physics students in Nigeria. The findings thus suggested that students need to understand which learning style translates to their overall outcome in school. Unfortunately, the findings have not translated to significant improvement in academic achievement of the students in Anambra State, possibly because they were not the focus in the studies.

This therefore is a gap that needs to be filled. Counsellors and teachers need to get down working, but needing a working guide. They may have understanding of the advantages of students adhering to a workable learning style, and need to understand clearer how it relates to their achievement outcomes in school. This therefore, has necessitated this study, to investigate the relationship between learning style and the academic achievement of the secondary schools students in Anambra State.

**Statement of the Problem**

One of the major problems among students is inability to mobilize cognitive strategies that would help to learn effectively which have often translated to poor academic performance. This has manifested itself in large number of failures recorded in local and national examinations results such as senior school certificate examinations like West African Examination Council (WAEC) and National Examination Council (NECO). This has led to various researches into the learning styles of various professions which occurred throughout the years.

Many studies thus have been conducted to determine if particular groups of students fall into one specific type of learning style (example, Baker, Pesut, McDaniel, & Fisher, 2007; Breckler, Joun, & Ngo,2009; French,Cosgriff, & Brown,2007). Many of the researchers are of the view that if a specific learning style is prevalent in a particular profession, then perhaps training programs for the vocation could create a teaching environment which could enhance that learning style. However, there is still an existing gap in literature on the learning styles of secondary school students in Anambra state which could have many implications for guiding and counselling students in secondary schools in Awka Education Zone, Anambra state, Nigeria. This therefore has motivated this study.

**2. PURPOSE OF THE STUDY**

The main purpose of the study is to investigate learning styles of secondary school students and its implication for guidance and counselling in Awka Education zone, Anambra state, Nigeria. Specifically, the study sought to examine:

1. The visual learning styles of secondary school students in Awka Education Zone.
2. The auditory learning styles of secondary school students in Awka Education Zone?
3. The kinaesthetic learning styles of secondary school students in Awka Education Zone.

**Significance of the Study**

The findings of this study will be of benefit to the students, guidance counsellors, teachers, policy makers, parents and future researchers. The findings of the study will be of immense benefit to the guidance counsellors as it will likely broaden the frontiers of knowledge in the area of guidance and counselling. The findings of the study will also assist counsellors greatly in enhancing students’ utilisation of their learning preferences to enhance academic performance, especially in core subject areas like English and Mathematics. They could equally organise seminars and workshops to enlighten students on developing good learning styles so that the secondary school students will reach their optimum achievement in their academics.

**Research Questions**

The following research questions guided the study:

1. What are the visual learning styles scores of secondary school students in Awka Education Zone?
2. What are the auditory learning styles scores of secondary school students in Awka Education Zone?
3. What are the kinaesthetic learning styles scores of secondary school students in Awka Education Zone?
Theoretical Framework

Dunn and Dunn Learning Style Theory

The Dunn and Dunn learning style addresses how students take in, process, integrate and retain information. They describe learning in the context of stimuli of which there are five: environmental, emotional, sociological, physiological, and psychological processing. Within each of the five stimuli, Dunn and Dunn have described four elements thereby making 20 total elements which comprise learning. Environmental addresses the features within the setting that learning is taking place, such as lighting, sounds, temperature and seating. Emotional aspects are innate factors such as one’s motivation, persistence, structural needs, and sense of responsibility. The sociological stimuli relates to whether one prefers to learn in a group setting or by oneself, with colleagues/peers, with a student-teacher dynamic, or in a varied manner. Physiological factors are those which are addressed in the VARK model, visual, auditory, kinesthetic, as well as one’s energy level and physical needs. Lastly, the psychological factors take into account whether one is impulsive or reflective and how one processes information.

3. METHODOLOGY

Research Design

The study adopted a descriptive survey research design. A survey research design is one which a group of items is studied by collecting and analysing data from only a few people or items considered to be representative of the entire population (Akueuzulo & Agu 2015). In this case, the design enabled the researcher to collect and analyse the characteristics of a whole population or situation by studying a representative sample.

Area of the Study

This study was carried out in Awka education zone, Anambra State. Anambra State is a state in Southern Nigeria. The state comprised of six education zones of which Awka Education Zone is one of them. The zone also has the highest number of public secondary schools in the State.

Participants

The sample for the study consist of 1,260 students. This comprise of all the SS2 students that were chosen from government owned secondary schools in Awka Education Zone, through a multi-stage sampling method.

Instrument for Data Collection

The instrument for data collection consists of questionnaire titled “Learning Style Questionnaire”. This is an adapted version of the modality (learning channel preference) questionnaire initially developed by O’Brien (1985) and tailored to suit the purpose of this study. The instrument is a 24 item questionnaire describing characteristics of Visual, Auditory, and Kinesthetic learning styles. There are 8 items measuring each style. The questionnaire has response options of Always, Sometimes, Rarely, and Never, with weighted values of 4, 3, 2 and 1 respectively. The modality type with the highest score indicates the students’ preferred learning channel; the higher the score, the stronger the preference. The internal consistency reliability of the instrument was determined; yielding a coefficient alpha of 0.94 for the Learning Style Questionnaire. This was determined using Cronbach alpha statistical method.

Data Collection and Analysis

The researcher administered 1,260 copies of the instruments through direct delivery method. The administered questionnaire after collection were scored in line with the instrument scoring guide and analysed using statistical package for social science (SPSS), and the statistical tools used include summated scores and percentages for research questions.

4. RESULTS

In this section, the data collected from the field for this study were analysed and the summaries presented in tables to highlight the findings as follows:

Research Question 1

What are the visual learning style scores of secondary school students in Anambra state?

Table 1: Range of scores on students’ visual learning style

<table>
<thead>
<tr>
<th>Range of scores</th>
<th>N</th>
<th>%</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 – 19.92</td>
<td>49</td>
<td>3.9</td>
<td>Poor visual learning style</td>
</tr>
<tr>
<td>20 – 32</td>
<td>1192</td>
<td>96.1</td>
<td>Good visual learning style</td>
</tr>
</tbody>
</table>

Table 1 shows that 1192(96.1%) of the students with the scores ranging from 20 to 32 have good visual learning style, while 49(3.9%) of the students who scored between 8 and 19.92 have visual learning style.

Research Question 2

What are the auditory learning style scores of secondary school students in Anambra state?

Table 2: Range of scores on students’ auditory learning style

<table>
<thead>
<tr>
<th>Range of scores</th>
<th>N</th>
<th>%</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 – 19.92</td>
<td>60</td>
<td>4.8</td>
<td>Poor auditory learning style</td>
</tr>
<tr>
<td>20 – 32</td>
<td>1181</td>
<td>95.2</td>
<td>Good auditory learning style</td>
</tr>
</tbody>
</table>

Table 2 reveals that 1181(95.2%) of the students with the scores ranging from 20 to 32 have good auditory learning style, while 60(4.8%) of the students who scored between 8 and 19.92 have auditory learning style.

Research Question 3

What are the kinesthetic learning style scores of secondary school students in Anambra state?
Table 3 indicates that 1167 (86.0%) of the students with the scores ranging from 20 to 32 have good kinaesthetic learning style, while 174 (14.0%) of the students who scored between 8 and 19.92 have kinaesthetic learning style.

5. DISCUSSIONS

The findings of the study are hereby discussed.

Findings from the study revealed that majority of the students have good visual, auditory and kinaesthetic learning styles. This means that majority of the students’ natural or habitual pattern of acquiring and processing information in learning situations fall within the three learning styles. Hence, many of these students could get learning information from visual images (schematics, graphs, diagrams, pictures and demonstrations) when their sight is engaged. A good number of them could also remember and understand new concepts better when they are explained out loud through their sense of hearing, even if they’re doing the speaking themselves. More so, the findings also revealed that majority of these students could absorb information through touch, movement and motion. In that sense, they learn when they touch it, feel it and move it around. This finding of the study is in agreement with Akinbobola (2015) whose study noted that students can possess more than one learning style and that the three learning styles could be used for the enhancement of students learning.

Understanding of the students learning styles could provide useful information, as well as providing a clue to the variables that are likely to influence learning in schools. Learning styles thus describe the factors, often extrinsic, that increase one’s knowledge gains and leads to enhanced integration of information. Learning styles also define how an individual learns most effectively. In addition, learning styles consider the uniqueness of each person in the context of learning and emphasizes individual differences while at the same time allowing for integration of certain teaching practices in the classroom by incorporating different teaching strategies or by providing different experiences for the learner.

6. CONCLUSIONS

Based on the findings of this study, it was concluded that students use different preferred learning styles to learn, need to be taken into account to improve students’ learning. It could be understood from the results that there is a similar preference for more than one learning styles among the students. As a result, it could be inferred that most students possessed multiple learning styles or a combination of different learning styles. As such, they can be able to learn effectively.

7. IMPlication OF THE Study TO GUIDANCE AND COUNSELLING

The results from this study could be relevant in organising counselling programs for students in secondary schools. While there are many aspects that may affect student learning, one specific area is having a better understanding of the best way as student learns in school and the internal and external factors that either augment or hinder one’s learning. These factors can include the physical environs, perceived support from the school and the relevance of presented information, as well as the personal relationships among classmates.

Also knowledge of the students learning styles could help the guidance counsellor in the assessment of the students’ developmental needs as one of the main responsibilities of teachers and specialists working with them.

It could also help provide psychological and pedagogical support aims to help pupils fulfill their developmental potential and create conditions for their active and full participation in the life of their school and in their social environment. It could also help the guidance counsellor in identifying reasons behind academic failures or difficulties in pupils’ functioning, including barriers and constraints which make it difficult for them to function and participate in the life of their school; taking measures which help pupils develop their competences and potential in order to enhance the effectiveness of their learning process and improve their functioning.

8. RECOMMENDATIONS

Based on the findings of the study, the researcher made the following recommendations:

1. School guidance counsellors should take into account their students’ diverse learning styles, design counselling strategies that take care of those diversities and remain sensitive of such during the instruction process.

2. Students who fall within the low academic achievers should be identified by the school guidance counsellors and direct individual and group counselling approaches should be utilized to help them improve their learning styles.

3. The school guidance counsellors should provide psychological and pedagogical support aims to help pupils fulfill their developmental potential and create conditions for their active and full participation in the life of their school and in their social environment.

REFERENCES


QUANTUM COMPUTER IN SPACE EXPLORATION

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INTRODUCTION

The early era of space exploration was mainly focused on the unsaid competition called “space race” between the Soviet Union and the United States. With the launch of first human made object in space i.e., Sputnik 1 by Soviet Union on 4th October 1957 this competition began continuing with the spirit that the United States did the first moon landing Apollo 11 mission on 20 July 1969, these instances are often known as landmarks of this era. The Soviet Union led the way in the firsts whether it was first living being in orbit in 1957, launch of the first space station in 1971, first spacewalk and many more. However, as the focus of the world changed from the “space race” to renewable energy slowly this competition turned into collaboration and launched the International Space Station.

Data plays an important role in space exploration, faster processing of such data enables the space organization’s rovers i.e., Space probes make faster decisions and hence reduce the failure. Now with the new emerging branch of astronomy called Deep space exploration the technology which helps explore distant outer space. With this branch the amount of data produced for processing is increased exponentially for example the recent first ever image of black hole discovered in a distant galaxy which measures 40 billion kilometers across and three million sizes of earth. It took eight telescopes to photograph it, it is 500 trillion kilometers away from us and the size of it is 4.5 petabytes. With a humongous network of sensors and systems positioned across the world and space NASA produced around 12.1 terabytes of data [Wikipedia] for processing every day. NASA rapidly upgrades its spacecraft giving them the ability to process the huge data much faster and also enables them in faster transmission. Noting that some of the space missions could generate as large data as 24 terabytes of data every day. [Wikipedia]To process such data space agencies need faster and more reliable computer processing. The Planetary Data System (PDS) was developed in 90’s to give access to data of past 50 years of planetary science missions through distributed topical nodes at 7 research institutes. The data is collected from Astrophysics Great Observatories that includes the Hubble Space Telescope, the Chandra X-Ray Telescope and the Spitzer Infrared Space Telescope. These in turn have become the foundation of Virtual Astronomical Observatory making the better view of digital sky in all wavelength. [NASA]

Around sixty-seven years ago when the first ever transistor was being developed no one would have thought that computers would become a very important part of our society via various applications. The Internet is also not a one-day success. It took almost twenty-four years. With Moore stating the law known as Moore’s law that the number of transistors in the IC would double in about two years. Nowadays computers have reached their respective limits leaving very less scope for something.

In order to overcome this limitation scientists are looking for new options, one of such options which is emerging to be a promising candidate in Quantum Computers. Quantum Computers use the laws of quantum mechanics to do the computations. They can solve any given problem way faster than the classical computers. In these qubits which is equal to bits in classical computers for storing the data. Qubits are generated by small particles like protons or electrons that have spins which can be measured by a magnetic field. If we bring it into a magnetic field then it spins in a different direction. The concept of superposition and annealing is used for computation in quantum computers.

LITERATURE REVIEW

The term big data was proposed by Michael Cox and David Ellisworth in a research paper of NASA. For processing this big data NASA uses giving technologies [Michel Shannon,2019]

- The Quantum Artificial Intelligence Laboratory (QuAIL) and the space agency’s quantum computers;
- The agency’s Supercomputer- the Pleiades- that performs simulation and modeling;
- Storage of bulk amounts of data on Earth Science and Distributed Active Archive Centers (DAACs);
- Cyber Security of its networks and the NACRA- the Network Activity Cybersecurity Risk Assessment;
Expert Medical Care and Exploration of Medical Capabilities (ExMC).

NASA used the Pleiades supercomputer to analyze the data in complicated projects such as space weather, solar flare and many more.

Piyush Mehrotra, [Supporting Big Data] talks about NASA Advanced Supercomputer about its computational power, limitations and community review about it. The potential benefits and the emerging need for quantum computing over the classical computers has been discussed by many authors [Prantosh, Kanamori, Devitt]. Prantosh (2011) has also discussed the benefits of quantum science and its potential scope in a variety of fields, where Aaronson shows implementation of quantum computation in a practical environment and he emphasizes the requirement of absolute zero temperature for measuring the momentum of the atom. He also talks about the limitations of quantum computing. Munro and Devitt (2011) have also implemented a model of quantum computer which is of high performance. In an article D WAVE quantum computer talks about issues and benefits related to D WAVE quantum computers. M.k Bhatia, Chugh.A (2021) proposed a big data query optimization system for customer sentiment analysis of telecom tweets. They suggested a hybrid system that leverages the recurrent neural network, deep learning technique for efficient handling of big data and spider monkey optimization, a metaheuristic technique which helps to train networks faster and enables fast query handling. The comparison is made with deep convolutional networks and models optimized for efficiency and performance for predicting customer churn rate.

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PROPOSED WORK

IBM Quantum Computer: IBM provides a full-stack approach to bring the best quantum computing services to the community with extensive software tools and cloud computing services which makes it easy for researcher’s community. It provides safe, secure and programming tools to access world’s best and leading quantum system and simulators via IBM cloud.

Google Colab is short for Colaboratory. It helps various users to write and python program codes. The best part is that in order to do this there is no prior configuration needed. It provides free access to GPU and it can be shared easily. It also helps in combining the executable codes and rich text in one document, also images, HTML and many more. The Colab notebooks are stored in Google Drive account. It is very easily shared with the co-workers or friends and they can also comment on your notebooks or can be edited.

EXPERIMENT

For experiment, we have used IBM Quantum computer platform IBM quantum, in that we have used the IBM Quantum Lab. The data set is picked up from NASA’s website, data of exoplanets has been picked up for analysis. For classical computer we have used Google Colab.

For the dataset, we have used NASA’s data[Table 1] which is freely available for researchers for analysis and analytical purposes.
For the classical computer and Quantum computer, we used correlation for graphical representation and distribution display for the variation in the attributes in Python Language. We calculated the time taken by Google Collab to do the representation and similarly we noted the time taken by IBM Quantum Computer to make the representation.

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Google Collab</th>
<th>IBM Quantum Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14.58 Seconds</td>
<td>1 Nano Second*</td>
</tr>
<tr>
<td>2.</td>
<td>12 Seconds</td>
<td>1 Nano Second*</td>
</tr>
<tr>
<td>3.</td>
<td>11.68 Seconds</td>
<td>1 Nano Second*</td>
</tr>
<tr>
<td>4.</td>
<td>11.55 Seconds</td>
<td>1 Nano Second*</td>
</tr>
<tr>
<td>5.</td>
<td>11 Seconds</td>
<td>1 Nano Second*</td>
</tr>
</tbody>
</table>

**Table 2 Complexity analysis (Reference 10)**

<table>
<thead>
<tr>
<th>Reading for Google Collab</th>
<th>Reading for IBM Quantum Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU times: user 10.1 s,</td>
<td>CPU times: user 7.96 s,</td>
</tr>
<tr>
<td>Sys: 317 ms,</td>
<td>sys: 288 ms,</td>
</tr>
<tr>
<td>total: 10.4 s</td>
<td>total: 8.24 s</td>
</tr>
<tr>
<td>Wall time: 10.2 s</td>
<td>Wall time: 8.04 s</td>
</tr>
</tbody>
</table>

**Table 3 Hardware Reading**
EXPERIMENTAL CODE
The language choose for the experiment is python which is supported by both the platforms. We have used NumPy and Matplotlib packages of Python in order to do the experiment and produce the experiment results.

Google Colab Screenshot 1 to 3 represent the code used in Google Colab to assess the exoplanetary data of NASA in order to produce the images. For quantum computer we used platform of IBM i.e., IBM Quantum Computer. So, the IBM Quantum Computer Screenshot 1 to 3 represent the code used in IBM Quantum Computer. We have used Numpy, qiskit, qiskit.tool.jupyter, qiskit.visualization, pandas, sklearn.preprocessing, mpl_toolkits.mplot3d, os, Matplotlib.pyplot and ibm_quantum_widgets packages in order to assess the data and produced the image results.

CODE USED IN GOOGLE COLAB

<table>
<thead>
<tr>
<th>Device 1: Lenovo Laptop Ideapad 310</th>
<th>Device 2: Asus vivobook s15</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM: 12GB</td>
<td>RAM: 8GB</td>
</tr>
<tr>
<td>Internet Speed: 50mbps</td>
<td>Internet Speed: 6.25 Megabytes per second,</td>
</tr>
<tr>
<td>SSD: 256 GB</td>
<td>SSD</td>
</tr>
<tr>
<td>Intel i5</td>
<td>Intel i5-8250U</td>
</tr>
</tbody>
</table>

Table 4 Hardware used For Experiment

Google Colab Code Screenshot 1

Google Colab Code Screenshot 2
CODE USED IN IBM QUANTUM COMPUTER

IBM Quantum Computer Screenshot 1

Google Colab Code Screenshot 3
Experimental Results

The image results generated in both the platforms are same however there is a drastic difference in time. The images depict various aspects of the data.

- Per Column distribution: This is the distributions of the relevant different variables. The distribution of a variable or dataset as a list of possible values, and some indication to how frequently each value occurs. It also depicts various aspects of the data in how they are occurring.

- Correlation Matrix: Table shows correlation coefficients between various variable and each cell of the matrix shows correlation between the two variables of the exoplanetary data used in the experiment. This is a summary of the analysis.

- Scatter Matrix: It is the multivariate, the scatter matrix is a statistic matrix of the data it is give us the estimate of the covariance matrix, for the multivariate of the normal distribution.
CONCLUSION

The representation of the correlation of the various attributes of the data on both the computer and seeing the time difference we see a major time difference in the computation power of the quantum computer versus the classical computer. While running the experiment multiple times and noting down the time and every time we found a major time difference in computation of both the computers. We also acknowledge here that there must be some limitations as we are using Google platform and IBM platform and do not have direct access to any of the servers/computers. The hardware limitations and also the internet speed limitations.

As we have already been talking about the need for speed in computational power in space exploration on big data which is produced in NASA. We have noticed the quantum computer comes out as a suitable potential option for analysis and analytical approaches. The data can be processed in real-time very rapidly with the help of quantum computers. With deep space emerging as one of the most important subjects in the present space exploration and with the wishes of NASA to explore MARS as a potential planet to make it livable, these things directly indicate a lot of future exploratory missions in future. As supercomputers have reached their limits of
computation it's high time to find the new potential options. As we find in our experiment, the processing speed of the IBM Quantum computer is 1 Nano second as compared to that of a classical computer. We highly recommend it as one of the options for the space exploration missions in the future.

Also considering the limitations of the quantum computers we believe that there is more research needs to be done to overcome the large gap which is there in production of quantum computers that can be overcome in future researches and experimentations.

REFERENCES
2. https://www.nasa.gov/open/data.html
5. https://exoplanetarchive.ipac.caltech.edu/cgi-bin/TblView/nph-iBlView?app=ExoTbls&config=PS
8. https://colab.research.google.com/notebooks/basic_featuresOverview.ipynb
INTRODUCTION

1.1 Anxiety

It described as a fear of something like a situation, person, or thing etc. It is an unpleasant inner state. It is a feeling of extreme worry, continuous illogical thoughts, often said as an overreaction to a stimulus. Most of the adults these days are engaged with relationship problems and feel the most amount of dread or stress coming from it, many relationships in this era are toxic people still are continuing it because of habituation. Encountering tension is an ordinary piece of life. In any case, individuals with tension issues much of the time have extraordinary, extreme, and diligent stress and dread over regular circumstances. The purpose of the study is to find the prevalence of anxiety on the personality of young adults and to find the relationship between anxiety, neuroticism, and extraversion. The objective was to determine the effect of Anxiety on the personality of young adults, to establish a relationship between anxiety and neuroticism, and to establish a relationship between anxiety and extraversion. The sample size used is 100 Students of college ranging from 19 – 25 years of age. The inclusion was all the adults who fall in the taken age range and the exclusion was adults who are below 19 or above 25 years of age. In the following sample, 48 were males and 52 were females. The findings were that the extraversion trait tells us how friendly and outgoing an individual is or much the person expresses or interacts. Whereas Neuroticism trait includes people who are moody, frustrated, and do not like to socialize much. According to the finding of the research, there is a significant correlation found between anxiety and neuroticism at 0.01 level through the Pearson correlation method. There is no significance found between anxiety and extraversion trait which means the more extrovert personality the less are the chances of developing anxiety. There is a high prevalence of anxiety found in the personality of young adults.

KEYWORDS: Anxiety, Neuroticism, Personality, Extraversion, Young adults
1.1.1 Symptoms of Anxiety
- Dry throat
- Difficulty in sleeping
- Irrational continuous thoughts
- Cold
- Tingling sensation in hands
- Nausea
- Irritability
- Trembling

1.1.2 Causes of Anxiety –
What causes tension and uneasiness issue can be confused. Almost certainly, a blend of elements, including hereditary qualities and ecological reasons, assume a job. Be that as it may, plain a few occasions, feelings, or encounters may make manifestations of tension start or may exacerbate them. These components are called triggers.

Tension triggers can be distinctive for every individual, except numerous triggers are normal among individuals with these conditions. The vast majority discover they have different triggers. Be that as it may, for certain individuals, tension assaults can be activated for reasons unknown by any stretch of the imagination.

Specialists don’t know precisely what expedites uneasiness issue. Like different types of psychological instability, they come from a blend of things, remembering changes for your mind and ecological pressure, and even your qualities. The disarranges can run in families and could be connected to flawed circuits in the mind that control dread and different feelings.

Basic causes - Side effects of pills, Stress or dread from relationships, Faulty functioning of brain, School work pressure, Examination Pressure, Over work load, Substance induced , Emotional trauma ex- death of someone close , Negative thinking , Caffeine.

1.1.4 Anxiety Attacks –
Anxiety attacks or Panic attacks are not very similar. Anxiety attacks occur as a reaction to some external or internal issue or worry, when the problem is sorted the anxiety also fades away, whereas panic attacks are sudden and unprovoked. Panic attacks doesn’t come as a reaction to a problem. Anxiety can occur in panic disorder.

1.2 Personality –
It is that area of study which takes about personality and the variation in people. Personality is an umbrella term under which our behaviour, emotions, cognitions are all stored . It evolves or grows from environmental interactions or biological factors. Personality is dynamic or everchanging. A person’s thinking or the way he/she reacts to a stimulus changes overtime with experience.

1.2.1 There are 4 basic kind of personalities -
1. Sanguine – Such people are highly active, social and are extrovert. They like to be highlighted in a crowd. Such people are very charismatic.
2. Choleric – Very motivated and goal-oriented people. They are logical and practical. They are competitive and less friendly.
3. Melancholic – They are anxious people. They want to be perfectionist; they are quiet and have a peaceful mindset. They love to be tidy.
4. Phlegmatic – They are very intuitive, they are usually connected things and are relaxed, peaceful.

There are major parts of ID, EGO, SUPEREGO, ID is the part which is there from birth rest the EGO and SUPEREGO comes in play with time. The EGO is the balance between ID and the SUPEREGO.

1.2.2 There Basic highly accepted personality trait according to the Big Five Factor are -
1. Neuroticism – The people who have high points in neuroticism are generally moody and feel a little more amount of anxiety, guilt, anger, worry. Such individuals are most of the times frustrated or depressed.
2. Extraversion – These kinds of people are outgoing, nor shy, wants to be in the limelight and are always full of energy. They are social able and very confidently interacts with people. They participate in a lot of activities and are fun loving.
3. Openness – Such people are aesthetic and are always keen on trying new and challenging stuff. They are curious and experiments with new things and places and also have active imagination.
4. Agreeableness – These people are very cooperative and doesn’t say no to a lot of things. They are sympathetic and creative; they generally over stress because of a lot of work or responsibilities.

Conscientiousness – These people are very well organized and well mannered. They are diligent and perform their tasks or activities thoroughly.

1.3 Role and impact of mindfulness in young adulthood
A Mindful individual is reflective as opposed to reactive. They centre around the present moment. Mindfulness is an interaction that prompts a psychological state portrayed by non-judgmental attention to the current encounters, like sensations, thoughts, substantial states, and the environment. It empowers us to distract ourselves from our thoughts and sentiments without naming them as positive or negative.

Research show that mindfulness helps in reducing anxiety and depression. Mindfulness teaches us how to respond to stress with an awareness of what is happening in the current moment, rather than simply acting without thinking, unaware of what emotions or motives could be driving that decision. By teaching awareness for one's physical and mental state in the moment, mindfulness allows for more adaptive reactions to difficult situations.

"Mindfulness allows people to create space between their thoughts and the present moment by identifying a thought, whether it is relevant in the moment, and visualizing it floating away. Mindfulness encourages accepting emotions, rather than resisting one's experience, which reinforces anxiety". (Red mountain Colorado, 2021).

REVIEW OF LITERATURE
- Topper, et al. (2017) in this research a randomized controlled preliminary assessed the viability of a preventive intercession for nervousness issue and misery by focusing on unnecessary degrees of monotonous negative reasoning (RNT; stress and...
ruminations) in teenagers and youthful grown-ups. Results give proof to the adequacy of this preventive intervention focusing on RNT and bolster a particular aversion approach that explicitly focuses on a realized hazard factor to forestall various issue.

- Rahkonen, et al. (2016) in this research we study the motivation behind Eating issue – anorexia nervosa, bulimia nervosa – influence various Europeans. This article outlines European investigations on their commonness, rate, comorbidity, course, outcomes, and hazard elements distributed in 2015. discoveries Anorexia nervosa is accounted for by <1–4%, bulimia nervosa <1–2%, and subthreshold dietary problems by 2–3% of ladies in Europe. Occurrences of anorexia seem stable, though bulimia might decrease. Over 70% of people with dietary issues report comorbid issue. Parental mental issue, pre-birth maternal pressure, different family factors, youth overweight, and body disappointment in pre-adulthood increment the danger of dietary issues. Eating issue are moderately basic issue that are frequently disregarded, although they are related with high comorbidity and genuine wellbeing results.

- Westmoreland, et al. (2016) in this research we study that Anorexia nervosa and bulimia nervosa are not normal mental diseases identified with disarranged eating and contorted self-perceptions. The two of them have critical therapeutic difficulties related with the weight reduction and hunger of anorexia nervosa, just as from the cleansing practices that describe bulimia nervosa. No body framework is saved from the antagonistic sequelae of these sicknesses, particularly as anorexia nervosa and bulimia nervosa become progressively serious and incessant.

- Kleiman, et al. (2015) “The Intestinal Microbiota in Acute Anorexia Nervosa and During Renourishment “The significance of the organism gut-cerebrum hub to psychopathology is of enthusiasm for anorexia nervosa (AN), as the intestinal microbiota assumes a basic job in metabolic capacity and weight regulation. We give proof of intestinal dysbiosis in AN and a relationship among mind-set and the enteric microbiota in this patient populace. Future bearings incorporate unthinking examinations of the organism gut-cerebrum pivot in creature models and relationship of microbial measures with metabolic changes and recuperation lists.

- Dahlmann (2015) in this research we study the predominance of dietary issues among young people keeps on expanding. The starvation procedure itself is frequently connected with serious adjustments of focal and fringy digestion, influencing by and large wellbeing during this defenceless period. This article means to pass on fundamental learning on these continuous and handicapping issue, and to audit new improvements in grouping issues coming about because of the change to DSM-5. New information on the study of disease transmission and extending learning on related medicinal and mental comorbidities and their frequently dependable sequelae in later life, are given.

- Tavolaki, et al. (2015) in this research predominance of dietary issues among college understudies and its relationship to social qualities and substance use is studied. Dietary problems are profoundly predominant among college understudies in France and related with other conduct dangers, stress, and sadness. It may demonstrate essential later on to screen understudies with the SCOFF poll upon section to the college to educate understudy about the hazard regarding dietary issues and encourage them to counsel with their general expert.

- Misra, et al. (2014) in this research anorexia nervosa (AN) is described by low weight, deviant eating mentalities, self-perception bending and hypogonadism. Oestrogen substitution decreases uneasiness in creature models and revealed varieties in sustenance admission over the menstrual cycle might be identified with gonadal steroid levels. The effect of estrogenic substitution on uneasiness, eating frames of mind, and self-perception has not been accounted for in AN. We guessed that physiologic estrogenic substitution would enhance tension.

- Mitchell, et al. (2014) in this research we portray eating designs, pervasiveness of dangerous eating practices, and decide elements related with picking out confusion (BED), before bariatric medical procedure. Half of the members announced eating in any event four suppers/week at eateries; two dinners/week were cheap food. Loss of control eating was accounted for by 43.4%, night eating disorder by 17.7%; 15.7% fulfilled criteria for voraciously starvation procedure itself and dietary use issue, lower self-esteem and more prominent burdensome side effects.

- Lule, et al. (2014) in this research we study the pressure decrease speculation, commonplace psychopathology of alexithymia, uneasiness and sorrow is predominant in female youthful A patients. It is available disengaged from physical steadiness. Pathogenesis of AN is multifactorial and as of now completely present in puberty. An extra fortification procedure can be talked about. For clinical practice, those parameters may have a superior potential for early prognostic components identified with A than physical parameters and conceivable ramifications for mediation is given.

- Kraff, et al. (2014) in this research we studied if an adjusted relational psychotherapy counteractive action program is increasingly strong for lessening abundance weight addition and compounding disarranged eating than wellbeing instruction in immature young ladies at high danger of hettiness and dietary issues. The intercession with youthful ladies with loss-of-control eating is related
with lower age-balanced BMI and level of adiposity just as improved temperament side effects more than 1 y.

Ferguson, et al. (2014) in this research we study how much media adds to body disappointment, life fulfilment and dietary issue side effects in young ladies keeps on being discussed. The present investigation inspects TV, web-based life and friend rivalry effects on body disappointment, dietary problem side effects and life fulfilment. Neither TV presentation to thin perfect media nor internet-based life anticipated negative results either simultaneously nor tentatively except for a little simultaneous connection between online networking use and life fulfilment. Web based life use was found to add to later peer rivalry in forthcoming examination, in any case, proposing potential roundabout.

Ostrovsky, et al. (2013) This investigation targets were to assess the connection between social uneasiness, pigging out, and passionate eating in overweight and large people and to assess the connection among weight and social nervousness. In this investigation, social nervousness was related with voraciously consuming food and enthusiastic eating in overweight and stout people. Whenever suitable, intercessions could address social nervousness as an obstruction to standardizing eating examples and weight reduction.

Crowther, et al. (2013) in this research we study how dietary issues have turned into a noteworthy issue in the Western world and have pulled in light of a legitimate concern for some divisions of our general public. This intrigue stems, to a limited extent, from what has all the earmarks of being a high commonness of bulimia nervosa and related practices. Though pervasiveness appraisals of bulimia nervosa have run as high as 21.6 %, our very own exploration demonstrated a predominance of 2% and 3.8% in two populaces of school ladies to 10.7%. Regardless of whether one takes the most traditionalist appraisals of the predominance of bulimia nervosa, it is still certain that this dietary issue is a critical issue that warrants our consideration.

Emily m, et al. (2013) in this research we assessed whether the pervasiveness of lifetime suicide endeavour was higher in ladies with a lifetime history of a dietary issue than in ladies with no dietary issue and surveyed in the case of dietary problem highlights, comorbid psychopathology, and character qualities were related with suicide endeavours in ladies with anorexia nervosa, confining subtype (ANR), anorexia nervosa, gorge cleanse subtype (ANBP), lifetime history of both anorexia nervosa and bulimia nervosa (ANBN), bulimia nervosa (BN), voraciously consuming food issue (BED), and cleansing issue (PD). In respect to ladies with no ED, lifetime suicide endeavours were fundamentally progressively regular in ladies with a wide range of dietary problem.

Hughes, (2012) in this research detailed commonness rates for gloom and uneasiness in youngsters and youths with A were looked into. Symptomatic issues and current comprehension of the fleeting beginning, and interrelatedness of despondency, tension, and A were talked about. Second, existing exploration on the ramifications of comorbid melancholy and nervousness for results identified with A was surveyed with the point of recognizing whether, and to what degree, comorbidity may affect results including recuperation. At long last, ramifications for clinical practice and proposals for future research were laid out.

Beesdo-baum, et al. (2012) in this research we look at the common course of social nervousness issue (SAD) in the network and to investigate indicators for unfriendly long- term results. A steady course with a significant level of vacillations in indication seriousness is trademark for SAD. Both reliably meeting full edge symptomatic criteria and complete abatements are uncommon. Powerlessness and clinical seriousness pointers anticipate poor visualization and may be useful markers for mediation needs.

Gan, et al. (2011) the point of this investigation was to look at the connections between misery, uneasiness and worry with disarranged eating among college understudies. The Eating Attitudes Test-26 and Depression, Anxiety and Stress Scale were managed on 584 Malaysian college understudies (59.4% females and 40.6% guys). Around one out of five members were in danger of dietary problems. Females had essentially higher extent of in danger of dietary issue contrasted with guy. Further, no critical cooperation impact was found for sex and ethnicity with subscales. There were certain connections between downturn, tension, and worry with confused eating. Further examinations on their related dangers are justified.

Claes, et al. (2011) The point was to research the connection between enthusiastic purchasing (CB), dietary problem side effects, in an example of female understudies. We evaluated 211 female college understudies utilizing the Compulsive Buying Scale, the Eating Disorder Inventory, the Behavioural Inhibition System and Behavioural Activation System scales, the Adult Temperament Questionnaire, and the Physical Health Questionnaire—Depression. The outcomes demonstrate a positive relationship among CB and the Eating Disorder Inventory-II. Both CB and dietary issue indications were identified with low degrees of effortful control. At long last, CB was likewise identified with elevated amounts of Behavioural Activation Scale reactivity (impulsivity), though dietary issue manifestations were all are identified with abnormal amounts of Behavioural Inhibition Scale reactivity (tension).

Swanson, et al. (2011) Dietary issues are extreme conditions, however little is thought about the
pervasiveness or connects of these scatters from population-based reviews of young people. Lifetime predominance assessments of anorexia nervosa, bulimia nervosa, and voraciously consuming food issue were 0.3%, 0.9%, and 1.6%, individually. Significant contrasts were seen between dietary problem subtypes concerning sociodemographic connects, mental comorbidity, job hindrance, and suicidality. Even though most of young people with a dietary problem looked for some type of treatment.

- Williams, et al. (2010) in this research we study the commonness, period of-beginning and comorbidity of state of mind and tension issue during a time stratified agent test of Australian ladies matured 20 years and over. Mood and nervousness issue were analysed using a clinical meeting. The lifetime and current commonness of these scatters was resolved from the examination populace (n = 1095) and institutionalized to 2006 registration information for Australia. This investigation reports the lifetime and current commonness of mind-set and tension issue in the Australian female populace.

**METHODOLOGY**

**AIM**
-To assess the prevalence of anxiety and on the personality of young adults and to find the correlation between anxiety neuroticism and extraversion.

**OBJECTIVE**
- To determine the effect of Anxiety on the personality of young adults.
- To establish relationship between anxiety and neuroticism.
- To identify relationship between anxiety and extraversion.

**HYPOTHESIS**
H1: There will be high prevalence of anxiety on the personality of young adults.
H2: There will be a significant relationship between anxiety and neuroticism
H3: There will be a negative relationship between anxiety and extraversion.

**RESEARCH VARIABLES**
The following research is conducted on the topic “Prevalence of anxiety disorder on the personality of adult females”.

- Anxiety
- Personality
- Neuroticism
- Extraversion
- Young adults

**TOOL DESCRIPTION**

**SINHA’S COMPREHENSIVE ANXIETY TEST** –
The test is given by A.K.P Sinha and L.N.K Sinha. The test contains 90 questions and there is an option of selecting yes or no for each statement. The test checks the presence of anxiety in the individual. Scoring and Interpretation id done very easily, the test can be completed in just 15-20 mins. The test – retest reliability was 0.85, the Internal consistency reliability was 0.92, validity of the test was 0.62.

**H.J. Eysenck’s M.P.I SCALE** –
This questionnaire measures extraversion and neuroticism dimensions of personality.
It has total 48 Questions for which there are three columns present namely Yes, No and a Question mark (?) for answers that are unknown. The Split half reliability and Kuder reliability for Neuroticism lie between 0.85 and 0.90 and for Extraversion lies between 0.75 and 0.85.

**SAMPLE INCLUSION – EXCULSION**
The sample size used is 100 Students of college ranging from 19 – 25 years of age. The inclusion was all the adults who fall in the taken age range and the exclusion was adults who are below 19 or above 25 years of age. In the following sample 48 were males and 52 were females.

**PROCEDURE**
The following research was done on young adults, both male and female were asked to take initiative. Everyone was informed that the data collected is highly confidential. The following Questionnaire were used in the research: Sinha’s Comprehensive Anxiety Test and Maudsley Personality Inventory (MPI). All the questionnaire related queries were answered then and there. No participant was forced to fill the questionnaire. The participants were informed about the nature of the research.

**STATISTICAL ANALYSIS**
‘Statistical analysis for the Social Sciences’ (SPSS) 20 was used to evaluate the given data. Correlation was done to find association or relationship between anxiety, Neuroticism and Extraversion. Correlation between neuroticism and anxiety was found through Pearson correlation method.
RESULT

The following table represents the scores of skewness and kurtosis for SCAT, neuroticism and extraversion respectively.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>St.deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scat</td>
<td>100</td>
<td>1</td>
<td>90</td>
<td>40.98</td>
<td>18.026</td>
<td>-0.89</td>
<td>-0.322</td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>7</td>
<td>46</td>
<td>27.81</td>
<td>8.547</td>
<td>-1.42</td>
<td>-0.343</td>
</tr>
<tr>
<td>Extra</td>
<td>100</td>
<td>9</td>
<td>35</td>
<td>22.84</td>
<td>5.069</td>
<td>-0.301</td>
<td>0.244</td>
</tr>
</tbody>
</table>

TABLE 1.2

The following table represents the correlation between anxiety, extraversion and neuroticism.

<table>
<thead>
<tr>
<th></th>
<th>Scat</th>
<th>Neuroticism</th>
<th>Extraversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scat</td>
<td>-</td>
<td>.595</td>
<td>-</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.595</td>
<td>-</td>
<td>.103</td>
</tr>
<tr>
<td>Extraversion</td>
<td>1.119</td>
<td>-.103</td>
<td>-</td>
</tr>
</tbody>
</table>

The table shows that there is correlation is significant at 0.01 level (p<0.01) between Neuroticism and Anxiety. The correlation is found through Pearson correlation method. There is no significance between Extraversion and Anxiety (p>0.05)

DISCUSSION

Extraversion trait tell us how friendly and outgoing an individual is or much the person expresses or interacts. These people will feel less anxiety or stress as they know how to express themself. They practise positive thinking and likes to be in the limelight also seeks social support which reduces their chances of isolating themselves in tough situations which develops anxiety and stress.

Whereas Neuroticism trait includes people who are moody, frustrated and do not like to socialize much. They are very emotional and anxious also are more likely to be secretive and do not trust easily. These people get stressed about small problems and often feel restless.

The role of mindful on both types of personality is different and very much needed. An extrovert needs to practise mindful to stay positive, cheerful and sociable as they naturally are and people with neurotic personality needs to practise mindfulness to overcome fear, instability, moodiness so that they can be self-aware and thus reduce the risk of anxiety and stress.

The Aim of the study is to assess the prevalence of anxiety on the personality of young adults and to find the relationship between anxiety, neuroticism and extraversion. This research was conducted to investigate a significant relationship between Anxiety and how it affects different dimensions of personality, also anxiety is one of the common disorders found in young people which may be due to interpersonal conflicts such as dysfunctional family, peer group problems, relationships issues etc or intrapersonal conflicts such as body issues, unable to achieve the desired target etc. Therefore, this research also finds about what percentage of young adults are hit by anxiety.

According to the data collected there is high prevalence of anxiety found on the personality of young adults as a greater number of individuals scored high which is above or around 50 in Sinha’s comprehensive anxiety test. Thus hypothesis 1 is accepted.

Effect of anxiety was checked on two dimension of personality that is Extraversion and Neuroticism. According to the finding of the research there is significant correlation found between anxiety and neuroticism at 0.01 level through Pearson correlation method, the characteristics of anxious and neurotic personality are overlapping, thus hypothesis 2 is accepted.

There is no significance found between anxiety and extraversion trait which means the more extrovert personality the less are the chances of developing anxiety. Thus, hypothesis 3 that there is negative relationship between anxiety and extraversion is proved.

The data was checked for skewness and kurtosis. The values of skewness came out to be .089 for SCAT and -.142 for neuroticism also -.301 for extraversion. The scores for kurtosis were -.323 for SCAT and -.343 for neuroticism also .244 for extraversion.

Therefore, the data came out to be significant hence, parametric statistics was used that is Pearson correlation. The value for Pearson correlation for neuroticism is .595 which is significant at 0.01 level and -.119 for which is not significant.

The scores lie on Normal Probability Curve, which means the data is parametric.

The research shows us the importance of Mindfulness, it works through several ways. It encourages us to open and accept our emotions which reduces our illogical thoughts. As a result, we are better able to identify, experience, and process our emotions. Mindfulness also encourages us to see things from different perspectives.

“Mindfulness helps us reduce anxiety and depression. Mindfulness teaches us how to respond to stress with awareness of what is happening in the present moment, rather
than simply acting instinctively, unaware of what emotions or motives may be driving that decision.” (Anxiety.org, 2016)

When we are Mindful, we stay in the moment and don’t jump from situations to situations which create panic and stress. We don’t need to put special number of efforts to stay mindful. An individual just needs to be in the moment and feel everything happening around without taking care of the future events.

LIMITATION
• The study was conducted on a relatively small sample.
• The study was conducted on only college going students.
• Not many researchers have been done in Indian context in effect of anxiety on the personality of young adults.

RECOMMENDATIONS
• We can reduce anxiety among young adults by following these steps.
• Asking each college going student to share their positive or negative experiences or thoughts to someone they are close to.
• People with neurotic personality are moody and overreacts in anger sometimes so, they should never be judged and should be given their space to express.

SUMMARY AND CONCLUSION
The Aim of the research was to find the prevalence of anxiety on the personality of young adults and to find the relationship between anxiety, extraversion and neuroticism.

According to the data collected there is high prevalence of anxiety found on the personality of young adults as a greater number of individuals scored high which is above or around 50 in Sinha’s comprehensive anxiety test. Thus hypothesis 1 is accepted.

Effect of anxiety was checked on two dimension of personality that is Extraversion and Neuroticism. According to the finding of the research there is significant correlation found between anxiety and neuroticism at 0.01 level through Pearson correlation method, the characteristics of anxious and neurotic personality are overlapping, thus hypothesis 2 is accepted.

There is no significance found between anxiety and extraversion trait which means the more extrovert personality the less are the chances of developing anxiety. Thus, hypothesis 3 that there is negative relationship between anxiety and extraversion is proved. The values of skewness came out to be .089 for SCAT and -.142 for neuroticism also -.301 for extraversion.

From the findings it is clearly stated that practising mindfulness is important for young adults as it helps to stay focused, motivated and reduces the risk of illogical thoughts leading to stress and worry. It creates Body awareness and improves the perception about self and how we relate to the world which is needed to manage the transitions happening during the young adulthood. Mindfulness not only improves are mental health but also contributes to our physical health ex- by reducing blood pressure.

REFERENCES
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MINDFULNESS FOR WORK-LIFE BALANCE OF EMPLOYEES DURING COVID 19: A REVIEW STUDY

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ABSTRACT

COVID 19 pandemic has completely changed the lives of people across the globe. People from different facets of life have been impacted financially, socially, physically, psychologically, mentally, and emotionally. Since March 2020 there was an abrupt and unexpected shift in the lives of people from juggling employment, childcare, personal relationships to household tasks, and family responsibilities altogether. Employees too faced a major shift in terms of their work environment and working hours which further added onto their already high levels of stress and anxiety due to the unprecedented situation. The concept of working from home has been misinterpreted as being available at all times. With all of the pressure, employees appear to be having difficulty managing their time, being productive, and working well in groups without any expectation of employee benefits. Employees struggle to maintain their work and personal life simultaneously as the boundary between work and personal life gets blurred due to COVID 19.

Mindfulness and work life balance play a pivotal role in our lives. Clubbing the two together can be beneficial. By functioning as a link between work and life, mindfulness can help us reclaim our equilibrium. This study aimed to discuss mindfulness as being a potential solution for work life balance and sustainable growth development of employees. The study also focused on adopting mindfulness as an essential HR practice in both the private and government sector in the post COVID era. Further, the future implications and recommendations were discussed.

KEYWORDS: Mindfulness, Work Life balance, COVID 19

1. INTRODUCTION

The COVID 19 pandemic has proven to be one of the most devastating and deadly disasters in human history. Global life came to a standstill with major economic and financial losses for organisations worldwide along with significant impact on the psychological, social, emotional and physical domain in the individual lives of people and a great sense of personal loss. Repercussions in both personal and professional lives of individuals was noticed in terms of reduced job and life satisfaction, productivity, motivation to work, and increased levels of stress, anxiety, and work pressure.

1.1 Challenges and consequences

The year 2020 had been a rollercoaster ride for everyone. Human survival was the biggest challenge in the history of mankind. With COVID 19 at its peak, the world had to go through a sense of personal loss and grief on top of that had to deal with the drastic change in working conditions. Balancing both work and personal life became a major challenge.

There was an abrupt and unexpected shift in the lives of people from juggling employment, childcare, personal relationships to household tasks, and family responsibilities altogether. Shifting everything from offline to online was nearly impossible. COVID 19 imposed burdensome challenges from the world’s largest recession to insecurities, panic, anxiety, depression, and severely impacted interpersonal relationships at large. Since the beginning of the lockdown, the term ‘personal life’ seemed to be absent. Managing both house and work was extremely taxing for employees. As a result of these factors the employees became targets of high blood pressure, wrong sitting postures, strain on the eyes, other physical problems, unhealthy snacking. The sleep pattern was also affected. There were no fixed working hours and irregular salaries. The employee was expected to start in the morning but there wasn’t any fixed time
to call it off for the day. The employees were expected to be available for work at all times, even during Sunday and other holidays. Organizations faced huge amounts of loss and many were unable to pay back their debt and provide the due salary to employees. Sudden increase in the exposure to screen contributed to ocular issues. Issues related to job security, life and job satisfaction led to a state of constant fear and anxiety. In addition, the lack of proper ergonomic amenities and facilities further contributed to postural imbalance and vertebral complications.

The personal lives of employees were affected because of work life imbalance. Employees found it hard to give time to their families and loved ones which resulted in straining relationships at large. There were many reported cases of divorce, separation and domestic abuse. All this resulted in anger issues and mental health issues. The quality of life was seriously impacted.

In recent times even though work life balance is being duly promoted by various organizations there is a gap in the ways to implement the same. Employees and top management are both aware of work-life balance as a concept. However, they lack the knowledge on how to practice and implement the same in their lives.

The United Nations has highlighted upon the third sustainable development goal i.e. good health and wellbeing due to drastic effect of COVID 19 pandemic that is alarming and calls for attention. The sustainable development goal in recent times focuses on improving the mental and physical health and wellbeing of people, especially after the bolt from the blue.

1.2 MINDFULNESS: A WAY FOR BETTER WORK LIFE BALANCE

Mindfulness is the basic human ability of being fully present and being aware of where we are and what we’re doing. Mindfulness doesn't mean being happy and positive at all times, rather, it is the idea of being present and noticing and observing each and every moment and living each moment without any judgement from self, whether good or bad. Many researches have shown that mindfulness enhances focus and concentration, which helps individuals be more productive at work, as well as be more compassionate and connected, which allows them to enjoy their personal time fully.

Mindfulness aids in the regulation of emotions, as well as reduces stress, anxiety, and sadness. It can help us make better decisions, control our emotions, and be more completely engaged in life as we become more present in our lives and in relation to others. Mindfulness can help to reduce stress and anxiety and conflict, and increase resilience and emotional intelligence, while improving communication in the workplace and interpersonal relations.

Mindfulness and work life balance play a pivotal role in our lives. Clubbing the two together can be beneficial. By functioning as a link between work and life, mindfulness can help us reclaim our equilibrium. Studies have shown that the inclusion of mindfulness into the workplace does not eliminate conflict or the emergence of difficult issues. When unpleasant situations emerge, however, the group is more likely to skillfully acknowledge, absorb, and respond to them.

2. REVIEW OF LITERATURE

Tombari (2021) studied how mindfulness helps in positive changes among the employees. A total of 120 employees took part in the study. These findings provide preliminary evidence for mindfulness as a psychological resource that can help employees achieve better job outcomes by increasing positive affectivity and work-life integration. In terms of practical implications, this research implies that mindful employees are better able to maximize positive affect, work-life enrichment, and work outcomes.

Dilshani (2020) studied the impact of mindfulness on work life balance. Cross sectional survey design was used in the study. Work life balance and mindfulness questionnaires were used for the purpose of data collection. A total of 100 participants took part in the study. SPSS was used to analyse data. Results revealed that there was a significant positive relationship between the two variables.

Masood (2020) studied the role of HR in creating workplace mindfulness. Individual differences in the extent to which one is consciously attentive to their work settings, both inwardly and externally, are referred to as workplace mindfulness. Workplace mindfulness is linked to increased job satisfaction and productivity.

Johnson (2020) explored mindfulness training in the workplace. The authors discovered that mindfulness-based training is an effective intervention for organizations to improve mental health, wellness, and performance of employees after reviewing 28 empirical studies. A total of 51 meaningful mindfulness-related training outcomes were identified.

Verweij (2018) investigated an intervention for the medical residents to have a mindfulness based stress reduction by a qualitative study through the means of in depth face-face interviews of residents who took part in MBSR course, Netherlands. Data analyzed found to have five dimensions: greater self-reflection, acceptance and non-judgment, increased resilience, and connecting to others. Participants noted that MBSR training helped them improve their workplace awareness, self-reflection, and better tolerance for themselves and others. Participants cited being more adaptable and better at prioritizing and creating boundaries. They enhanced their work–life balance and self-care. Furthermore, people stated that the training increased their awareness of how they communicated. They were more receptive to comments and sought for help more frequently. Finally, they expressed a greater sense of empathy for others.
Pradhan (2016) studied the effect of vipassana meditation on mindfulness and life satisfaction of employees. A total of 150 participants took part in the study. The results revealed that mindful meditation was effective in improving the life satisfaction of employees.

Michel (2014) studied an intervention that taught mindfulness as a cognitive-emotional segmentation approach for work life balance. A randomized waitlist control group design was used to assess the impact of a three week online self-training intervention with 246 staff members actively engaged in a pre & posttest, and 191 participated at a two week follow up. As predicted, experimental group participants in comparison with control group showed considerably less strain based on work family conflict and more of psychological detachment and satisfaction with work life balance.

Chaturvedi (2014) studied the impact of leaders’ mindfulness on staff well-being and effectiveness is investigated in this study. They anticipated that managers' attribute mindfulness is linked to several aspects of employee well-being, including work satisfaction and need satisfaction, as well as various aspects of work performance, including in-role productivity and organizational citizenship behaviors. They also looked at whether psychological need fulfillment, a measure of staff well-being, plays a mediating role in the relationship between supervisor mindfulness and performance of employees. In two investigations, evaluate the assumptions the data from both supervisors and subordinates was used.

Fortney (2013) investigated whether mindful intervention led to increase in job satisfaction, work life balance and compassion among primary care clinicians. A mindfulness training course was held for primary care doctors. Modified mindfulness training might be a time-saving strategy for supporting clinician health and well-being, which could impact patient care.

Kiburz (2012) examined the link between trait mindfulness and work family balance with a sample of working parents. As mediators of this connection, sleep quality and vitality are examined. According to the findings, people who practice mindfulness have better work–family balance, better sleep quality, and more energy. As predicted, sleep quality and vitality were found to be mediators in the connection between mindfulness and work–family balance. The findings highlight the need for more research into the advantages of mindfulness in the work–family context.

3. DISCUSSION

This research paper was undertaken to understand if mindfulness can be a potential solution for work life balance of employees during COVID 19. Since the beginning of the pandemic, the life of people has changed drastically. The new normal of working online has completely reshaped the working industry. Even though working from home has its advantages like there are no traveling hours, working comfortably in a home environment etc. yet it has made the lives of employees even more demanding and exhausting. The time people spent traveling and reaching the offices has now been reallocated to spending more time working and meeting the deadlines. The extra working hours have only contributed to escalating stress and heightened levels of anxiety. The idea of personal life seems lost as there isn’t any personal life left. Work life imbalance can be evidently seen and experienced by employees. Rawal (2021) studied the work life balance of female school teachers teaching in Noida, Uttar Pradesh. A total of 175 women took part in the study. The results revealed that maximum women reported work life imbalance. The issues reported by women were longer working hours, not much recognition at work and lack of motivation.

The purpose of undertaking this study was to make people aware about mindfulness and its implementation in their lives. As we discussed, more employees are gaining the knowledge of work-life balance as a concept yet they don’t know the means to apply it in their life. When we talk about work life balance often it is misunderstood as being perfect at both personal and professional life. Further we were keen to explore the positive psychology aspect and learn more about mindfulness as being one of the many potential applications for a better and maintained work life balance. According to the United Nation’s sustainable development goals good mental and physical wellbeing has been given a lot of emphasis especially because of the pandemic.

Different reviews of literature were studied to have a better understanding of the concept of mindfulness, work life balance and how the two can be clubbed together. After analyzing the various research articles it can be said that mindfulness can assist in reducing stress, anxiety, and disagreement in the workplace, as well as promote resilience and emotional intelligence and enhance communication. The introduction of mindfulness into the workplace does not minimize conflict or the emergence of challenging issues. When challenging circumstances do surface, however, they are more likely to be acknowledged, held, and dealt with by the group in a skillful manner. Tombari (2021) studied how mindfulness helps in positive changes among the employees. A total of 120 employees took part in the study. These findings provide preliminary evidence for mindfulness as a psychological resource that can help employees achieve better job outcomes by increasing positive affectivity and work-life integration. In terms of practical implications, this research implies that mindful employees are better able to maximize positive affect, work-life enrichment, and work outcomes. Wells (2020) studied whether online mindfulness training can be helpful for employees working from home. 233 participants took part in the study. The participants were asked to fill out a pre-session questionnaire, take part in a 15-minute session on mindfulness, and then complete a post-session survey. 90% of the participants reported that the training session was very helpful. 76% of employees reported that mindfulness helped them in reducing anxiety and stress. Roy (2020) examined how mindfulness training can be
effective in reducing anxieties of physicians. Mindfulness training was given to physicians for one month. Results revealed that 48% of the physicians reported lower anxiety levels. Female physicians also reported 60% reduction in cynicism and emotional tiredness. Matiz (2020) studied the effects of mindfulness meditation among female teachers during the pandemic. A total of 70 teachers took part in the research study. An eight week long mindfulness course was conducted. After the completion of the course, 85% women reported better work life balance, reduced stress and anxiety.

Although mindfulness may appear to be a simple activity, remembering to remain mindful is not always a piece of cake; this is why adopting more systematic mindfulness meditation techniques can be beneficial. Indeed, implying mindfulness practices on a regular and consistent basis aids in the cultivation of awareness and so helps boost one’s levels of mindfulness in the short and long term. Employees dealing with heightened work-from-home problems may benefit from mindfulness practice. Mindfulness can help telecommuting employees in three ways: (1) it can help them unplug from work when they need to, (2) it can help them focus on job activities and thus increase their performance, and (3) it can help them manage Zoom exhaustion or screen fatigue in general.

3.1 RECOMMENDATIONS
- Various mindfulness techniques that can help employees have a better work life balance include - mindfulness meditation, body scan, 3 minute breathing space, mindful check in etc. along with breathing and relaxation techniques can also be helpful. These sessions can be held twice of thrice a day to give them relaxation and focus for enhancing their productivity.
- The government of India can take an initiative to introduce policies that promote the mental health of employees, along with their physical health. Government should provide grants to educate all the employees of various sectors in psychological first aid so they will be well equipped to deal with psychological emergencies. Employee mental health policies should be introduced which can promote in creating healthier workplaces for the employees.
- Government authorities responsible for policy making may amend and execute mental health and wellbeing policies and programmes in the organizational guidelines in all areas of public, private and government sector.
- As organizational employees from all sectors may be empowered healthier headspace with the enforcement of these policies, it will result in better economic output, turnover and reduced absenteeism.

4. CONCLUSION
This research paper was undertaken to understand if mindfulness may be a potential solution for work life balance of employees during COVID 19. The purpose of conducting this study was to make people aware about mindfulness and its implementation in their lives. Mindfulness is the basic human ability of being fully present and being aware of where we are and what we're doing. The idea of having the right kind of balance between the work life of people and their personal lives is called work life balance. Different reviews of literature were studied to have a better understanding of the concept of mindfulness, work life balance and how the two can be merged together. After analyzing the various research articles it can be said that mindfulness can assist in reducing stress, anxiety, and disagreement in the workplace, as well as promote resilience and emotional intelligence and enhance communication.

With the recommendations discussed above, organizations can ensure sustainable development of employees by including them in the form of HR practices in private organizations and the same could be done in government organizations. This will further make sure that when employees are faced with difficulties they’ll be well equipped to deal with it in a better and controlled manner be it from any aspect of life.

5. REFERENCES


MOTIVATIONAL ACTIVITY'S MEDIATING EFFECT ON THE RELATIONSHIP BETWEEN CLASSROOM MANAGEMENT STRATEGY AND TEACHERS' SKILL

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ABSTRACT
The goal of this study was to see if the motivational activity had a mediating influence on the link between classroom management style and teacher practice. This is a non-experimental quantitative correlation approach. It was held in a few schools in the Bukidnon area, with a total population of about 5000 teachers. Only teaching teachers between the ages of 21 and 55 were included in this study. This study did not include non-teaching employees. The 320 respondents for the study were chosen via purposive sampling. The researcher used valid adaptation questionnaires to make the research results believable. As a result of this research, the researcher revealed that classroom management, teacher skills, and motivating activities all obtained very high descriptive levels. There was also evidence in this study that there was a link between classroom management in teacher practice and classroom management. However, no significant link between motivational work and teacher practice was found in this study, resulting in full mediation.

KEYWORDS: mediating effect, motivational activities, classroom management strategies, teacher skills, Philippines

INTRODUCTION
The teacher's ability is what motivates students to pay attention in class. Because each student's needs are different, the teacher must show that he or she can deliver the lesson. Researchers discovered that unskilled teachers are the ones who usually offer to learning disabilities as well as students in response to one of the challenges in the Millennium Development Goal (MDG) set by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), which achieved universal basic education (UNESCO) in support of Page's study (1031–1049). The teacher's ability is what motivates students to study the lesson. Because each student's needs are different, the teacher must show that he or she can deliver the lesson.

According to Rahmatullah, high teacher performance is essential for an effective learning process, and with strong competence, the effective learning process is driven by high teacher performance (p. 169). Learning will be effective if a classroom teacher creates activities that will interest pupils, according to Clarke, Ben, et al. (257-265). Griffin and Nguyen (1871-1877) identified three major elements that govern teacher practice. In these domains, professional knowledge, professional skills, and professional ethics are all evaluated. Professional skills are a system of knowledge, technical skills, and motivational disposition for providing successful professional teaching activity, as defined by Bjekic, Dragana, Radojka Knete, and Danijela Milosevic (202-212).

Given the current lack of teacher competency in various schools, the researcher decided to look into it in order to gain a better grasp of the situation and possible solutions to particular problems. Many studies have been conducted on inspiring activities, classroom management strategies, and teacher competencies. However, this study will focus on the mediating effect of inspiring work on classroom management and teacher practice. The purpose of this study is to see what impact motivating activities play in classroom management and teacher practice. In order for their pupils to succeed, the findings of this study must be discovered as soon as possible in order to address the needs of teachers in terms of developing their abilities, motivating activities, and classroom management strategies.

OBJECTIVE OF THE STUDY
The goal of this study is to see how motivational activity mediated the relationship between classroom management strategy and teacher performance.
METHODOLOGY

In this study, the researcher used a descriptive correlational design. Its purpose is to provide a description of the current situation. This design will look into the relationship between two or more learning factors. The teacher’s practice is the ‘non-independent variable’ in this study, whereas the classroom management method is the ‘independent variable.’

The relationship of learning variables regarding the mediating effect of motivational activity on the relationship between classroom management strategy and teachers’ skill was determined using a four-step analysis in this study. This study was conducted in a few schools in the Bukidnon Division, with a total instructor population of around 5000.

The mean was used to obtain the level of academic motivation of the students. Pearson r used it in identifying the significant relationship of strategy to classroom management and teacher practice. Regression is the statistic used to determine the influence on teacher practice on other variables used in said study.

RESULT AND DISCUSSION

Table 1 shows the descriptive outcome of the classroom management strategy level, which is based on classroom management behaviour, teaching technique, parent engagement, and planning and support.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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Classroom management behavior was shown to have a very high descriptive level (x = 4.3637, SD = .47855) across the (320) research participants. Working with parents (x = 4.2187, SD = .43849) was followed by simple teaching style (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with (x = 4.2021, SD = .33119) with The planning and support score (x = 4.1939, SD = .49338), on the other hand, had a high descriptive level.

This alone indicates that the teachers at such institutions are capable of providing students with a high-quality education. When classroom management focuses on learning, it is an inescapable subject of education, according to Eisenman, Gordon, et al. (15). When instructors realize classroom-management tactics, it has an influence on learning that must be considered in teacher preparation, educational theory, and research.
The descriptive skill level of the teachers is shown in Table 2. Four of the five indicators received a very high descriptive level, while the other received a high descriptive level.

First, service orientation received (x = 4.4781, SD = .48447), indicating a very high descriptive level, followed by this innovation with (x = 4.4719, SD = .47557), indicating a very high descriptive level, self-management with (x = 4.3367, SD = .81074), and professionalism and ethics with (x = 4.2525, SD = .50947), indicating a descriptive level. Meanwhile, the result focus (x = 4.1919, SD = .52695) indicate that the level is high.

This was backed up by Saidah, Ummu, et al. (30–50), who indicated in their study that a limited percentage of teachers have shown to be ineffective in the classroom. There are other professors who have a sufficient understanding of the subject but struggle to communicate the content. It was discovered that their personality ability in Arabic is superior to their pedagogical competence. The inadequate educational skills of the instructors are the reason of the lack of training, facilities, and rewards, and the pupils benefit from the skills supplied by the teachers.

### Table 2

<table>
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<td>5.00</td>
<td>4.0147</td>
<td>.43769</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>320</td>
<td>2.47</td>
<td>5.00</td>
<td>4.0081</td>
<td>.37920</td>
</tr>
</tbody>
</table>

The evaluation of the students obtained (x = 4.0278, SD = .44663) which means there is a high descriptive level. Similarly, administrative work with (x = 4.0147, SD = .43769), classroom preparation with (x = 3.9984, SD = .43660) and teaching fellow students also obtained a high descriptive level (x = 3.9902, SD = .43148).

his was reinforced by Katz, Idit, and Bat-Hen Shahar (575), who found in multiple researches that teachers who adopt a style that fosters autonomy in relation to their pupils enhance student motivation. The findings of their research also revealed that teachers who teach based on their own interests and satisfaction, and who value their profession (autonomous motivation), have pupils who learn more effectively. Teachers who feel that (independent motivation) aids their students’ learning are more likely to use an autonomous rather than a controlling teaching style.
The relationship between the two learning factors, classroom management and teacher competence, is shown in Table 4. Based on the table, a correlation value of $r = .154$ and $P < .006$ was obtained, indicating that there is a strong correlation between teachers’ skill and classroom management strategy at the 0.05 level.

As a result, Ho dismissed the findings, claiming that there was no relationship between classroom management and teachers’ skill.
Table 4.1

<table>
<thead>
<tr>
<th>Motivational Activities</th>
<th>Classroom Management Strategy</th>
<th>Specific Technique in Teaching</th>
<th>Parents Interaction</th>
<th>Planning and Support</th>
<th>Classroom Management Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.284**</td>
<td>.417**</td>
<td>.029</td>
<td>.086</td>
<td>.059</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.602</td>
<td>.124</td>
<td>.291</td>
</tr>
<tr>
<td>N</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
</tbody>
</table>

There was no significant relationship between the classroom management strategy and motivational activities. With a correlation of \( r = .059 \) and a \( p \) value of \( p < .05 \), the correlation was poor. There is no interaction between the two variables, in other words. As a result, Ho was accepted, claiming that motivational activity had no relationship on classroom management strategy.

Table 4.2

<table>
<thead>
<tr>
<th>Motivational Activities</th>
<th>Self-management</th>
<th>Professionalism and ethics</th>
<th>Result Focus</th>
<th>Service orientation</th>
<th>Innovation</th>
<th>Teachers’ skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.177*</td>
<td>.240*</td>
<td>.196*</td>
<td>.325*</td>
<td>.369*</td>
<td>.341*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
</tbody>
</table>

The connection of the factors between motivational activity and teachers’ skill is shown in Table 4.2. According to the data, there is a positive and substantial connection between motivational work and teacher skills \( (r = .341) \) and \( P < .000 \), implying that there is a positive and significant link between motivational activity and teachers’ skill.

Furthermore, Ho dismissed this research, claiming that motivational activity had no relationship with teachers’ skill.
Based on the correlations of the aforesaid variables, it was determined that there was a complete mediation in the mediating effect of motivational activity on the relationship between classroom management strategy and teachers' skill. This suggests that, despite the mediation, the independent variable's result decreases.

According to Katharina Sieberer-Nagler (163), a good grasp of successful teaching in numerous areas of learning, such as feedback and praise, regulating students' mistakes, inquiries from students, and clear design of lessons, is required of the instructor. Also helpful for teachers are qualities that minimize fear, motivation, humor, and active time to study the material. The atmosphere in the classroom is also crucial. Children want to go to school and study because they want to create a nice environment in the classroom. It's also crucial to show respect for youngsters. One technique to educate positively is to react favorably to incorrect replies. It is vital for students and their parents to have a relationship. When the teacher employs this technique, the students will be more engaged.

The study's findings revealed that there was no significant association between the two classroom management factors and teacher motivating actions. As a result, the Hon g research was approved, claiming that the two variables had no significant link.

Demirdag (25) and Seyithan (25) are against it. They believe that classroom management has an impact on motivation. Teachers who struggle with classroom management tactics frequently have issues managing the room, dedicating all of their time to administration and ignoring learning, negatively impacting both student and teacher learning and motivation. Teachers that are skilled in classroom management tactics, strategies, and approaches are more needed than ever at the school. Teachers need to be trained in good classroom management in order to boost motivation even further.

Meanwhile, the study's findings revealed that there was a strong link between motivating work and teacher ability. Instructors' attention should be focused on building different abilities in applying and executing approaches for managing teachers' thinking patterns, according to (Invention Journals). It may be stated that instructors play a vital role in today's society, particularly for the younger generation.

CONCLUSION

According to research, there is a relationship between classroom management in teachers' skills and classroom management in motivational activity. Motivational work, on the other hand, is unrelated to teaching practice. This study demonstrated a full mediation of the mediating influence of motivating work on strategy in relation to classroom management and teacher practice.
REFERENCES

THE EFFECT OF BUDGETING PROCESS ON ORGANIZATIONAL PERFORMANCE IN SELECTED FIRMS IN MOGADISHU SOMALIA

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ABSTRACT
The purpose of this study was to investigate the relationship between budgeting and performance remittance companies in Mogadishu, Somalia. The objective of this study was: To examine the influence of formalized budgeting planning on firm’s performance. To analyze the influence of formalized budgetary control on firm’s performance. To examine the influence of formalized budgetary participation on firm’s performance. To investigate the relationship between budgeting and firms performance. The study collected data from seven remittance companies using questionnaires. The target population is 23 remittances operating in Mogadishu-Somalia, selected 15 of them each one selected 4 respondents. The sample size comprised of 60 which means 15 firms times each one selected 4 respondents. The researchers used judgmental sampling technique of non-probability sampling to select 60 respondents from those companies. Data were analyzed using descriptive statistics of frequency; mean standard deviation and correlation analysis methods. The findings of this study revealed the relationship between budget planning and organizational performance is positive (r=0.741, p=0.000) and statistically significant. This implies that an improved organizational performance is associated with an increase in budget planning. The study also found out that there is a positive relationship between budgetary control organizational performance which is statistically significant (r=0.757, p=0.000). The correlation findings further showed that there was a positive correlation between budget participation and organizational performance which was significant (r=0.848, p=0.000). Meaning that these variables tend to increase together that is, increase budget participations associated with increase in organizational performance. The study suggests that remittance companies should adopt participative budgeting and give rewards to talented employees if they meet budget goals. 

KEYWORDS: Budget planning, Budget Control, Budget participation

2.1 INTRODUCTION
Budgeting is the set of the activities of forecasting the financial demands of company in the future (Garisson, et al., 2003). A budget is a comprehensive plan which depicts the information about acquiring and using resources at a certain period of time. During the Budgeting process the anticipated levels of sales, cash flows and probable costs are assigned by the management (Horngren, 2006).

Budgeting is most useful when it is integrated with a company’s strategy (Horngren, Datar & Rajan, 2012). After organizational goals, strategies and long-range plans have been developed, companies prepare budgets. In developing the budget, each level of management should be invited to participate. Budgets are probably the most widely used control devices (Ghillyer, 2009). In many profitable companies, budget is actually a key to their success (Horngren, Datar & Rajan, 2012).

Joshi (2003) budgeting process and performance evaluation practices in a developing country and found out that most of the organizations prepare long range plans and operating budgets, and use budget variances to measure organizations performance, for timely recognition of problems, and to improve the next period’s budget. This is also why a basic understanding of the procedures and timelines in preparing the budget at federal level is important in order to understand the budget process at regional and Woreda level. Furthermore, budgets define “use” and “purpose”. The purpose or objective of a budget is related to the intended outputs. This means all budget items are related to the planned activities on which the public funds are spent and the purpose of the spending. Currently, the annual budget formulation process has two dimensions which include the identification of priorities and goals, and allocation and management of funds (MOFED, 2009).

In many developing countries such as Ghana, one of the growing sectors of the economy is the financial services sector. Bawumia and Owusu-Danso (2008) concluded that Financial sector stability is a priority and Ghana's financial soundness indicators have all improved in recent years. The banking sector
has experienced rapid growth, as a result of credit expansion, changes in regulation, significant technological advances in the sector and more forceful risk management policies by banks. It is for this reason that the Government of Ghana has shown strong commitment to financial sector development. This is evident with Cabinet’s approval of the Financial Sector Strategic Plan (FINSSP) in 2003, which aims at broadening and deepening the financial sector. The second phase of the Financial Sector Strategic Plan II (FINSSP II 2011-2015), approved in 2010 and launched in June 2011, aims at developing the financing base of banking institutions, improving quality services through increased competition and removing barriers to accessing finance and introducing innovative financial instruments. Non-bank financial institutions form part of this financial service industry and play a critical role in ensuring that the overall objective is achieved (Yang, 2010).

Most of the studies has concentrated on budgeting practices in manufacturing firms and banks and overlooked on insurance firms. Therefore this study wished to fill the gap left by the previous studies by investigating the effect of budgeting practices on financial performance of the insurance companies in Kenya.

In this research, financial performance is used to measure remittance companies' performance. Financial performance is generally defined as the use of outcome-basedfinancial indicators that are assumed to reflect the fulfillment of the economic goals of thefirm (Qi, 2010). To measure remittance companies' performance, this research uses, budget goal achievement, profitability, liquidity and solvency as performance indicators. In Somalia, budgets and financial statements are highly inaccessible dealt as secret, so the researchers identified the satisfactions of remittance companies about their financial performance by utilizing financial performance measurements above and used them as performance indicators.

A properly and well planned budget should ensure that organizational expenditures match planned cash inflows. A budget is a tool that all organizations must have on annual basis. All organizations no matter the type or size need to properly develop a financial plan for the expected cash intake or expenditure in order to meet their financial goals and objectives. Management should plan on how to meet the likely cash excess or deficit for which management can plan inadvance as to how to employ such resources. Since inefficient management of business funds negatively influencesshareholders value the need to know the expected amounts of cash receipts and payments is critical in enhancing proper financial management. Over the years, it has been a challenge for management of private firms to knowhow the budgeting process starts, control and managed. Most organizations visited could not show how the budgeting process and control are made. A lot of challenges were discovered in the organization investigated and these firms couldn't meet their budget expectations and also end up having deficit budgeting yet all due process would have beenfollowed. The above revelations point to the fact that the budgeting process was not well managed and this had affected performance most organizations, hence the basis for the investigation especially with regard to operating a cashbudget.

To measure remittance companies' performance, this research uses, budget goal achievement, profitability, liquidity and solvency as performance indicators. In Somalia, budgets and financial statements are highly inaccessible dealt as secret, so the researchers identified the satisfactions of remittance companies about their financial performance by utilizing financial performance measurements above and used them as performance indicators. So, this study seeks to understand more about budgeting process and organizational performance in some selected local remittance in Mogadishu-Somalia.

3.1 LITERATURE REVIEW

According to Adeyele (2016), modern day budgeting started during the Roman and Egyptian civilization periods around 500BC and 2500BC respectively. Merchants matched expected expenditure against expected income to be able to establish whether their businesses were making profit or loss. Siyanbola (2013) argue that formal preparation of budgets can be traced to the middle age period in England when the Chancellor of the Exchequer prepared annual accounts in a scroll, usually kept in a bag to be read in parliament. During time of discussing state finances, the Chancellor could always refer to the statement of accounts contained in the bag. This bag, whose original name is (bouguette) in French, is referred to as the budget. Over the years, governments’ financial statements have taken over the name of the bag, thus the statement of finance for any government today is referred to as the budget.

History has it that the first annual national budget was adopted in Britain in 1787. The British parliament passed the Consolidated Fund Act, paving way for a single general fund for recording all receipts and expenditure, which formed the basis for the modern budgeting system. By 1822, the British Chancellor for the Exchequer, an equivalent of Finance Minister in other commonwealth jurisdictions, had gotten used to the presenting annual budget statements to the British Parliament account committee for review. The Audit Act, which existed then, provided independent post audit review of the said budget. Elsewhere in other developed countries jurisdictions, the United States of America adopted this system in 1912, the same year the budget and accounting Act was set up by the federal budget system. By 1931, the French government had adopted the system (Barclay, Schalkwyk and Pauw, 2011).

Lucey (2002) defined budget as a quantitative statement, for a defined period of time, which may include planned revenues, expenses, assets, liabilities and cash flows. A budget provide a focus for the organization, aids the co-ordination of activities and facilities control. Planning is achieved by means of a fixed master budget, whereas control is generally exercised through the comparison of actual costs with a flexible budget. Saleemi (1990) defines budget as a financial or quantitative statement prepared and approved prior to a defined period of time. It may include income, expenditure and the employment of...
capital. Drury (2008) defined budget as a detailed plan that coordinates various activities within the company for further actions. Hongreen (2007) defined budget as a quantitative expression of plan of action and an aid to the implementation of this plan.

In theoretical management accounting literature, some theorists (e.g., Drury, 2008; Joshi, 2013; Garrison et al., 2013) believe that through budgeting in the process of financial decision-making and internal operation of organization, multiple functions regarding budgeting behavior can be achieved. These functions are planning, coordinating, communicating, control, and evaluating. If administered wisely, budgeting can do the following: compels management planning, provides definite expectations that are the best framework for judging subsequent performance, and promotes effective communication and coordination among various segments of the organization (Horngreen, 2007).

3.1.1 Budget Planning
Budgeting planning (budget-setting or budget preparation) refers to developing quantitative goals of the organization and preparing various budgets (Bodie and Merton, 2010). Business organizations use long-term budgets to layout the planned financial goals and actions over periods ranging from two to ten years. Long-term budgets are part of an integrated business strategy that along with production and marketing plans, guides the firm toward strategic goals (Gitman, 2016). Capital budgets, as one example of long-term budgets, is emphasized in financial accounting and budgeting literature. Budgetary processes refer to the budgeting approaches that have been adopted by various organizations to achieve various goals (Mazikana, 2014).

Planning and budgeting are like siems twins as they dovetail to each other. Budgeting is a systematic and formalized approach for performing significant phases of the management planning and control of functions. It is the process of detailed short-term corporate plan into action. Budgetary process is involved in planning process. When monetary values are attached to the plan, the plan becomes a budget. Planning on the other hand involved the establishment of objectives and the formulation, evaluation and selection of the policies, strategies, tactics and actions required to achieve these objectives. Without a plan, it is impossible to determine the operational performance of any business. A comprehensive financial planning system is critical in sustaining an enterprise and keeping a competitive edge in the market. It ensures the effective and efficient use of financial resources within the enterprise and contributes to the forward planning which results in better coordination of activities across different functional units. Also, having more accurate and timely information leads to more transparent and effective control. In Anthony’s framework, control activities in an organization are categorized into three major types: namely strategic planning, management control and operational control.

Budgetary control is the establishment of budgets relating to the responsibilities of executives to the requirements of a policy and the continuous comparison of actual with the budgeted results, either to secure by individual actions the objectives of that policy or to provide a basis for its revision (CIMA terminology, 2006). Performance refers to qualitative and quantitative description of results which enables to shape the future of an entity. Organization performance is a set of financial and non-financial indicators which offer information on the degree of achievement of objectives and results (Lebans & Euske, 2006).

Planning and control related resources and their costs are the keys to good management. The process of developing plans for a company’s expected operations and controlling operations helps to carry out those plans is known as budgetary control. Objectives of budgetary control are: To aid in establishing procedures for preparing a company’s planned revenues and costs. Budgets also aid in coordinating and communicating these plans to various to various levels of management (Kariuki, 2010).

3.1.2 Budget Control
Control, briefly, is the process of ensuring that a firm’s activities conform to its plan and that its objectives are achieved (Drury, 2008). The mechanism of budgetary control can be dated back to the contribution of Anthony (2009) on management control. In Anthony’s framework, control activities in an organization are categorized into three major types, namely strategic planning, management control and operational control.

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3.1.3 Budget Participation
Another crucial benefit of the budgeting process, not to be ignored, is the sharing of information (Hopwood, 1976; Parker and Kyi, 2006) between organizational members. McLaney and Atrill (1999) argue that the value of the budget as a plan of what is to happen and as a standard against which actual performance will be measured, depends largely on whether and how skillfully this negotiation is conducted. When setting a budget, members of the organization are supposed to participate in defining explicit budgetary goals and to be involved in subsequent revisions to these goals with the management (Chalos and Poon, 2000). And when budget variance(s) occurs, participation and discussion among different levels of management facilitate and enable accurate identifying the possible reasons for such variance(s) and also the corresponding corrective actions to be taken. Therefore, budgetary participation (BP) refers to the involvement of managers in the budgetary process and their influence over the setting of budgetary targets (Subramaniam and Ashkanasy, 2011).
Budgetary participation has always received considerable interest among researchers. It can be regarded as a negotiation channel linking the communication especially between superiors and subordinates (Shields & Shields, 1998). Numerous scholars state that through budgetary participation, information sharing can be accomplished. For example, Poon (2001) states that budgetary participation provides a setting in which managers can exchange information and ideas to make budgetary planning and control more effective.

### 3.2 Organizational Performance

Organizational performance refers to a concept that measures a firm’s position in the market place and the firm’s ability in meeting stakeholders’ needs (Griffins, 2003; Lo, Mohamad, Ramayah & Wang, 2015). It can also be known as the degree to which the operation fulfills the performance objectives (primary measures) and meets the needs of the customers (secondary measures), Slack, Chambers & Johnston, (2010). Didier, (2002) noted that the performance consist in a mere finding of an outcome, but rather it is the result of a comparison between the outcome and the objective. Folan, (2007) highlighted three priorities or objectives of performance and included: Performance should be analyzed by each set by the entity whose performance is analyzed and performance is reduced to the relevant and recognized features. “Achieving the goals that were given to you in convergence of enterprise orientations”. In his opinion, performance is nentity within the limits of the environment in which they decide to operate, it is always linked to one or several objectives Bartoli & Blatrix, (2015) noted that performance should be achieved through items such as evaluation, piloting, efficiency, effectiveness and quantity. Neely, (2002) noted that performance should consider quantifying the efficiency and effectiveness of actions. Management support must be verified and demonstrated by actively communicating the mission and vision throughout the organization (Fotopoulos & Psomas, 2009; Zaim & Ozkan, 2010). Similarly, Iqba, by facilitating the provision of timely resources. Similarly, Fernandes, Lourenco & Sliva, (2014) noted that leadership attitude and support of top management can promote organizational innovation thereby improving its performance.

### 3.3 Relationship Between Budgeting process on Organizational Performance

Wijewardena and De Zoysa (2001) perceive that the impact of budget planning and budgetary control on performance may vary from firm to firm depending on the extent of its use. The greater extent of the formal budgeting process should have a positive impact on the performance of SMEs. In their study, performance is measured by two financial indicators: sales growth and return on investment. Data was collected from two thousand manufacturing SMEs in Australia. The results show a positive and significant relationship between budgeting planning and sales growth, and between budgetary control and sales growth. However, no significant difference was found between budget planning and return on investment (ROI), nor between budgetary control and return on investment. To explain the insignificant relationships between budget planning and ROI, as well as budgetary control and ROI, they explain that, although firms with a greater extent of planning or control report higher rates of growth in sales, “these revenues are not bringing about higher profits because of internal inefficiencies.”

Sugioko (2010) studied on the impact of budget participation on job performance of University Executives: a study of APTIK- member Universities in Indonesia. This research aimed to test empirical evidence regarding the role of budgetary participation in mediating variables on the impact of budget participation on job performance. The study concluded that budget participation has a positive and significant impact on job performance, while structural equation tests showed that, trust, organizational commitment, budget adequacy, and job satisfaction variables positively and significantly mediated the relationship between budget participation and the job.

Wijewardena and Zoysa (2011) conducted a study in Australia to examine the impact of budgeting processes on performance of SMEs. In their study, performance was measured by two financial indicators: sales growth and return on investment. Data was collected from two thousand manufacturing SMEs in Australia. The results showed a positive and significant relationship between budgeting planning and sales growth, and between budgetary control and sales growth. However, no significant difference was found between budget planning and return on investment (ROI), nor between budgetary control and return on investment.

Mohammed and Ali (2013) in a study “the relationship between budgeting and performance of Remittance companies in Somalia” concluded that the correlation between budgeting and firm performance is 0.514, which means that one level increase of budgeting effectiveness will lead to 0.514 higher firm performances. The probability of this correlation coefficient occurring by chance is 0.00. This coefficient shows that a statistically significant moderate positive relationship between budgeting and firm performance.

### 4.1 METHODOLOGY

The study was conducted descriptive design. A researcher is solely interested in describing the situation or case under their research study. It is a theory-based design method which is created by gathering, analyzing, and presenting collected data. Quantitative research allows the researchers to familiarize them with the problem or concept to be studied, and perhaps generate hypotheses to be tested (Golafshani, 2003).

The target population of this study would be finance employees of remittance companies in Mogadishu because we are more dependent on remittances and they are a good source of information to analyze the topic. There are at 23 remittance companies operating inside Mogadishu, we selected fifteen (15) of them, which represents 65% of the population (Ibrahim, 2016). The sample size of the study consists of 60
respondents. The sample size of this study consists of 15 firms each one selected 4 respondents which equal to 60 respondents.

The researcher used judgmental sampling technique of non-probability sampling providing a range of alternative techniques to select samples based on your subjective judgment (Saunders, Lewis & Thomhill, 2009).

The researcher uses questionnaire for collecting data in this study. The rationale for choosing questionnaire was guided by the nature of data to be gathered, the time available, as well as the objectives of this study and data analyses with the help of the statistical program SPSS 20.

5.1 SUMMARY OF FINDINGS
According to table 4.1.1 showed that 44 respondents (73%) were male and 16 respondents (27%) were female. This indicates that there is more male staff to a larger extent compared to women. According to table 4.1.2 Shows the most of respondents of this study 37 (62.0%) were married and 23 (38.0%) were single. The researcher indicates the most of respondents were married. According to table 4.1.3 shows that 32 respondents (53%) were in age group of 20-30 years old, 27 respondents (45%) were in age group of 30-40 years old, 1 respondent (2%) were in age group of Above 40 years old. This indicates that the majority of staff belong to age group which were economically active hence will help to improve the organization performance. According to table 4.1.4 showed those 35 respondents (58%) they had a professional level of Bachelor degree, 25 respondents (42%) they had professional level of masters’ degree. This indicates that staff had adequate professional level to influence organization performance. According to table 4.1.5 showed that the 11 respondents (18%) they had work experience between 1-2 years, 42 respondents (70%) had work experience between 3-5 years, 6 respondents (10%) had work experience between 9 and above years, and 1 respondent (2%) they had work experience above 3-8 years. This indicate that majority of staff had long work experience which is above five years.

According to table 4.2 indicate that the level of budgeting process is generally high and also indicated the total average is 3.1, the highest rated aspect of poor planning management of CDF has led to poor performance of the firms development with (Mean=3.75), and this followed a predetermined budget of possible costs that is incurred carrying out the activities planned in a CDF project should be made with (Mean=3.75). The budget plans of constituency development fund must be properly coordinated in order to eliminate bottlenecks (mean=2.78), when planning, outcomes, goals and objectives are linked to programs and organizational activities with (mean=2.65), the budget plans of constituency development fund must be properly coordinated in order to eliminate bottlenecks with (mean=2.78). According to table 4.3 table 1 indicate that the level of reward procedure is generally high and also indicated the total average is 3.3, the highest rated aspect of As the budgetary control increases, budgetary participation of committee also increases with (Mean=3.80), and this followed by where budgetary control is high, there is a meaningful positive relation between performance and budgetary participation with (Mean=3.23), control of the budget activities is done by the departmental heads (mean=3.22), budget application in the constituencies that includes budgetary control have no direct effect on performance with (mean=3.20), Budgetary controls in the constituencies assist management assess the level of performance with (mean=3.17).

According to table 4 indicate that the level of budget participations generally high and also indicated the total average is 3.2, the highest rated aspect of members of the organization are supposed to participate in defining explicit budgetary goals and to be involved in subsequent revision to these goals with the management with (Mean=3.32), and this followed by participation enhance a subordinate’s trust, sense of control, and ego-involvement with the organization which then leads to more acceptance of, and commitment to, the budget decisions, in turn causing improved performance with (Mean=3.3), all staff or functions of the organization are involved in budget preparation (mean=3.2), budgeting provides information on funding and accountability with (mean=3.03), opinions and / or proposals relating to the budget by members of public are considered before development of budget with (mean=3.0).

According to table 4.5 indicate that the level of firms performance is generally high and also indicated the total average is 3.3, the highest rated aspect of management commitment to budgetary controls has increased profitability of our organization with (Mean=3.62), and this followed by budgets allow for systematic reporting and monitoring of performance at all levels with (Mean=3.40). Budgets help the organization to achieve departmental coordination (mean=3.24), Profitability of our organization is affected by degree of top management's preoccupation in technical aspects of the budgets with (mean=3.23), budgets are used as a communication medium for organization plans and objectives with (mean=3.19).

Finally, the result in the above table shows the relationship between budget planning and organizational performance is positive (r=0.741, p=0.000) and statistically significant. This implies that an improved organizational performance is associated with an increase in budget planning. The study results also found out there is positive relationship between budgetary control organizational performance which statistically significant (r=0.757, p=0.000). The correlation findings further showed that there was positive correlation between budget participation and organizational performance which was significant (r=0.848, p=0.000). Meaning that these variables tend to increase together that is, increase budget participation is associated with increase in organizational performance.

6.1 CONCLUSION
First, the researchers found out a moderate positive relationship between strategic budgeting and remittance companies' performance. Remittance companies set clear, realistic and attainable financial strategic objectives as part of
their strategic planning process. Remittance companies' budgets are based on achieving those strategic financial objectives. This finding confirms prior research conducted by Qi, (2010). He found that budget goal clarity strongly impact on performance of small and medium sized enterprises.

Second, this study revealed that budget participation does not affect remittance companies' performance because the employees of remittance companies are not consulted when the budget is prepared; instead, the top management imposes budget figures. Remittance companies do not assign budget committee to manage stages of the budgetary process and the budgeting process does not coordinate the activities of the various departments and divisions of remittance companies. This result differs from what the Qi (2010) found. He revealed a positive effect of budgetary participation on performance. Chong, (2002) pointed out through budget participation, subordinates gain information from superiors that helps clarify their organizational roles (including their duties, responsibilities, and expected performance), which in turn enhances their performance.

Third, this study found a moderate positive relationship between budgetary control and remittance companies' performance. The underlying reason is that remittance companies use budgets as control device. Their management evaluates business operations against the budget. They evaluate performance by preparing reports that compare actual results to budgeted plans and analyze negative variance if any to determine its causes and takes corrective action to remedy the problem. Qi (2010) also found that budgetary control has a significant and positive effect on the growth of profit and the underlying reason can be that due to management control the total expense of a firm will be at minimum, which thus results into the growth of profit of the firm.

Finally, the study revealed a moderate positive relationship between budgeting and remittance companies' performance. Remittance companies achieve budget goals. They are satisfied their service revenue and profit growth comparing each company to its competitors within the industry. Their return on investment is good. In addition, they are able to pay short-term debts and survive over long time.

7.1 RECOMMENDATIONS

Recommendation, based on the findings, and conclusion of the researcher, the following recommendations were highly appreciated:

1. The study suggests that remittance companies should adopt participative budgeting and give rewards to talented employees if they meet budget goals.

2. Remittance organizations should strive to maximize effectiveness and efficiency in the budgetary controlling process in order to maintain their competitive advantages. This is because having a proper budgetary control system allows companies to improve their managerial attitude and performance and provide these organizations with useful information to tackle their daily financial challenges.

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ON THE FACTORS OF SOFTWARE-BASED ANALYSIS OF PROGNOSTIC COMPETENCIES OF PRIMARY EDUCATION TEACHERS

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ANNOTATION

In this article discusses the factors of software-based analysis of prognostic competencies of primary school teachers. Biz yashayotgan zamanoviy jamiyatda ro'y berayotgan o'zgarishlar ta'lim tizimi haqida o'zgarishlarga olib keldi. Ta'limni modernizatsiya qilish – uni liberallashтирish, o'qituvchilarning ijodkorligini kuchaytirish, integratsiya jarayonini anglatadi. Ta'lim tizimidagi ob'ektiv o'zgarishlar natijasida yuzaga kelgan bu jarayonlar jamiyat ettiradi: uning o'z-o'zini rivojlantirishiga intilishi pedagogik vaziyatga etakchi ta'sir ko'rsatish ishida namoyon bo'ladi.

KEY WORDS: prognostic competence, factor, education, teacher, software, thinking.

INTRODUCTION

Modern pedagogical thinking involves a number of factors aimed at predicting the development of education, taking into account the near and long term; to study the state of social development on the basis of analysis and assessment in order to adapt to trends in social development; to study the educational space, the pedagogical potential of the socio-cultural environment, the opportunities and features of teaching and upbringing in educational institutions; interdisciplinary study of the phenomenon of pedagogical activity and the subject-subject relations associated with them; creating a new concept of the relationship between the individual and the community, the essence of their development, the trends and laws of this process; substantiation of a new system of education management based on information-diagnostic, research and prognostic approaches; encouraging staff professionalism, pedagogical skills and professional self-improvement on a scientific basis.

The prognostic competencies of primary school teachers require the training of a new type of teacher who is able to work in a changing environment in the new situation in the education system. Nowadays, a teacher should not only have a general level of culture, psychological and pedagogical skills, the ability to work with a modern amount of information and an unconventional approach to solving different situations. The task is to organize the factors of software-based analysis of prognostic competencies of primary school teachers. The tasks of pedagogical forecasting of primary school teachers in the most general form are: socio-economic conditions of future education development; education and upbringing of the younger generation, new requirements for its level of knowledge; necessary meaningful and organizational and structural changes in the education system as a whole and its individual components; demographic shifts and the movement of contingents studying at all levels and levels of education; the ability to optimize learning and educational activities in relation to the ever-changing social demands on the personal qualities of students, and so on.

Main part

The main part of this article discusses the factors of software-based analysis of prognostic competencies of primary school teachers. The predictive ability of primary education teachers allows the organization of the learning process, modeling possible changes in structure and content; make timely and targeted adjustments to the use of pedagogical technologies and innovations; implementation of a personal approach to students based on diagnostic data; planning for future professional and pedagogical activities.

Advanced data obtained as a result of software-based analysis of prognostic competencies of primary school teachers not only predict changes in the organization, structure and content of teaching and educating students in the long run, but also predictable (to a certain extent) serves as a vehicle that allows for targeted transitions. In this situation strongly justifies the prognostic approach in making optimal decisions in pedagogy, allows to move the work on pedagogical forecasting from the realm of good wishes and theoretical abstractions to the realm of practical activity of research teachers. The results of the study of the work of educational institutions in terms of rapid restructuring, taking into account the regular trends identified in the process of pedagogical forecasting and reasonable regulatory requirements.

Factors of analysis of prognostic competencies of teachers are considered in the works of local and foreign philosophers. [1,8] At the same time, ancient scholars (Confucius, Socrates, Aristotle, Plato) paid special attention to their works.
If we look at the origins of the concept of “prediction” in psychology, A.V. It gives the meaning of “foresight” as revealed in Brushlinsky's works. Brushlinsky, B.F. Lomova, N.E. Surkov, C.JI. Rubinstein and other scholars have elaborated on this in their works.[6,13,17,15]

Many researchers have been interested in the issues of pedagogical forecasting of primary education teachers: They are Yu.K. Babanskiy, V.P. Bespalko, V.G. Vinogradov, I.V. Bestuyev-Lada, V.O. Kutiev. The need to study the problems of pedagogical diagnostics of primary school teachers is detailed in the work of a number of scholars.[1,4,8,9,10] The scientific basis of pedagogical diagnostics was also scientifically substantiated by the Russian scientist A.S. Belkin. In their research, these scientists as a network of scientific knowledge about the factors of software-based analysis of prognostic competencies of primary school teachers, as a type of pedagogical activity of a teacher with a certain structure, pedagogical according to certain characteristics and criteria. As a science that takes measurements, that studies the object.[3]

Numerous studies of pedagogical activity (Gershunsky, L.A. Regush, A.I. Shcherbakov) have a positive effect on the course and results, the need to include prognostic activity in all areas of the pedagogical process.[9,11]

The dissertations on the factors of software-based analysis of the prognostic competencies of primary education teachers are of great interest: T.B. Bulygina [7] (prediction in learning activities and ethical behavior of young learners), F.I. Kevlyya [10] (pedagogical prognosis of the child's personal development), Ya.P. Keimax, E.V.Samsonova [12,16] (prediction of success in teaching students and pupils), A.M. Rodriguez [14](predicting students 'interpersonal relationships) and others.

However, these studies are few and far between on the factors of software-based analysis of the prognostic competencies of primary education teachers. According to V.A. Yakunin, the process of forecasting in education and upbringing is poorly studied, and the term “forecasting” itself is still included in the categorical apparatus of modern psychology and pedagogy. In this regard, psychology and pedagogy have to turn to the experience of other disciplines (physics, chemistry, biology, physiology, economics, sociology, cybernetics, etc.). At the same time, it has already become clear that insufficient assessment of the predictive aspects of the theory and practice of teaching and education in schools does not allow to successfully address many theoretical and practical issues related to improving the quality of pedagogical work, education and upbringing.

The analysis of this article shows that the level of practical development and solution of problems on the factors of software-based analysis of diagnostic competencies of primary school teachers, as well as the readiness of teachers for forecasting activities is insufficient, taking into account modern requirements. These circumstances led to the choice of the research problem: what are the key conditions for the successful improvement of the prognostic performance of primary school teachers. Solving this problem is the goal of the study.

- pedagogical prognostic is considered as a manifestation of the highest level of pedagogical skill and an integral part of the professional skills of teachers.;
- diagnostics is considered as a separate type of pedagogical activity, which serves as the initial and final stage of the teacher's prognostic activity;
- Special training of teachers will be organized in order to guide teachers to continuous prognostic activities, to develop the initial set of fundamental practical skills of pedagogical forecasting, to develop the need and ability to constantly improve their professional skills.
- historical-theoretical analysis of problems of pedagogical prognostic.
- Explain the essence, structure and tasks of pedagogical diagnostics as a basis for forecasting in secondary school.
- to reveal the main content of the prognostic activity of the primary school teacher.
- development and testing of a special course program to improve the prognostic activities of primary school teachers.

The methodological basis of the article is: a philosophical interpretation of the predictive nature of the human mind; rules of pedagogy and psychology about an active, creative person; conceptual rules on the essence of didactic principles, methods of forecasting, mechanisms of implementation; a systematic-structural approach to the study of the phenomenon of pedagogical forecasting, the history of its development, the scientific aspects of its organization and content, the identification of problems and contradictions that characterize its current state.

In carrying out the assigned tasks, we used the following methods: analysis of psychological and pedagogical literature on the problem; observation; research; expert evaluation method; test; interrogation; formative experiment; statistical mathematical methods of data processing.

The scientific novelty of the research is that for the first time it defines the nature and structure of the activity of software-based analysis of diagnostic competencies of primary school teachers. The principles and tasks of diagnostics as a basis for pedagogical forecasting are revealed; the structure of the prognostic skills of the primary school teacher (general and private) was determined; didactic conditions for successful improvement of teachers' prediction activities, formation of value attitude to prediction activity and its results; involvement in the creative research process; consistent development of general and specific prognostic skills) were identified and tested. The theoretical significance of the work is that it provides a systematic approach to the creation of a didactic model based on a comprehensive analysis of the prognostic skills of the primary school teacher, his ability to pedagogically control the basis of didactic-correction. determinants allow to predict the most possible pedagogical and psychological trajectory of student development; technological parameters of the construction of a system of pedagogical forecasting (in the cognitive field) are revealed.

The practical significance of the article is that it defines the criteria and levels of the process of improving the prognostic activity of the primary school teacher; is based on a
system of didactic tools based on the typology of educational and cognitive tasks with diagnostic and prognostic content
- The prognostic activity of the primary school teacher includes: predicting the development of the student's personality (his qualities, emotions, will and behavior, possible deviations in development, moral behavior -actions, etc.), forecasting the development of the student body, the system of relations between students; predicting the course of the pedagogical process (difficulties in the acquisition of new material by students, the results of the application of certain methods, techniques and tools of education and training, etc.)
- Predictive skills are to have a set of mental and practical actions aimed at solving prognostic problems based on the conscious application of psychological, pedagogical and methodological knowledge in practice.
- The effectiveness of the process of improving the teacher's prognostic activity is ensured by a set of didactic conditions: the formation of a value attitude to the prognostic activity and its results; involvement in the creative research process; consistent development of general and specific prognostic skills.

CONCLUSION
When we talk about the conclusions about the factors of software-based analysis of the prognostic competencies of primary school teachers, we will first focus on the prognostic activity. It is a union of substantive, motivational, and operational components. The essence of forecasting is its basics - the knowledge needed to make a forecast. The main motive of educational forecasting is the motive of building a model of the educational process, taking into account the knowledge of the individual psychological characteristics of each child. The operational structure of forecasting activities, like any other, consists of actions, viz. prognostic skills. By prognostic skills we mean a set of mental and practical actions aimed at solving prognostic problems based on the conscious application of psychological, pedagogical and methodological knowledge in practice. By studying the prognostic activity of the teacher in the process of identification experiment, we determined not only whether the teacher has this or that skill, but also the degree of its manifestation in practical pedagogical activity. According to the results of the detection experiment, the majority of respondents concluded that they had a moderate and low level of formation of prognostic skills.

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LANGUAGES NO BAR IN HINDI SOAP OPERA- A STUDY

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ABSTRACT

Television is the important source of information education and entertainment in Indian society. This reflects social reality in real time. Some stereotypes of society have also been showed by Indian television. It can be seen that use of regional languages in Hindi serials are increasing day by day and there is no language bar in Hindi TV serials. Inter regional migration the reason behind this phenomenon. Rapid increase of this language glued more people to TV sets. In the COVID crisis when people are forced to sit at home they have nothing to do and most importantly they don’t go outside they had only one option in the context of Info edutainment and it was Television. This also increased the viewership of Hindi serials. Current study is about to find out the actual reason to use this language and situation would have also seen in which particular satires and verbatim are going to be used. This research paper also study the content of Hindi soap opera in which rapidly accelerating linguistic change has been noted. This research paper is based on a comparative study and content analysis study between top three Hindi serial according to TRP to show the regional language used and is that language the reason to reach top.

KEYWORDS: Regional Language, Satires, Situation, Verbatim, linguistic change, content

INTRODUCTION

Television was the first broadcast in Delhi on September 15, 1959. All might be stunned to know that television actually began as an experiment. Years later, its daily transmission finally began in 1965 as a part of All India Radio (AIR). Since then, the Television industry has seen immense growth. After this magical wand of entertainment was introduced, we have never settled down. Once television came into Indian existence, and then came its colorful version.

In the year 1982, color television transmission telecast was introduced for the first time which brought the layer of joy among Indians. Seeing human beings move inside a cabinet was quite entertaining and joyful for Indian audiences back then since the technology was still relatively new.

Indian small screen programming started off in the early 1980s. During this time, there was only one national channel, the government-owned Doordarshan. By the 1970s several television centers opened in other parts of the country as well.

The early programs of these experimental broadcasts were generally educational programs for school children and farmers. But later in the 1990s television faced revolutionary changes. The advent of private channels started in India one by one. Following CNN’s broadcast of The Gulf War, STAR (a satellite television company based in Hong Kong and Asia) entered the Indian media, followed soon thereafter by ZEE TV.

From the 1960s through the 1990s, DD, the Government of India’s public service broadcaster, was the only source of amusement for decades. However, this network aired many documentaries and public service programs. In the year 1984 drama Hum Log (We the People), became to define family time. Hum Log aired its final episode almost exactly 34 years ago. In addition to the fact that the Hum Log premiered on Indian television, the fact that it was produced during a time of tremendous social, technological, and economic change greatly influenced its perception and resonance.

Today, traditional TV sets are being replaced with laptop or smart TV screens as a result of technology. Well, who knew that Cinemas will become so common that every 2 Indian household has dish connections now. By analyzing the Indian cinema revolution, we can understand how television has taken on new meanings.

India is home to 130 crore people speaking 22 recognized languages and hundreds of other unrecognized mother tongues and dialects. Every business including entertainment media comprehends the importance of vernacular languages. Due to inter-state immigration, we can–not define a language by its state, not anymore. While if we look at it from the perspective of entertainment, immigration is also pursuing people to watch television, be it any form of entertainment, daily soaps, movies, or web series. Indians are inquisitive, they want to try every
genre of entertainment in their comfort language or I must say their regional language.

Well, in this research paper researcher is going deep into discussion, basically, analyzing the content, verbalizes, and slang that is used in Indian soap operas. After days of observations and studies, detailed report of regional language has been created. What are some aspects of localization and more so. This is a great opportunity to learn about Indian cinema from scratch to everything now. During COVID-19 when people were sitting at home because they had no option to go outside they sit in-front of the television sets and watch Hindi serials, movies, series etc. For this purpose researcher selected top three Hindi television serials on the basis of BARC (Broadcast Audience Research Council of India) report. When the researcher decided to study on the same topic that week BARC releases his report of 3rd week according to which most viewed Hindi channel was Start Plus and top three Hindi serials were Anupama, Ghum Hai Kisikey Pyaar Mein, Imlie. In these serials use of particular language can be seen. In this study researcher wants to find out the regional terms used in Hindi serials or we can say slang language, how many times they are using it and what are their meaning and in which situation these particular terms are using. In this paper nature of verb in that particular language is would be discussed.

BRIEF STORYLINES OF THE SERIALS

Anupama
Anupama is the story of a Gujarati family. In which in the lead role is a simple housewife Anupama who is taken for granted even after she does so much work for the family. She is less educated and doesn’t know a word of English. She is also not able to mix up with the top elite group ladies in society. However, she is a great cook and works for the family without any complaint. Her two kids, Paritosh and Pakhi feel ashamed of her as their mother but Samar respects and love her mother a lot. The story continues when Vanraj, a self-absorbed and egoistic man, decides to get married to his girlfriend Kavya on the same day of their wedding anniversary. Anupama catches him red-handed and refuses to forgive him. She breaks all ties with Vanraj but continues to stay in Shah house for her family. Soon Vanraj is forced to leave the house and he takes Pakhi along. A series of fights and drama finally leads to Vanraj and Anupama being civil to each other for the peace and happiness of their daughter Pakhi. Anupama serial is an outstanding blend of simplicity and scenic beauty. The show shares all kinds of emotions starting from happiness to sorrows and laughter. The light moments with Baa, Bapuji, and Mamaji make the serial even more delightful to watch. Rajan Shahi brings a fresh new story and there no flaw in the depiction as well. Rupali Ganguly and Sudhanshu Pandey are great with their respective roles. The portrayal of youngsters like Samar, Paritosh, Pakhi, Kinjal, and Nandini brings a youthful twist to the serial.

Overall the serial is a mixture of all the aspects that a family drama needs. Language used in this serial is a mixture of Hindi and Gujarati.

Ghum Hai Kisikey Pyaar Mei
This story is about the Marathi family. Follow the culture of maratha’s and use a language of mixture of Hindi and Marathi. Gum Hai Kisi Ke Pyaar Mein serial portrays the love triangle between Virat, Pakhi, and Sayi. Gum Hai KisiKe Pyaar Mein serial essays the tough choice Virat has to make between his love and duty and is forced to get married to Sayi under certain circumstances. Sayi’s father dies and takes a promise from Virat to take care of his daughter always. However, Virat has always been in love with Pakhi but can’t break his promise as well. The audience of Gum Hai Kisi Ke Pyar Mein can also enjoy the interesting new story of Virat, Pakhi, and Sayi whose life take a drastic change with just one decision made by Virat. Here in this article, we are sharing the information about the cast and crew, production team, story, gossips, and spoilers, twists & turns of the Ghum Hain Kisi Ke Pyaar Mein serial. The story of Ghum Hai Kisikey Pyaar Mei revolves around a police inspector, Virat who has to make a tough choice and choose either love or his duty. This story shows the love that Pakhi and Virat share even after years of separation. Sai’s father and Virat’s senior dies and before dying ask Virat to always protect his daughter.

Imlie
This serial’s story revolves around the village situation in Uttar Pradesh. Language used in this serial is Indo-Aryan languages, central and East which includes Awadhi, Bhojpuri, Brajbhasha Khadi Boli etc. Imlie serial is the story of a village girl name Imlie (Imlie) who is proud to be a village girl and doesn’t shy away from giving answers to village people. Imlie story is produced by Gul Khan and recently released its first promo of Imlie. The male lead will be played by Gashmeer Mahajani while Sumbul Touqeer will be seen in the role of the female lead. Imlie audience can enjoy the fun and unique love story of a city boy and village girl who have totally opposite personalities. The story of Imlie revolves around a village girl who never fails to impress anyone with her answers. Imlie story progresses as she meets with a city boy. The two form a close bond over the course of time being from different backgrounds. The girl wishes to change the mentality that village people are not all dumb and can be literate if given chance.

REVIEW OF LITERATURE

Today, there are over 600 million viewers in 146 million homes with television channels and a market estimated to be worth 588 billion INR (KPMG-India, 2016). There are specialized channels ranging from entertainment to sports, children, and news but the general-interest entertainment channels in Hindi and regional languages dominate the television market with around 55% viewership (KPMG-India, 2016). The general entertainment channels space accounted for 8 out of 10 top
Research Methodology: qualitative research method, Content analysis, observation method, participant analysis

Sample size: 3 serials (Anupama- 487 episodes, Ghum Hai Kisikey Pyaar Mein-422 episodes, Imlie- 380 episodes,) 30 minutes duration each

Universe: Top 3 serials on the basis of BARC report

Population: Anupama, Ghum Hai Kisikey Pyaar Mein, Imlie

CONTENT ANALYSIS
Anupama
Tame kema cho- How are you
Manane mapha karoo- sorry
Maru nama…che- My name is
Mane khabara nathi – I Don’t Know
Taru naam su che- What’s Your Name
Thobo- Stop
Padharo-welcome
Mane khabar che- mujhe khabar hai
Saras che- Acha hai

After analysis researcher found that characters of this serial are using some words on regular basis. Characters are basically using Hindi language but some words they speaking in Gujarati only. Words like Taru naam su che, Padharo, Mane khabar che and Saras che etc. are using in common situation weather it is of happiness and weather it is of tension or in some odd situation. Frequency of using these words in a 30 minute episode is approximate 5-10%.

Ghum Hai Kisikey Pyaar Mein
Kuthe - where

E kahe
Tu laaj tos ka
Ho-yes
Mi thik ahe- I am good
Mast- HA- Mast- bhut badiya
Barr Ahey- Looking Good
Vadani Kawal Gheta- Have a Nice Meal
Mala samajate- I understand
Barobar- Exactly
Dado Sutto- Be Happy

After analysis, in this serial some words are using on regular basis. Characters basically using Hindi language but some words they speak in Marathi only. Like Kaku, Ayi, Tayi, Maushi, E Kahe, Kuthe, Barobar, Mi thik ahe etc. some slangs characters are using like mast ha mast, Dado sutho etc. just to attract viewer on that particular words and these two words are pet words of these two characters. Mast hai mast is a Positive connotation signifying that everything is well and fine but in this term connotation is being used to taunt also. Dado Sutto is the term hilariously used by women though it’s a positive term but according to the situation this word is used in tone language. Frequency of using these words in a 30 minute episode is approximate 10-15%.

Imlie
Ama yaar- Oh please
Apko swagat aheh- you are welcome
Tohar- Tumhara
Jaaise- Jaise
Aapan- Apne
Jin Laya- Jink liye
Paricha- Exam
Hamka- Hume
Hmar papan- Hamara paap
Hamka ose Bachava- Hume usse bcahao
Saitan- shaitaan (Ghost)

After analysis researcher found that some characters those belongs to a village situated in Uttar Pradesh usually speaks mixture of Awadhi, Khadi Boli, Braj Bhasha etc. and some common words used by like Tohar, Jaaise, Aapan, Jin Laya, Paricha, Hamka, Hmar etc. are the words which they use during conversation of everyone may be the reason behind is this language is their native language. As an observer researcher understood that some words of this language is tough for a layman.

CONCLUSION
- Research found that Reason behind of using regional language in Hindi serials are accelerating rate of inter region immigration of the people which helps to increase their interest in particular language.
- To use particular regional words like Dado-Sutto, Mast-Ha-Mast, Godu, Hum keht Rahe, or to say three meanings of the same word, Manane mapha karoo there
are verbatim, slangs used by characters to make that particular situation interesting.

- Analysis also says that regional people also wants to see the content in regional language so that they can connect to character in their real life
- Research says that globalization has also had an effect on the thinking and interest of the viewer.
- The reason behind some particular words to say is only to attract viewer attention and after some time that slangs found on the tongue of the people this is also a strategy of the script writer to shift the attention of the viewer
- Situation has also found a big factor in using regional language words. There are some selection of words and according to the situation only those words are recite by characters.
- Analysis revealed that some particular slangs given to the character like Dado-Sutto etc. and it means be happy but use of this slang is used in taunt tone also. So situation plays an important role.
- An analysis can be seen that to attract a particular linguistic people towards that particular serial just because to enhance the popularity of that regional language among such people of a particular region.
- Sometimes some phrases in Gujarati, Marathi and in Brij Bhasha or in khadi Boli used in some happy situation just to express happiness and sometimes some verbatim Used to express anger.
- There is one more reason to spread these regional languages to Non Hindi to Hindi people and people came to know about some common words of such language and use these words in their daily life. Words like Aayi, Baa, Bapuji, padharo these are some common phrases a layman can learn or make a vocabulary of some of these common words.

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A STUDY OF THE IMPACT OF GEOGRAPHICAL INDICATIONS IN INDIAN CONTEXT: AN ACCELERATOR TO VOCAL FOR LOCAL

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ABSTRACT
People, who invented things in early times, such as artists, musicians, and writers, composers or recorded their works of fame rather than earning money. They did not intend to commercialize their creation. One type of intellectual property is geographical indicators. Geographical indicators are intellectual property rights that identify something as good as coming from a specific geographic region. The quality and reputation of these goods is largely due to their origin, hence their names refer to their region of production.

The study was done by convenience sampling technique. The sample targeted the merchants from manifolds of sectors in Lucknow, Uttar Pradesh. Questionnaires were used to obtain the relevant primary data. The secondary data has been collected by published records, books, research papers, documents, and websites. The analysis leads to the conclusion that the majority of merchants are unaware of the geographical indications of goods. They are uninformed about the significance and advantages of geographical indications. It has been found that awareness of geographical indications may be the prospective tool for the “Vocal for Local”.

KEYWORDS: Geographical Indications, Merchants, Vocal for Local, Business, Economy

1. INTRODUCTION
The unprecedented expansion of the global trading platform has brought markets nearer together than it has ever been. Depending on the size of the international trade liberty, concerns are, among other things, based on the protection of intellectual property rights to the commodity market. The World Trade Organization exists in the form of international trade rules in the context of emerging international economies. They include not only major commercial and economic stakes but also important social and historical and cultural values.

The state of the IP environment poses another potential problem in international trade as the product may not be adequately protected in the traditional country due to local legal procedures but not the same or similar level of protection in other areas where the types of protection can be very different. From Darjeeling tea to Basmati rice, India has seen a variety of products from a country that has made a name for itself in world markets. Geographical indicators are therefore shared property rights, identifying as good as coming from a particular local region. The quality and reputation of these goods are largely due to their origin, hence their names refer to their region of production. This Geographical Indications (GI) tag will be an important tool for the campaign “vocal for local”.

The formation of a judicial framework for Geographical Indication (GI) protection in India is quite new. The Geographical Indications of Goods (Registration and Protection) Act was enacted in 1999 and came into effect in September 2003 (to be called the GI Act). The Act allows local property norms to be recorded and legally insulated. A GI-registered product is Basmati Rice, for example. Basmati is a one-of-a-kind aromatic rice that is traditionally grown only in the Indo-Gangetic plains of India and Pakistan. Basmati, a fragrance rice with a longer texture and soft grain, has been grown in the Himalayan foothills for a long time. The rare agricultural conditions of the region give the Basmati rice certain characteristics, both physical and emotional, that aren't found anywhere else and can't be reproduced. This distinguishes Basmati as a premium product in the international market, and its diversity must be preserved and protected.

2. LITERATURE REVIEW
Geographical Indication of Goods is an aspect of an industrial area that refers to the representation of a country or place of origin as a country or product area. Geographical Indication (GI) helps the producer community to distinguish its products from other competing products available in the market and to make a positive impression on its products. GI functions as a signalling mechanism by assisting consumers in selecting high-quality products. The sole right to use their product standards in that region is granted by Geographical Indications (GI) to regional producers. It also means that they have the authority to prevent any use or imitation of a brand on a product that does not appear in a designated area or has GI-certified credentials.

Among various GI research studies, the following are highlighted as previous studies in this field which has been selected by the researcher to conduct this study:
2.1 Rangnekar, Dwijen (2003); in accordance to the TRIPS agreement, Rangnekar, Dwijen (2003) described two constraints for the protection of Geographical Indicators. There are two requirements: (a) The sign must be positive and can include non-geographic words, icons, words, or phrases; and (b) a sign should only be used to identify the selected location.

2.2 Hirwade Mangala (2006) refers to the current state of GI in India as well as the list of registered GI as of 31 January 2006. They've seen that three teas from Kenya, Sri Lanka, have been marketed as 'Darjeeling tea,' originally implying a beautiful scented product from North Bengal, whence it gets its name. Companies in France and the United States have been producing rice based on the 'Basmoti' varieties in those countries, and they are registering trademarks pointing to 'Basmoti,' in order to profit from this well-known local name. A good example of the illicit exploitation of a well-known geographical indications (GI) from India is a US patent on 'Basmoti Rice Lines and Grains' granted by Rice Tec Inc. in Texas.

2.3 Mir, Farooq Ahmad & Ain, Fartual (2010) discussed a different GI that can be considered for registration under the manual sector. They also argued that the government should subsidize South African labor to take up manual labor in the realms of making money. It has been suggested that the protection of traditional craftsmanship in relation to a particular sui generis system be aligned to suit the needs of local artisans.

2.4 Ihikate N., and E Gadge, S.V. (2014) argue that the current GI Registry solely focuses on the physical environment to register GI rather than human capabilities. As a result, it is neither right nor wrong in situations when secure goods are just the result of human factors. If a handeri Sarees weaver can relocate to a better healing place, he can use his skills to make Sarees in a new place where he isn't yet known as a handeri Sarees weaver. The current situation of GI in India was examined in this document, which was licensed till July, 2011.

2.5 Gulati, Shruti (2016) analyzed the popular Indian weave case Banarasi Brocade and pointed out that the reason for getting a GI is that it becomes a market-place with that feature that separates the good from the crowd.

2.6 Manjunatha, N. K. (2016) studied the state of Geographical Indications in India especially in the state of Karnataka to assess the current state of GI in the state of Karnataka from 2003 to 2015. He pointed out that in India 28 provinces have registered their geographical indications (GI), among them Karnataka alone registered with 33 GIs until 18 November 2015.

2.7 Yadav, Sujit Kumar, et al., (2018) describes the GI framework, the product registration process, and the various stages of registration under GI in India. 289 GI tags have been issued in India for agricultural-related products, of which only 24 products have been issued in Uttar Pradesh.

3. OBJECTIVES OF THE STUDY
1. To determine the awareness and understanding level of the merchants about the geographical indications in the intellectual property in Lucknow City.
2. To analyse the various issues faced by the merchants in the State of Uttar Pradesh with special reference to Lucknow City.

4. SCOPE OF THE STUDY
The aim of the study is to understand consumer perception about the knowledge and information regarding geographical indications in the intellectual property. The main scope is to understand the people attitude towards the implications of geographical indications in the State of Uttar Pradesh with special reference to Lucknow City. A survey of 120 merchants was undertaken, and data was gathered using a prepared questionnaire.

4.1 Methodology
The study’s data is gathered using a standardised questionnaire from merchants from myriad of industries. The procedure of data analysis was done through the use of percentage. Tables and charts were used to interpret the data.

4.2 Data Collection
The study’s data is made up of both primary and secondary sources.

4.3 Primary Data
A Google Form was used to accumulate the primary data for examination. The questionnaire was send to 120 merchants. But only 100 of them responded.

4.4 Secondary Data
Secondary data for this study was collected from published records, statistical data, research reports and documents. These are also collected from volumes, journals and forums.
4.5. Sample Design-

The study was based on a survey method and the aim was to find the perception of the merchants towards geographical indications. The researcher has collected 100-random responses from vast range of customers by convenience sampling method.

5. DATA ANALYSIS AND INTERPRETATION-

Q1 - Do you know the meaning of geographical indication?

Table: 1

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32</td>
<td>32%</td>
</tr>
<tr>
<td>No</td>
<td>68</td>
<td>68%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chart: 1

INTERPRETATION

Out of a total of 100 respondents in the above-given information regarding the meaning of geographical indication, 68 respondents (68% of the studied representatives) do not have any idea about the concept of geographical indication however 32 respondents knew about it (32% of the studied representatives).

Q2 - Geographical Indication provides various rights?

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Neutral</td>
<td>63</td>
<td>63%</td>
</tr>
<tr>
<td>Disagree</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 2

Chart: 2

INTERPRETATION

Out of a total of 100 respondents in the above-given information regarding the various rights of the geographical indications, 3 respondent (3% of the studied representatives) agree with it, 14 respondents (14% of the studied representatives) strongly agree with it, 63 respondents (63% of the studied representatives) were neutral, 14 respondents (14% of the studied representatives) disagree with it, 6 respondents (6% of the studied representatives) strongly disagree with it.
Q3-Geographical Indications can be used for all types of products.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Disagree</td>
<td>47</td>
<td>47%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>23</td>
<td>23%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table: 3

INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the types of products in the geographical indications, 10 respondents (10% of the studied representatives) agree with it, 14 respondents (14% of the studied representatives) strongly agree with it, 6 respondents (6% of the studied representatives) were neutral, 47 respondents (47% of the studied representatives) disagree with it, 23 respondents (23% of the studied representatives) strongly disagree with it.

Q4- Do you know that how is geographical indications protected?

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>24%</td>
</tr>
<tr>
<td>No</td>
<td>76</td>
<td>76%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table: 4
INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the process of the protection of geographical indications, 23 respondents (76.67% of the studied representatives) do not have any idea about the concept of geographical indication however 7 respondents knew about it (23.33% of the studied representatives).

Q5-Do you know that how long geographical indication protection does lasts?

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>7</td>
<td>7%</td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>93%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 5

INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the duration of geographical indication protection, 93 respondents (93% of the studied representatives) do not have any idea about the concept of geographical indication however 7 respondents knew about it (7% of the studied representatives).

Q6-Everyone can use a Protected Geographical Indication.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Neutral</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Disagree</td>
<td>23</td>
<td>23%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 6
**INTRODUCTION**

Out of a total of 100 respondents in the above-given information regarding the use of protected Geographical Indication, 20 respondents (20% of the studied representatives) agree with it, 14 respondents (14% of the studied representatives) strongly agree with it, 13 respondents (13% of the studied representatives) were neutral, 23 respondents (23% of the studied representatives) disagree with it, 30 respondents (30% of the studied representatives) strongly disagree with it.

**Q7- Do you know that how are geographical indication rights enforced?**

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td>No</td>
<td>83</td>
<td>83%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

**INTERPRETATION**

Out of a total of 100 respondents in the above-given information regarding the enforcement of geographical indication rights, 83 respondents (83% of the studied representatives) do not have any idea about it however 17 respondents knew about it (17% of the studied representatives).
Q8 - Do you know that who grants protection for geographical indications?

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>27</td>
<td>27%</td>
</tr>
<tr>
<td>No</td>
<td>73</td>
<td>73%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 8

INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the protection for geographical indications, 73 respondents (73% of the studied representatives) do not have any idea about it however 27 respondents knew about it (27% of the studied representatives).

Q9 - The process of obtaining the geographical indication protection is costly.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>23</td>
<td>23%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>Neutral</td>
<td>37</td>
<td>37%</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 9
INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the process of obtaining the geographical indication protection is costly, 23 respondents (23% of the studied representatives) agree with it, 30 respondents (30% of the studied representatives) strongly agree with it, 37 respondents (37% of the studied representatives) were neutral, 6 respondents (6% of the studied representatives) disagree with it, 4 respondent (4% of the studied representatives) strongly disagree with it.

Q10- Do you know that what practical steps one has to take to obtain geographical indication protection?

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>16</td>
<td>16%</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>84%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 10

Chart: 10

Steps to Obtain Geographical Indication Protection

INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the practical steps, one has to take to obtain geographical indication protection, 84 respondents (84% of the studied representatives) do not have any idea about it however 16 respondents knew about it (16% of the studied representatives).

Q11-Geographical Indications impact your business and the relevant State.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>7</td>
<td>7%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Neutral</td>
<td>64</td>
<td>64%</td>
</tr>
<tr>
<td>Disagree</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table: 11
INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the Geographical Indications that impact your business and the relevant State, 7 respondents (7% of the studied representatives) agree with it, 6 respondents (6% of the studied representatives) strongly agree with it, 64 respondents (64% of the studied representatives) were neutral, 13 respondents (13% of the studied representatives) disagree with it, 10 respondents (10% of the studied representatives) strongly disagree with it.

Q12: It is advantageous to the business of that product that has obtained the protection for a geographical indication.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>Neutral</td>
<td>57</td>
<td>57%</td>
</tr>
<tr>
<td>Disagree</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

INTERPRETATION
Out of a total of 100 respondents in the above-given information regarding the advantages to the business of that product which has obtained the protection for a geographical indication, 10 respondents (10% of the studied representatives) agree with it, 9 respondents (9% of the studied representatives) strongly agree with it, 57 respondents (57% of the studied representatives) were neutral, 11 respondents (11% of the studied representatives) disagree with it, 13 respondents (13% of the studied representatives) strongly disagree with it.

6. FINDINGS
1. Only 32% of the total 100 respondents knew the meaning of geographical indication, while 68% of the total respondents of the study do not have any idea about the concept of geographical indications.
2- Most of the respondents do not have any idea about the various rights of the geographical indications while only 17 respondents agree with it.

3- Most of the respondents were disagree about the types of products in the geographical indications however only a few respondents knew about it.

4- 76% of the respondents have no idea about the process of the protection of geographical indications however only a few respondents knew about it.

5- Most of the respondents have no idea about the duration of geographical indication protection however only a few respondents knew about it.

6- 30% of the respondents were strongly disagreeing with the idea of the usage of protected Geographical Indications while very few respondents agreed with it.

7- Most of the respondents do not have any idea about the enforcement of geographical indication rights however only a few respondents knew about it.

8- Most of the respondents do not have any idea about the protection for geographical indications however only a few respondents knew about it.

9- Most of the respondents have no idea about the process of obtaining the geographical indication protection is costly while a few respondents agreed about it.

10- Most of the respondents have no idea about the practical steps one has to take to obtain geographical indication protection while very few respondents knew about it.

11- Most of the respondents have no idea about the impact of the Geographical Indications on the business and the relevant State while few respondents disagreed with it.

12- Most of the respondents have no idea about the advantages to the business of that product which has obtained the protection for a geographical indication while few respondents strongly disagreed with it.

7. LIMITATIONS OF THE STUDY

The present study has the following limitations:

- The research was limited to Lucknow city.
- As Geographical Indications (GI) is a comparatively new concept in India, the amount of literature available on the topic is minimal.
- At this time, a lack of knowledge and cognizance does not provide the business unit with significant growth augmentation.
- The empirical studies on Geographical Indications (GI) are scarce.
- The lack of access to scholarly papers is a significant gap.
- The producing market and trading market are separated.

8. CONCLUSION

India has a long history of thriving cultures that have endured for centuries. In addition, it is biologically diversified and has a huge spectrum of agricultural conditions, leading to a plethora of agricultural IRR products and other sectors. Because most GIs are tied to rural ethnicities, geography, and healthcare, they have a lot to do with creating a product image of these unique products by emphasising the cultural aspects associated with them. The majority of registered items take advantage of market opportunities, which benefits manufacturers. Effective coordination and collaboration among organizations is critical to reducing redundancy of effort and increasing return on investment in the process of maximising the financial and commercial potential of GIs in India.

In a country like India, GI registration is crucial, as evidenced by the case of Basmati rice, where foreign earnings are worth Rs. 38,443 pounds. The Chikankari sector generates $600 million in annual revenue. Uttar Pradesh produces about 15% of the country's total textile production. The Chikankari sector employs over 30% of India's total artist population. Chikankari contributes 8.12 percent of U. GD (annual revenue: $ 1.2 billion). The direction of han clothing shipment is estimated to be 60 kilometres. Indirect efforts can be worth at least 200 crores per year. India produces nearly 45 percent of all manga in the world.

Knowledge of potential products in relation to the registration process and its socio-economic benefits, as well as the necessity of collaboration between producers and suppliers, should all be improved in order to acquire a GI mark. It will be crucial in raising awareness for the local campaign.

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6. Indian Brand Equity Foundation https://www.ibef.org

ACTS
2. The Geographical Indications of Goods (Registration and Protection) Act, 1999
SARS-CoV-2 PROTEIN MODELING AND DOCKING

Atishya Mahesh Jain*, Shaivee Tamrakar2, Narmadha Devi S3, C Dharshini4
Karunya Institute of Technology and Sciences, Coimbatore

ABSTRACT
COVID-19 is one of the fatal pandemic throughout the world. In this project we have constructed a 3D structure of a SARS-CoV-2 protein sequence using homology modeling and perform molecular docking of drugs against this protein molecule and infer protein-drug interaction. We have accomplished it in by completing each task in the project which includes - Model protein structures from sequence data - Process proteins and ligands for docking procedure - Molecular docking of drugs against protein molecules. We have also utilized various bio informatics and protein visualization tools such as Auto dock Vina, PyMOL, protein plus and access databases such as protein data bank, PDB and PubCHEM

INDEX TERMS— Covid, Docking, Pandemic, SARS

1. INTRODUCTION
COVID-19 is a deadly disease, where the infection is caused by SARS-CoV-2. The corona virus particles are spherical in shape having spike proteins around them. These proteins are responsible for virus replication in human host cells. Spike proteins after attaching with human cells, undergo structural changes, which results in a fusion of viral particle membrane with human host cell membrane. Thus, the viral RNA enters into the host cell and produces more viruses after copying its genome. SARS-CoV-2 spike proteins bind to the receptor proteins, on the host cell surface, known as angiotensin converting enzyme 2 (ACE2). The molecular level structure of SARS-CoV-2 spike protein has a Receptor Binding Domain (RBD) for binding to host human cells. Receptor Binding Domain (RBD) of spike glycoprotein interacts with ACE2 receptor in Protease Domain (PD) of the host human cell, causing viral infection.

Firstly, all protein molecules are chains of amino acids or amino acid monomers, which further coil, turn and twist to form a secondary structure. These second restructures, combined with other amino acid chains and form tertiary or even Quaternary protein molecules, now consider you have an amino acid sequence or a protein sequence, which might look like a long stretch of random alphabets where each alphabet corresponds to an amino acid. Now to study docking, you will need a 3D structure of this sequence. But now how can we convert this string of alphabet into a 3D representation? Yes, the answer is homology modeling.

Modeling is a procedure where we fit, or align an unknown amino acid sequence with a previously known sequence and try to predict its structure. Using the known sequence as a template, we will learn how to perform homology modeling in our next task. Next is molecular docking. Molecular docking - It's a type off bio informatics, modeling an essential tool in structural molecular biology and in drug design. The purpose of using this technique is to predict the most likely binding site or binding scenarios between the drug and the protein molecule, virtually given their three dimensional structures. Now, you might ask, Why do we need to perform molecular docking? The answer is pretty straightforward. The stages that followed. The design or identification of a new drug are both costly and time consuming. The entire process of drug development can take up to 12 to 15 years and cost billions of dollars. But in-silico molecular docking studies have been seen to both speed up the discovery rate and reduce, although not eliminate, the need for expensive lab work. Hence, molecular docking studies are very crucial in speeding up drug discovery and screening processes in times such as the current Covid 19 pandemic.

2. PROCEDURE
2.1 Model protein structures from sequence data.
We will model an unknown protein from an amino acid sequence using an online tool Swiss model which is an fully automated protein structure - Homology Modeling server. Firstly, click on start modeling button. You will see a modeling project interface where you can input your unknown sequence. To do this, click on the green button which says upload Target sequence file.

To load your sequence, which we want to model next add a project title of your choice, or you can type in your unknown protein modeling and leave the rest to their default state and click on build model Option SWISS model will construct a 3D model of our sequence by aligning and fitting are unknown sequence against an already known protein structure using
homology or similarity based prediction on the left section off.

The model result you'll be presented with the details and the parameters employed along with the quality of the protein. But what we should give importance to is the sequence identity, which should Ideally be above 90% On the right. You'll see a predicted interactive 3D structure of the model of our protein, we will be using this protein for our docking Studies. from the description. It's evident that our predicted model matches with Corona Viral spike glycoprotein 2 Ghv we can Download the structure by clicking on this model 01 Under this, you can click on PDB format. PDB, short for protein database Format is a file format to store sequence and structural 3D. Coordinate details of our protein molecules in case if the structure of the protein molecule, which you want to dog is already present. And available. You can download and access the PDB file from the RCSB PDB database. Now we have a protein sequence to fetch our drug molecule, which we will be using to dock. Visit PubChem database type in pubchem and select the first option. And in the search box type in chloroquine which'll be the drug molecule which we will be using and pick the first option. Chloroquine is one of the drugs employed in COVID 19 treatment.

2.2 Process proteins & Ligands for docking procedure.

In the previous task, we learned how to model an unknown protein from an amino acid sequence using an online tool Swiss model and downloaded the drug molecule, which we will be using for docking procedure. In this task, we will process these same files to remove water molecules, add hydrogen and charges for both the drug and protein molecules to begin with. Go to pymol and click on open. Now from here. Select the files option from the menu bar and click on Open Navigate to the Downloads folder and from here click on the file name, which says confirmor 3D CID 2719 SDF, which is a ligand or drug molecule and click on open, this will open up a 3D structure of the drug to proceed further with docking. We need the drug To be in the PDB format. We will use Pymol to convert the SDF format of the drug, which we loaded here into PDB. To do this, navigate to the files option from the menu and click on export molecule from here. Select all and click on Save. Rename this molecule as Ligand and set the file format To be PDB, which is the second option and click on Save After this. Navigate to the Autodock tools. Click on the folder icon and navigate to the Downloads folder and select the Ligand dot PDB file, which we just created and click on Open. It should load the PDB format of the ligand or drug molecule. From the sub menu.

Click on the Ligand Option from the sub menu. From here, goto input and choose, select the ligand by clicking on it and click on Select Molecule for AutoDock four and click on OK to select the file or the current molecule, which is open next. Click on Ligand again this time goto output and click on Save as PDBQT here navigate to the Downloads folder, and erase everything before ligand dot pd BQT and click on Save This will save the Ligand in the PDBQT format, which is necessary for docking. Now it's time to modify the protein molecule. firstly, we will have to delete this Ligand or drug by right clicking on the ligand here and clicking on delete option. We will load the protein molecule using the same procedure as we did with the Ligand or the drug that is selecting the folder icon And from here, select the protein named 2GHV, which is the protein which we modeled and click on open. Next, we need to remove water molecules since they might interfere with the drug docking procedure. Next, add hydrogen to compensate for the lost water molecules, followed by addition off Kollman charges to balance the charges. These three steps are essential in performing an accurate protein ligand or protein drug docking. To do this navigate to edit option and from here, select delete water. this should remove all the water molecules next, goto the edit option again. this time around, select hydrogen and click on add and click on OK.

This will add hydrogens to the protein to compensate for the lost water molecules to Add charges Go to edit again followed by going to charges and select add Kollman charges. And click on OK, this will add Kollman charges balancing the charge on our protein. Now to save this as a PDBQT file, as we did with Ligand, go to the sub menu and select GRID and from the drop down, select macro molecule and pick choose From here. Click on the protein name and click on Select Molecule to select the molecule, which we have over here. Now click on OK, a pop up with the location to save will be displayed again Go to the downloads folder, clear everything before the protein name, which is 2GHV, everything before that and click on save.

2.3 Create grids & write configuration files for docking.

We will create various configuration files which will guide the docking process. Firstly delete the protein molecule from the dock console or the AutoDock console by right clicking on the protein and selecting delete option, loading the protein file that is 2ghv with the dot PDBQT format we saved in the previous task. To do this, select the folder icon, and from the pop up select 2ghv, but with a pdbqt format and click on open. First We will create a grid box navigate to the option called grid, and from here, select the option macro molecule and click on Choose and select the protein, followed by select molecule option and click on Yes and okay, now goto grid option again From here. Select grid box. A dialog box with different coordinates will pop up, and if you observe, along with our protein, there is a box. This box is known as a grid box. Grid box restricts the binding off the drug to a specific region that is, we can control as to where or which region of the protein we want to perform. Docking of the drug molecule usually identified the region's of interest called pockets, which are pockets or cave like regions which protein molecules form and place the great box at these pocket regions from the pop up menu, set the X Y coordinates, which are these three dials to 60.

You can do this by right, clicking on it and slowly dragging it. to you right or left. Similarly, do it for the next two coordinates as well, by dragging the color dials to change the size off the grid box. And we can set the position off the great box using the X Y Z center position, but we will leave them at the default positions now Goto file from the pop up menu and select Output Great Dimension File. Name this as CONFIG file and make sure you're in the Downloads folder and click on save. Now open this directory and go to the downloads folder from here,
right Click on the configuration and click on Open With and From Here Select Open with text editor. We're going to edit this file. Firstly We will specify the receptor Which is our 2ghv And along with this, we will specify our ligand, which is a drug molecule, and this will be ligand dot pdbqt file. Don't forget to add the extension for our protein as well, which was 2ghv dot pdb qt. here the line, which specifies the spacing value after this hit enter To add a new line here, we will specify our center values. That is the position center underscore X in the next line Center underscore Y and center underscore Z. These values or positional values correspond to the values off the center, which is in the last line, So our X value will be 5.779. Y will be minus 22.064 and Z will be 14. 495. hit enter to add new line. After this, we will have to specify the size. Size underscore X, Similarly size Y and size Z. The values for this will correspond to the values of the npfs which is set to 60. So the first is the X value. Second is the Y, and third is Z, so we’ll just add in 60 everywhere now delete the last two lines. After this, add another line and here type in exhaustiveness and set this to eight. Here, Receptor and Ligand are the molecules which we processed Size X Y Z are the grid box sizes and center X Y Z are the position off the grid box exhaustiveness mentions the iteration of times. The docking procedure will be repeated now to save this file, navigate to this settings icon and click on Save as Add Number two after config and let it as it is and click on Save.

2.4 Docking drug against the protein molecule.

We will make use of this file to run the docking. Firstly close the Autodock program and go to the terminal ubuntu terminal and here type in CD and Downloads add in a forward slash and hit enter This takes us to the downloads folder Now we will type in Vina space - config And here we will pass in the file that we created Config2 Dot TXT space - - log space log dot TXT space hyphen hyphen out again space output dot PDBQT here Vina is an AutoDock command or Autodock tool, which performs docking hyphen, hyphen, config parameter takes in the configuration file with the parameters which we created in task four hyphen hyphen log option writes the result to a file named lag dot txt, followed by hyphen hyphen out option which saves the docked positions of the drug to an output file named output dot PDBQT Hit enter to run this command A progress bar will be displayed along with an ongoing task. Now the docking is complete once the docking is complete, you will be able to see two new files in the directory. Namely, Output dot pdbqt and log dot txt which constitutes the docking results right Click on the log dot TXT file and click on open with text Editor here we need to observe two things firstly affinity mentioned in kilocalories per mole and the RMSD score Short for root mean square deviation which should be the lowest amongst the other entries in the column. And if you see the First Post has an affinity of minus 5.5 and an RMSD score of 0.0 which signifies that this post is the near perfect fit. Compared to the rest.

Let's have a look at the output file to do this Go to pymol After this navigate to file and click on open and from the downloads folder, Select the protein named 2GHV dot PDB and click on Open after this navigate to file again and click on open. But this time, open the output dot PDBQT, which has our docked result and click on Open Now. You should have your protein molecules along with the Ligand or drug on the pymol console. To visualize this better go to the editing panel on the left and right besides the protein name. Click on this s and as and select surface. After this, click on the letter C and go to green and select the first color. this will give our protein molecule or green color. To red goto the output option, which constitutes our ligand or drug and click on C and go to red and select red. Now both the drug and protein molecules can be easily distinguished by default. The pose of the drug is set to one, as indicated by the state on the bottom left panel, which shows one out of nine you can cycle between all the nine poses using the arrow keys below the state option by clicking on these arrow buttons.

If you see you can switch between the different poses Now Let’s go back to the first position By clicking on this button. We'll have to save this protein molecule and the drug as one file by going to the files section and selecting export molecule. And from here, click on the drop down menu Select. All followed by Click on Save This will give a Popup Name this molecule as Doc underscore file and change the format to PDB, which is the second option. And again, make sure in the Downloads folder now click on save. Now we can close these programs to free up the memory. Goto the browser again. Open a new tab here type in Proteins dot Plus and hit enter and upload The file. The docked File, which we just created by clicking on the browse option and navigating to the Downloads folder and selecting the docked file dot PDB and click on Open Protein. Plus is an online bioinformatics tools to visualize interaction of molecules. now click on Go, as you can see from the result, our drug molecule is interacting with isoleucine to visualize this. Better scroll down and from the appearance, change the surface to on and the color option to yellow. Now, if you go back and zoom in, you should be able to see a drug molecule is interacting with the Ligand Visualized the specific interaction. Go to your right hand side from here. Pick the option pose View. pose view creates a 2D or two dimensional diagrams of these interactions and click on the Pose view button and in this field, type in the name, which is displayed here and click on Calculate.

3 Results

Our Drug molecule(Fig 3.1 ) is interacting with the two of the residues from the protein, which are isoleucine and tyrosine. These are the two amino acids in the pocket region of our protein.
CONCLUSION

Based on these interactions and docking scores, we can further filter and compare multiple drugs, to identify a handful of potential candidates to proceed with the clinical tests.

ACKNOWLEDGMENT

We wish to thank our family, teachers, and friends.
KINETICS AND MECHANISMS OF THE PROCESS OF GETTING VINYL ACETATE FROM ACETYLENE

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1Navoi State Pedagogical Institute, Uzbekistan
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ABSTRACT
The essence of the process of synthesis of vinyl acetate from acetylene is the production of vinyl acetate from acetylene and acetic acid in the presence of zinc acetate catalyst in the vapor-gas phase in the static catalyst layer. Numerous studies on the synthesis of vinyl acetate in the vapor phase have been published, the process is carried out at atmospheric pressure in the range of 170-230 °C, acetylene: acetic acid mole ratio in the presence of zinc acetate ingested on activated carbon. Replacement of zinc acetate with partial or complete cadmium acetate leads to an increase in catalyst activity. K2Cr2O7 (2% relative to catalyst mass) is used as a promotional additive. Sensitive elements were installed to measure the temperature at three points along the height of the reactor and catalyst layer to measure the exothermic reaction heat. In the experiments, the ratios of the initial components were changed within the limits that provide low conversion of the given component in a stoichiometrically low amount.

KEYWORDS: acetylene, acetic acid, vinyl acetate,

INTRODUCTION
At present, in the production of vinyl acetate as a reaction apparatus are used mainly fixed-bed tubular reactors. The process of vapor phase catalytic synthesis of acetylene and acetic acid from acetylene and acetic acid in a coal zinc-acetate catalyst involves a number of additional reactions in addition to the main reaction, including the separation of reactions leading to the formation of acetaldehyde, acetone, croton aldehyde, water and carbon dioxide possible [1-7].

The essence of the process of synthesis of vinyl acetate from acetylene is the production of vinyl acetate from acetylene and acetic acid in the presence of zinc acetate catalyst in the vapor-gas phase in the static catalyst layer [8-14].

V is the reaction of formation of vinylacetate

\[ \text{C}_2\text{H}_2 + \text{CH}_3\text{COOH} \rightarrow \text{CH}_2 = \text{CH} - \text{O} - \text{C} - \text{CH}_3 + 28 \text{ kcal} \]

Temperature (185 + 230°C)

The reaction of formation of additional products
In addition to the main reaction, the following additional reactions take place during the synthesis of vinyl acetate:

1. \[ 2\text{CH}_3\text{COOH} \rightarrow (\text{CH}_3)_2\text{CO} + \text{H}_2\text{O} + \text{CO}_2 \]
2. \[ \text{C}_2\text{H}_2 + \text{H}_2\text{O} \rightarrow \text{CH}_3\text{CHO} \]
3. \[ 2\text{C}_2\text{H}_2 + \text{H}_2\text{O} \rightarrow \text{CH}_2\text{CH} = \text{CHCHO} \]

Formation of acetaldehyde and acetic acid due to hydrolysis of vinyl acetate:

\[ \text{CH}_2 = \text{CHOCOCH}_3 + \text{H}_2\text{O} \rightarrow \text{CH}_3\text{C} = \text{H} + \text{CH}_3\text{COOH} \]
Kroton aldehyde:

\[
2\text{CH}_3\text{C} - \text{H} \rightarrow \text{CH}_3\text{CH} = \text{CH} - \text{H} + \text{H}_2\text{O}
\]

of Ethylidendiacetate:

\[
\text{CH}_3\text{COOH} + \text{CH}_2 = \text{CHOCH}_3 \rightarrow \text{CH}_3\text{CH} \rightarrow \text{O} + \text{CH}_3\text{C} - \text{H}
\]

By obtaining acetic anhydride and acetaldehyde decomposition of ethylidendiacetate:

\[
\text{OOCOCH}_3
\]

A cetone formation

\[
\text{CH}_3\text{C} \rightarrow \text{O} \rightarrow \text{CH}_3 - \text{C} - \text{CH}_3 + \text{CO}_2
\]

Acetylation of a cetaldehyde

\[
\text{CH}_3\text{C} - \text{H} + \text{CH}_3\text{COOH} \rightarrow \text{CH}_2 = \text{CHOCH}_3 + \text{H}_2\text{O}
\]

of Benzol

\[
3\text{C}_2\text{H}_2 \xrightarrow{\text{temperature, act. coal}} \text{C}_6\text{H}_6
\]

A cetaldehyde, croton aldehyde, vinyl acetate, acetylene and its homologues, the formation of adhesive products due to the polymerization of acetic anhydrides;

The presence of copper (acetylene molecule, amorphous yellow substance, not immersed in water and insoluble in ordinary solutions) allows the presence of copper in acetylene cuprenization and contact with heated metal surfaces. In the formation of cuprenes - a decisive factor is the increase in the time of formation of the vapor-gas mixture in the contact zone;

Decomposition of acetylene A:

\[
\text{C}_2\text{H}_2 \xrightarrow{\text{temperature}} 2\text{C} + \text{H}_2 + 54\text{ kcal}
\]

is carried out in the presence of a large amount of acetylene.

Additional reactions may be caused by:

a) increase in moisture content of raw materials (acetylene, acetic acid, catalyst);
b) of the process wrong take to go or catalyst local heat up departure;
c) acetylene and the presence of compounds in acetic acid;
C. Causes of reduced catalyst activity during synthesis:
A) formation of viscous substances that close the pores of the catalyst and reduce their active centers, making it difficult to fly;
B) partial removal of zinc acetate from the reaction zone.
The inactivation kinetics of the zinc acetate catalyst under consideration has been studied in many studies. However, insufficient coverage of additional reactions in the developed models and insufficient description of the existing experimental data using them led to the need to set tasks for the development of kinetic models of the process of vinylacetate synthesis and catalyst activation [102].

EXPERIMENTAL PART
The reaction products were analyzed chromatographically: Tsvet-100 chromatography with flame ionization detector; glass column with size 2x0.04m, 15% testosil in stationary phase Tsvetochrome (d = 0.250-0.315mm), column thermostat temperature 100 °C, evaporator temperature 120 °C, carrier gas (nitrogen) consumption 30 ml / min. Qualitative analysis was performed based on a comparison of ‘witnesses’ and capture sizes, using quantitative analysis and internal normalization methods. Data on the texture characteristics of the samples were obtained by low-temperature adsorption of liquid nitrogen at 77.35 K on an ASAP 2010 M instrument. Samples analysis to be done 4 hours before dried at 120 °C for 30 minutes. Qualitative analysis was performed based on a comparison of ‘witnesses’ and capture sizes, using quantitative analysis and internal normalization methods. Of the pores general size maximum when saturated adsorbed of nitrogen 2-3 times per 12 cups as the temperature rises slowly, and the total yield for the whole synthesis increases by 15–20%.

EXPERIMENTAL RESULTS AND THEIR DISCUSSION
In the reaction of heterogeneous-catalytic acetylation of acetylene for the first time the catalytic activity of catalysts prepared from salts of d-elements prepared in the technology "Zol-gel" was studied. The results obtained are presented in Table 3.1. (Table 3.1).

Table 3.1
<table>
<thead>
<tr>
<th>№</th>
<th>Catalyst composition</th>
<th>OF CN3COOH conversion, %</th>
<th>Selectivity S %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>General</td>
<td>Vinyl acetate</td>
</tr>
<tr>
<td>1</td>
<td>ZnO / keramzite</td>
<td>60.0</td>
<td>43.0</td>
</tr>
<tr>
<td>2</td>
<td>ZnO: CdO / keramzite</td>
<td>80.6</td>
<td>73.5</td>
</tr>
<tr>
<td>3</td>
<td>ZnO: ZnO2 / keramzite</td>
<td>51.4</td>
<td>38.2</td>
</tr>
<tr>
<td>4</td>
<td>ZnO: CdO: ZnO2 / keramzite</td>
<td>85.4</td>
<td>79.8</td>
</tr>
<tr>
<td>5</td>
<td>ZnO: Cr3O4 / keramzite</td>
<td>46.2</td>
<td>30.6</td>
</tr>
<tr>
<td>6</td>
<td>Cr2O3: CdO: ZnO2 / keramzite</td>
<td>67.8</td>
<td>49.2</td>
</tr>
<tr>
<td>7</td>
<td>ZnO: Cr3O4: ZrO2 / keramzite</td>
<td>72.1</td>
<td>51.9</td>
</tr>
<tr>
<td>8</td>
<td>ZnO: Fe2O3: Cr2O3 / keramzite</td>
<td>70.9</td>
<td>48.0</td>
</tr>
</tbody>
</table>

Under the selected normal conditions of the reaction, the total conversion of acetic acid is 85.4%, and the conversion to vinyl acetate is 79.8%.
V The influence of various factors (temperature, molecular ratios of starting materials, volumetric velocity, the effect of reaction products, etc.) on the rate of the process of inylacetate synthesis was studied.

The effect of temperature rise rate on catalyst activity. When the temperature rises rapidly to 180 °C, the formation of resins and polymers on the surface of the catalyst decreases and the activity of the catalyst increases. The results obtained are shown in Figure 3.1.

As can be seen from Figure 3.1, when the temperature rises rapidly to 180 °C for 30 days, the yield of vinyl acetate increases by 2–3 times per 12 cups as the temperature rises slowly, and the total yield for the whole synthesis increases by 15–20%.
Figure 3.1. The dependence of the catalyst activity on the rate of temperature rise between C$_2$H$_2$: CH$_3$COOH molar ratio. It is of great interest to study the effect of the ratio of C$_2$H$_2$: CH$_3$COOH on the catalyst yield during the synthesis of vinyl acetate.

Figure 3.2. Acetylene: the effect of acetic acid mole ratio on vinyl acetate yield.
For this purpose, at 150 °C, 160 °C, 170 °C and 180 °C, the molar ratio of C₂H₂ : CH₃COOHs is 4:1 to 8 at a constant volumetric velocity of 270 g / l · cat · h of the vapor-gas mixture. We conducted experiments by changing it to 1. The results obtained are shown in Figure 3.2.

As can be seen from Figure 3.2, the activity of the catalyst increases to 180 °C as the amount of acetylene increases. When the temperature exceeds 185 °C, the reaction yield decreases due to the decomposition of the vinyl acetate and the formation of additives. Hence, the rate of the reaction depends on the amount of acetylene and not on the amount of acetic acid.

The dependence of the volumetric velocity of the vapor-gas mixture on the catalyst efficiency. It is known that the efficiency of a catalyst depends on the normal volumetric velocity of the vapor-gas mixture. To find the optimal volumetric velocity of the vapor-gas mixture, we conducted experiments under conditions of constant molar ratio C₂H₂ : CH₃COOH = 1:6 and at different values of the volumetric velocity. The dependence of the volumetric velocity on the catalyst efficiency at different temperatures is shown in Figure 3.3.

![Figure 3.3. Acetylene: the effect of the volumetric velocity of a mixture of acetic acid on the yield of vinyl acetate](image)

As can be seen from Figure 3.3, the efficiency of the catalyst increases by 10-15% when the volumetric velocity of the acetylene: acetic acid mixture is increased from 180 to 360 kg / l · kat · h. Further increase in volumetric velocity is not effective. This is because at this time the conversion of acetic acid is reduced and the vinyl acetate contains 65-70% acetic acid. This complicates the rectification process.

The activity of the catalyst and the service life of the catalyst depend on the nature and quality of the core substance (carrier). Of all the core substances (carriers) we have tested (silica gel, alumina, expanded clay, activated carbon of various brands), the most active is expanded clay. Therefore, in this study, the results obtained in the presence of a catalyst consisting of a mixture of expanded clay (ZnO)₀·₅ · (CdO)₀·₄₅ · (ZrO₂)₀·₀₅ / expanded clay were described.

100 grams of catalyst was placed in the reactor, and in some experiments 150-200 grams. The size of the catalyst particles is 0.20-0.25 mm.

To study the effect of the catalyst composition on the catalytic activity of a mixture of zinc and cadmium acetates, we changed the amount of zinc acetate and cadmium acetate in the catalyst from 0 to 30%. We examined the catalytic activity of each sample at 150 °C, 170 °C, and 180 °C. The results are shown in Figure 3.4.

From the data shown in Figure 3.4, it can be seen that the cadmium acetate catalyst and the zinc acetate catalyst have relatively less catalytic activity when used separately. However, a catalyst consisting of a mixture of zinc acetate and cadmium acetate exhibits high catalytic activity. As the concentration (amount) of cadmium acetate in the catalyst increases (17%), its
catalytic activity increases and reaches a maximum, and then the catalytic activity decreases. Thus, the catalyst with the highest catalytic activity is a catalyst with a mass ratio of zinc acetate and cadmium acetate 1:1.

![Figure 3.4](image_url) Dependence of catalyst activity on the ratio of zinc acetate and cadmium acetate when the total amount of acetates in it is 30%

The amount of vinyl acetate obtained is 25, 52, 94 g/l at 150 °C, 170 °C and 180 °C. This is 1.6-1.7 times more than the amount of vinyl acetate obtained in the presence of zinc acetate catalyst.

The dependence of catalyst activity on zinc acetate and cadmium acetate amounts was studied. To do this, the total amount of zinc acetate and cadmium acetate was changed in the range of 10% to 40%, keeping the ratios of Zn(CH₃COO)₂ and Cd(CH₃COO)₂ constant at a 1:1 ratio. The experiments were performed at 180 °C and at a ratio of C₂H₂:CH₃COOH = 4:1. The results obtained are shown in Figure 3.5.

From the data shown in Figure 3.5, it can be seen that the yield of vinyl acetate increases when the sum of the concentrations of zinc acetate and cadmium acetate in the catalyst increases to 30-35%. When the total (total) amount of zinc acetate and cadmium acetate in the catalyst increases from 35 to 40%, the yield of vinyl acetate decreases.

![Figure 3.5](image_url) The dependence of the activity of the catalyst on the total amount of acetates in its composition
Kinetic model of the process. Analysis of the data in the experiment and the literature allows us to express the following stoichiometric equations for the directions of change of the initial components to the main and by-products of the reaction [102]:

\[ S_2 N_2 + \text{SN}_3 \text{SOO} \xrightarrow{k_1} \text{SN}_3 \text{SOOSNSN}_2 \]
\[ W_1 = k_1 P_{\text{CHCOOH}}^3 P_{\text{C}_2 \text{H}_2}^3 \text{SN}_3 \text{SOOSNSN}_2 + N_2 O \xrightarrow{k_2} \text{SN}_3 \text{SNO} + \text{SN}_3 \text{SOO} \]
\[ W_2 = k_2 P_{\text{CHCOOH}}^3 \text{SN}_3 \text{SOO} \xrightarrow{k_3} \text{SN}_3 \text{SOOSNSN}_2 + \text{N}_2 \text{O} + \text{SO}_2 \]
\[ W_3 = k_3 P_{\text{CHCOOH}}^3 \text{SN}_3 \text{SNO} \xrightarrow{k_4} \text{SN}_3 \text{SNNSNSO} + \text{N}_2 \text{O} \]

where \( R_{\text{SNNSO}} \), \( R_{\text{SN2SO}} \), \( R_{\text{SNNSO}} \) - partial pressures of acetic acid, acetylene and acetaldehyde in the vapor-gas mixture, respectively; \( n_1 - n_4 \) - reactions procedures; \( W_1 - W_4 \) - reaction rates in the corresponding directions; \( k_1 - k_4 \) - constants of reaction rates.

Sensitive elements were installed to measure the temperature at three points along the height of the reactor and catalyst layer to measure the exothermic reaction heat. In the experiments, the ratios of the initial components were changed within the limits that provide low conversion of the given component in a stoichiometrically low amount. This allows the current reactor to be considered as an isothermal and differential reactor. Experimental data on the different values of reaction rates.

## Table 4.1

### T = 453 °K, the dependence of the acetylene molar ratio of the vapor-gas mixture on the acetic acid mole ratio at the exit of the reactor at a volumetric velocity of 200 l/1 (cat) hour

| Mol ratio | Component composition, mol | Acetene | Acetic acid | Vinyl - acetate x10 | Acetaldehydex10 | Acetone x10 | Croton aldehyde x10
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
</tr>
<tr>
<td>2:1</td>
<td>0.65</td>
<td>0.63</td>
<td>0.32</td>
<td>0.33</td>
<td>0.29</td>
<td>0.32</td>
<td>0.21</td>
</tr>
<tr>
<td>3:1</td>
<td>0.75</td>
<td>0.74</td>
<td>0.22</td>
<td>0.23</td>
<td>0.25</td>
<td>0.26</td>
<td>0.18</td>
</tr>
<tr>
<td>4:1</td>
<td>0.77</td>
<td>0.80</td>
<td>0.20</td>
<td>0.18</td>
<td>0.24</td>
<td>0.22</td>
<td>0.14</td>
</tr>
<tr>
<td>5:1</td>
<td>0.80</td>
<td>0.81</td>
<td>0.18</td>
<td>0.17</td>
<td>0.21</td>
<td>0.20</td>
<td>0.13</td>
</tr>
</tbody>
</table>

## Table 4.2

### V = 453 °K and at a ratio of 3:1 mol at the exit of the reactor

| V vol. frequency | Component composition, mol | Acetene | Acetic acid | Vinilacetaex10 | Acetaldehyde x10 | Acetone x10 | Croton aldehyde x10
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
</tr>
<tr>
<td>1200</td>
<td>0.76</td>
<td>0.74</td>
<td>0.21</td>
<td>0.22</td>
<td>0.31</td>
<td>0.34</td>
<td>0.16</td>
</tr>
<tr>
<td>1500</td>
<td>0.75</td>
<td>0.74</td>
<td>0.22</td>
<td>0.23</td>
<td>0.25</td>
<td>0.25</td>
<td>0.18</td>
</tr>
</tbody>
</table>

## Table 4.3

### Volumetric velocity 1500 l/1 (cat) hour and 5:1 mol Dependence of temperature (T, K) on the composition of the vapor-gas mixture at the exit from the reactor

| T, K | Component composition, mol | Acetene | Vinegar is a lot | Vinilacetaex10 | Acetaldehydex10 | Acetone x10 | Croton aldegidyx10
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>443</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
<td>cal</td>
<td>exp</td>
</tr>
<tr>
<td>453</td>
<td>0.84</td>
<td>0.83</td>
<td>0.14</td>
<td>0.16</td>
<td>0.07</td>
<td>0.08</td>
<td>0.02</td>
</tr>
<tr>
<td>463</td>
<td>0.81</td>
<td>0.83</td>
<td>0.16</td>
<td>0.14</td>
<td>0.26</td>
<td>0.28</td>
<td>0.27</td>
</tr>
<tr>
<td>473</td>
<td>0.82</td>
<td>0.83</td>
<td>0.13</td>
<td>0.13</td>
<td>0.45</td>
<td>0.48</td>
<td>0.74</td>
</tr>
<tr>
<td>483</td>
<td>0.81</td>
<td>0.82</td>
<td>0.11</td>
<td>0.1</td>
<td>0.75</td>
<td>0.80</td>
<td>1.70</td>
</tr>
</tbody>
</table>
Inverse of the relative errors were used to measure the concentrations of the respective components as weight coefficients. Because the calculated value of the Pekle parameter for the process under consideration is large enough (more than 250), which indicates that the longitudinal mixing effects cannot be bypassed, the hydrodynamic regime in the tube corresponds to the ideal compression mode and the compression model was chosen for its mathematical description. The following values of the constants are obtained:

\[ n_1 = 0.24; \quad n_2 = 0.76; \quad n_3 = 1.0; \quad n_4 = 1.0; \]

\[ K_1 = 3.811 \cdot 10^{-3} \exp (-1282.0 (1 / T-1/483)); \]

\[ K_2 = 0.1421 \cdot 10^{-3} \exp (-23371.3 (1 / T-1/483)); \]

\[ K_3 = 0.0024 \cdot 10^{-3} \exp (-20102.2 (1 / T-1/483)); \]

\[ K_4 = 0.7499 \cdot 10^{-3} \exp (-2085.6 (1 / T-1/483)); \]

In the development of mathematical models of the process of production of vinyl acetate from acetylene, an analysis of the impact of one or another hypothesis on the accuracy of the description of the modeled processes was conducted. The process of obtaining vinyl acetate from acetylene is a complex process of obtaining acetic acid also made it possible to simplify the initial conditions for solving the problem of modeling the motion of technological elements. The program modules were implemented by assigning appropriate modes of operation modes (static modes calculation, static modes calculation, dynamic modes calculation, type of incoming excitations).

The analysis of the description errors showed that for all the models listed below, the errors are within the range of experimental errors.

The calculated values of the concentrations of the components of the reaction gases at the outlet of the reactor and the relevant experimental data are given in Tables 4.1–4.3. The average errors of the description are 5.7% for the main products and 8.2% for the additional products, respectively, comparable to the experimental error rate and allow the proposed kinetic model to be considered adequate.

The rate of the vinyl acetate synthesis reaction from acetylene and acetic acid increases with increasing temperature regardless of the composition of the catalyst. This is also clear from the value of the temperature coefficient of the reaction rate given in Table 3.5.

<table>
<thead>
<tr>
<th>Temperature, °C</th>
<th>VA yield, g/l·hours</th>
<th>Reaction rate constant, g·mol/1·sec·K·10^{-4}</th>
<th>Temperature coefficient of the reaction</th>
<th>Average value</th>
</tr>
</thead>
<tbody>
<tr>
<td>170</td>
<td>108</td>
<td>3.48</td>
<td>1.46</td>
<td>1.41</td>
</tr>
<tr>
<td>180</td>
<td>158</td>
<td>5.10</td>
<td>1.33</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>210</td>
<td>6.76</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>312</td>
<td>10.10</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>420</td>
<td>13.60</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>645</td>
<td>20.70</td>
<td>1.52</td>
<td></td>
</tr>
</tbody>
</table>

The fact that the average value of the temperature coefficient of the vinyl acetate formation reaction is not very large is the result of the multi-stage process.

To calculate the activation energy

\[ E_a = -\frac{R \cdot \ln \left( \frac{k_{T_1}}{k_{T_2}} \right) \cdot T_1 \cdot T_2}{(T_2 - T_1)} \]

formula was used.

CONCLUSION

The essence of the process of synthesis of vinyl acetate from acetylene is the production of vinyl acetate from acetylene and acetic acid in the presence of zinc acetate catalyst in the vapor-gas phase in the static catalyst layer. Numerous studies on the synthesis of vinyl acetate in the vapor phase have been published, the process is carried out at atmospheric pressure in the range of 170-230 °C, acetylene: acetic acid mole ratio in the presence of zinc acetate ingested on activated carbon. Replacement of zinc acetate with partial or complete cadmium acetate leads to an increase in catalyst activity. K_2CrO_4 (2% relative to catalyst mass) is used as a promotional additive. Sensitive elements were installed to measure the temperature at three points along the height of the reactor and catalyst layer to measure the exothermic reaction heat. In the experiments, the ratios of the initial components were changed within the limits that provide low conversion of the given component in a stoichiometrically low amount.

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FORCED MIGRATION AND ITS CONSEQUENCES ON HUMAN SECURITY: REFLECTIONS ON ROHINGYA REFUGEES IN BANGLADESH

Professor Dr. S.M. Anowara Begum

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ABSTRACT

The Rohingya is an ethnic minority group in Myanmar that has due to persecution, crossed into neighboring Bangladesh over decades, laying uneven pressure on the scarce resources of Bangladesh. Providing basic provisions of their life like food, shelter, and healthcare have been the utmost priorities at the moment and also for the rest of the period until the return of Rohingya refugees from Bangladesh to Myanmar. Rohingya refugees are seriously at the risk of human trafficking. Health security and food security are the evolving challenges in the makeshifts where refugees are living. Even, there is the likelihood of increasing happening of such incidences and aggravating the local social and cultural harmony among the local citizens and the Rohingya refugees. Bangladesh has been commendable throughout its diplomatic efforts to keep the persistent pressure on Myanmar for repatriation of Rohingya refugees. Bangladesh is relentlessly coordinating and communicating with donors and other relevant stakeholders to come forward to solve this problem permanently by putting pressure on the Myanmar government to take back its citizens by creating a safe and secured environment. UN endeavor is to be persistent to enforce the recommendation of Annan Commission by imposing diplomatic force on Myanmar.

KEYWORDS: Rohingya Refugee; Ethnic Cleansing; Human Security; National Security; Repatriation

INTRODUCTION

Human security denotes human dignity. The term human security propagated by UNDP in the post-cold war era intends to focus on individuals coming across values and goals such as dignity, equality and solidarity. The Rohingya is an ethnic minority group in Myanmar that has due to persecution, crossed into neighboring Bangladesh over decades, laying uneven pressure on the scarce resources of Bangladesh. Rohingya issue has been textbook example of ethnic cleansing navigated by the civil-military administration of Myanmar. Influx of Rohingya refugees has been in Bangladesh since the 1970s and their number has surpassed 700,000 (Islam, 2018). Strangely, Bangladesh is now hosting about a million Rohingya refugees those results in serious concern of human security.

Myanmar government from the very beginning was very reluctant to take back their nationals, the Rohingya despite the robust diplomatic endeavor of Bangladesh government across level. Although in the repatriation of Rohingya to their homeland will be ambiguous in coming days and at the same time, their stay in Bangladesh might be continuing for a longer period of time. Apparently, providing basic provisions of their life like food, shelter, and healthcare have been the utmost priorities at the moment and also for the rest of the period until the return of Rohingya refugees from Bangladesh to Myanmar. The Rohingya crisis has been emerged as potential threat to Bangladesh's internal stability. Bangladesh, therefore, has been in a great fix struggling to realise the national interests of the country, and uphold human security issues of Rohingya all at once. The Rohingya is an ethnic minority group in Myanmar has crossed into neighboring Bangladesh over the decades, laying uneven pressure on the scarce resources of Bangladesh.

Without doubt, human security has been the emerging paradigm for understanding global vulnerabilities whose proponents challenge the traditional notion of national security by arguing that the proper referent for security should be the individual rather than the state. The objective of human security is to safeguard the vital core of all human lives from critical pervasive threats, in a way that is consistent with long-term human fulfillsments (UNDP, 1994). Human security takes its shape from the human being; the vital core that is to be protected. Institutions that undertake to protect human security will not be able to promote every aspect of human well-being.

How Bangladesh is struggling with diplomatic endeavor to harness regional and global power to bring in an amicable solution to this emerging crisis despite the position of China and India on the side of Myanmar on Rohingya issue? And what kinds of arrangements the host government has, to deal with this additional population living in Bangladesh paying attention to human security until their repatriation have been the central questions of this undertaking? The study is based on content analysis and therefore, the study broadly undertook a survey of important articles, books and other sources pertaining to the study topic.
This review of the professional literature relevant to the study findings helped to contextualize the research.

**Influx of Rohingya Refugees in Bangladesh: Historical Evidences**

The Muslim population of northern Rakhine State, known as Rohingya, constitutes an ethnic, linguistic and religious minority group\(^1\). They are from Arakan, a mountain range separating it from central Myanmar, it had been an independent kingdom until 1784. It is named by the present regime as the Rakhine state. Two major ethnic races, the Rohingya (Muslims) and the Rakhine (Buddhists) inhabit in Arakan. Both the races stand at almost equal proportions inside Arakan. Rohingyas trace their ancestry to Arabs, Moors, Pathans, Moguls, Bengali and some Indo-Mongoloid people in early Muslim settlements at 7th century (review the time, Islam was initiated in 6\(^{th}\) century) with a distinct culture and civilization of their own (Ahmed, 2010). Therefore, it is also recognized that they are physically, linguistically and culturally similar to South Asians, especially Bengali people.

Although during the Burmese post-independence period Rohingya’s claim of separate ethnic identity was recognized by the democratic government of Premier U Nu (1948-1958), they became stateless without a legal nationality in 1962 when the new military rule denied citizenship, and many of them have been forced to migrate to Bangladesh, Thailand, India, Pakistan, Saudi Arabia and Malaysia since 1978. Even though they were able to migrate to the preferred destinations, their sufferings have not ended upon reaching new shores (Asiatic Society of Bangladesh, 2002). Thus, the irony of fate is that the Rohingyas have been confined to a cycle of acute discrimination, escape, trafficking, poverty, detention, extortion and deportation.

In 1824, the British East India Company invaded Burma and through the Anglo-Burma war the whole of Burma including Arakan was brought under the Indian system of Administration. During the colonial rule the British were not interested in the national integration of diverse communities in Burma. On the contrary, those divisions were used for prolonging colonial rule with its policy of divide and rule. The Nationalist Leader General Aung San convened a conference of all ethnic groups at Pang long in 1947 (Karim, 2000). It was agreed that all states would be given regional autonomy with the provision of seceding after 10 years of Independence.

The constitution caused immediate ethnic insurrection which became worse after 1958, even though, the Prime Minister U Nu had declared Buddhism as the state religion of the country to appease the ethnic groups, as a great majority of them were Buddhists. The government dismissed many Muslim officers and replaced them with Buddhists in Arakan. By 1962 the civilian government had also collapsed and the army took over. In 1977, The Revolutionary Command Council (RCC) inflicted heavy casualties on the Rohingya masses by launching a major offensive under the code name of King Dragon to register the citizens and prosecute the illegal entrants.

The nation-wide campaign started in Rakhine State, and the mass arrests and persecution, accompanied by violence and brute force, triggered an exodus in 1978 of approximately 200,000 Rohingyas into Bangladesh (Gain, 1992). Within 16 months of their arrival, most were forced back after bilateral agreements were made between the governments of Burma and Bangladesh. Some 10,000 refugees died, mostly women and children, due to severe malnutrition and illness after food rations were cut to compel them to leave.

The state Peace and Development Council (SPDC), supreme body of the regime rejects the existence of a separate ethnic group called Rohingya. They are not recognized as one of the 135 national races by Myanmar government. As per the rules stated in section 3 of the 1982 citizenship Law, the Rohingyas are not considered to be a National ethnic group and therefore, they are not qualified to obtain full citizenship. However, the family list only indicates names of family members and date of birth. It may not indicate place of birth, which in-effect prevents people from furnishing conclusive evidence of birth in Myanmar as required by the 1982 Law.

Thus the theoretical entitlement to citizenship for Rohingyas becomes meaningless in practice. In fact, the 1982 act was specially designed effectively to deny the Rohingyas the right to a nationality because the promulgation of this law took place soon after the Rohingya who fled to Bangladesh during 1978 had been repatriated (Human Rights Watch, 2012). Thus, human security dilemma as a part of non-traditional crisis is evident in case of Rohingyas, which disrupts the bilateral relations between Bangladesh and Myanmar.

**Human Security for the Rohingya Refugees living in Bangladesh**

It is apparent that the number of Rohingya refugees has crossed half a million since the beginning of the crisis from August 24, 2017. According to the United Nations High Commissioner for Human Rights (UNHCR), Rohingya issue has been textbook example of ethnic cleansing navigated by the civil-military administration of Myanmar. Influx of Rohingya refugees has been in Bangladesh since the 1970s and their number has surpassed 500,000. Strangely, Bangladesh is now hosting about a million Rohingya refugees those results in serious concern of human security. Experience suggests that the Myanmar government has been very reluctant to take back their nationals, the Rohingyas despite the robust diplomatic endeavor of Bangladesh government across level (Lewis, 2018). It gives the impression that the repatriation of Rohingya to their homeland will be ambiguous in coming days and at the same time, their stay in Bangladesh might be continuing for a longer period of time. What we could perceive, providing basic provisions of their life like food, shelter, and healthcare have been the utmost priorities at the moment and also for the rest of the period until the return of Rohingya refugees from Bangladesh to Myanmar.

Prolonged stay is bringing about pitiable human security condition of Rohingya community. The Rohingya refugees who are downright marginalized are seriously at the risk of human trafficking. It is evident that international

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\(^1\) The term “Rohingya” to refer to the Muslim population of Rakhine State is not acknowledged by the Government of Myanmar. Many Muslims of Northern Rakhine State identify themselves as such and the term is also used by international organizations.
human trafficking gangs are actively looking at this situation to mishandling the vulnerability of the Rohingya for abusing. Mentioning stubborn Rohingya crisis as potential threat to human security, UN agencies working in Bangladesh have been in appeal to the international community for adequate fund to provide them basic supplies for survival. It is the experience of different countries which hosted refugees during many humanitarian crises that international supports lessen over time if the refugee crises continue (UNICEF, 2019). In this kind of situations, the decisive economic affliction of humanitarian support to the refugees falls on the host country.

Given their living space mostly located in Teknaf-Cox’s Bazar areas, the refugee earmarked areas are adjacent to the settlements of the local citizens. Once, many awkward incidences happened between them causing law and order situations. In the future, with increasing number of the refugees and sheltered close to the native citizens’ settlements there is the likelihood of increasing happening of such incidences and aggravating the local social and cultural harmony among the local citizens and the Rohingya refugees. Security concern particularly non-conventional (human security), is another challenge that Bangladesh is already facing and it will intensify further in the future with the influx of the Rohingya refugees over the years. Bangladesh government has been accredited for providing them with various facilities, including shelter, food and medical care despite many limitations (Uddin, 2018).

Health security and food security has been the evolving challenges in the makeshifts where refugees are living. The pitiful state of people's shelters illustrates how utterly unsustainable and unsafe this life is. Humanitarian community working in Cox's Bazar needs to prioritise repairing and replacing the battered shelters so that people have some protection against the elements, and are provided with at least some basic comfort and dignity.

Apparently food insecurity within the displaced Rohingya refugee population is turning out in Bangladesh. This has been resulting in malnutrition with refugee population and if not the food situation improves on an urgent basis, there is likelihood that more Rohingya children could even meet life-threatening event. We should keep it in mind that, the country has to rely on the food grains for domestic consumption. Meanwhile, the government of Bangladesh took many steps for resolving the Rohingya crisis while various forces, including the Armed Forces, police, Border Guard of Bangladesh and Rapid Action Battalion along with the civil administration, public representatives and general people are providing necessary services to the Rohingyas.

As regards economic security, the bulk departure of Rohingyas in Bangladesh would endanger the market balance. This may result in unstable labour market as supply will be more than the demand Bangladesh has at present. Jobless people will seek whatever means necessary to make a living and this sort of unhealthy completion in the labour market will seriously threaten the social cohesion. Cultural differences perhaps remain as major challenges of the Rohingya refugees to come across other associated encounters. I find language has been the utmost impasse to adopt with the changed circumstance and this is the reason why children of this settlers have been suffering from self-imposed fence to get light of education. The existing public health conditions in the camps are unsatisfactory due to poor sanitation facilities, poor water quality, space limitation and increased population.

A recent report published in the Daily Star shows that, transnational human-trafficking syndicate committed serious crime against the Rohingya from 2012 to 2015. In a six-year investigation on human trafficking in Thailand and Malaysia, Human Rights Commission of Malaysia (SUHAKAM) and Fortify Rights, a nongovernment rights body have found the evidences. The time series research findings also signpost that, during 2012-15, more than 170,000 people boarded ships from Myanmar and Bangladesh bound for Malaysia and Thailand, and the trade over Rohingya is estimated to have generated between $50 and $100 million a year (Daily Star, 2019). This speaks about the serious threats towards human security of Rohingya refugees living in Bangladesh. It is revealed from the report produced by Inter Sector Coordination Group (ISCG) on Rohingya Crisis and Response hosted led by IOM that, Bangladeshi Immigration and Passports Department has registered 971,627 people through biometric registration (UNDP, 2018).

Diplomatic Efforts of Bangladesh Government for their Repatriation

Bangladesh is making every effort in a professional fashion to harness regional and global power to end in amicable solution of this emerging crisis despite the position of China and India on the side of Myanmar on Rohingya issue. We have noticed both countries are having huge strategic and economic interest in Myanmar. Even Russia seems like compassionate to Myanmar on this issue. Bangladesh government has been experienced over the months while unveiling their diplomatic efforts in persuading Myanmar to repatriate the refugees. However, the reality suggests that Bangladesh government may not succeed in sending all of them back even in a single go with the utmost diplomatic niche. Therefore, we may think of some long-term solutions to deal with this additional population in Bangladesh.

Bangladesh is making every effort in a professional fashion to harness regional and global power to end in amicable solution of this emerging crisis despite the position of China and India on the side of Myanmar on Rohingya issue. We have noticed both countries are having huge strategic and economic interest in Myanmar. Though Myanmar holds no major importance in Russian policy – no geopolitical interests are at stake there, while Moscow’s attitude to the issue in the UN could potentially to upset its Muslim allies, for instance Iran. Unexpectedly, At least 1,300 Rohingya Muslims had crossed into Bangladesh from India since the beginning of this year as fears of deportation to Myanmar spark an exodus (Islam, 2019). New Delhi has faced sharp criticism for turning members of the persecuted minority over to Myanmar despite the army there being accused of atrocities against the Rohingyas.

The Bangladesh government has been making diplomatic efforts in persuading Myanmar to repatriate the refugees over the months but in reality, it is highly unlikely the Bangladesh government will succeed in sending the refugees back to Myanmar in a shortest possible time. Myanmar and Bangladesh agreed in late 2017 to complete the
return of hundreds of thousands of Rohingya refugees within two years, notwithstanding international doubts that they will be held in forbidding detention camps that may result in another round of cruelty both physically and psychologically (UNHCR, 2019).

The second attempt to start repatriation of Rohingya to Myanmar on 22 August 2019 was turned out to be futile, as no refugees showed willingness to go back to Arakan. They have again demanded their citizenship with right to freedom of movement and access to all opportunities. Myanmar has yet to address the systematic persecution and violence against the Rohingya, so refugees have every reason to fear for their safety if they return. It has now been apparent that, achieving durable solutions requires the Myanmar government to address the fundamental issues of equal rights and ensure that all communities in the Rakhine State can live in safety, access basic services and pursue livelihoods opportunities.

Apart from her speech in the UN General Assembly, Prime Minister Sheikh Hasina joined a high-level side-event on the situation of Rohingya in Myanmar organised by the Permanent Mission of Bangladesh and the OIC Secretariat at Conference. She put forth a fresh set of four proposals on how the Rohingya crisis could be resolved when she addressed the UNGA apprising the world leadership of the current situation. As Bangladesh and India have continued to consolidate their political, economic, trade and cultural relations as well as have built a comprehensive institutional framework to promote bilateral cooperation over the decades, India must come forward to join hands with Bangladesh government for swift repatriation of Rohingyas. We also expect China will remain beside Bangladesh to resolve this prolonged crisis.

CONCLUSION

Considering the gravity of sufferings Rohingya refugees face, humanitarian, political, law and order, security, development and environmental concerns must be prioritized rethinking different phases of enforcement. The international community is working closely with the Government of Bangladesh and Myanmar respectively to assist them in working towards voluntary, safe and dignified returns. They believe, only harmonious returns can break the decades-long cycle of displacement Rohingya community is experiencing. Memorandum of Understanding (MoU) signed in 2018 between the Government of Myanmar, UNHCR and UNDP is intended to ensure that refugees receive information on the situation in their places of origin and this MoU keeps a provision allowing Rohingya refugees to visit their home villages and other areas where they may choose to return. In its 43rd session, UNHRC has adopted the resolution on 22 June 2020 by a vote of 37 in favour, 2 against and 8 abstentions, calling upon Myanmar to ensure voluntary, safe and dignified return of Rohingya refugees.

UN agencies, international and national NGOs and government bodies are in a collective effort aiming at delivering protection to refugee women, men, girls and boys, provide life-saving assistance and foster social cohesion. If this problem lingers for a longer time, it may encourage creating pockets of radicalism and that may create problems of uncertainty and instability not only for Myanmar and Bangladesh but for the entire region. UN Security Council must bring the resolution to facilitate the investigation on violation of human rights and thus ensure an international supervision for safe repatriation as well as initiate a visit to the Rohingya refugee camps by the Security Council again to force the government of Myanmar for setting up “safe zones” for people of all backgrounds in conflict-torn parts of Myanmar.

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THE COMMUNICATIVE METHOD OF TEACHING THE
RUSSIAN LANGUAGE AT A NON-LINGUISTIC UNIVERSITY

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ANNOTATION
This article deals with issues related to the teaching of the Russian language in a non-philological university as a second foreign language.
KEY WORDS: Russian language, traditional education, discussions.

Коммуникативный метод преподавания русского языка
в неязыковом вузе

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Аннотация
В данной статье рассматриваются вопросы, связанные с преподаванием русского языка в нефилологическом вузе, как второй иностранный язык.

Ключевые слова: русский язык, традиционное обучение, дискуссии.

Владение русским языком на уровне, достаточном для профессионального общения в профессиональной сфере, является одним из требований современного общества к молодым специалистам и выступает обязательным компонентом их профессиональной подготовки. Поэтому целью обучения профессионально-ориентированному русскому языку является формирование у студентов коммуникативных компетенций по использованию полученных знаний применительно к своей профессии. Предполагается, что специалист сможет читать статьи из профессиональных журналов на русском языке, участвовать в работе международных конференций, выступать с докладами, отвечать на вопросы, вести профессиональные дискуссии.

Преподаватели профессионально-ориентированного русского языка призваны выполнять социальный заказ общества - подготовить в короткий срок специалиста, хорошо владеющего русским языком в рамках заданного профессионального профиля. Добиться поставленной задачи - научить студента в течение ограниченного учебными рамками периода говорить, понимать, извлекать информацию различного характера из оригинальных источников - можно, сочетая традиционные и инновационные методы обучения, опираясь на принципы коммуникативного общения.

Проведенные исследования педагогической работы показали, что обучение русскому языку сегодня невозможно без инновационной составляющей. В свете современных требований к целям обучения русскому языку меняется статус как обучаемого, так и преподавателя, которые переходят от схемы «преподаватель - студент» к инновационным технологиям.

Напомним, что традиционное обучение профессионально-ориентированному русскому языку ориентировано на чтение, понимание и перевод...
специальных текстов, включая изучение грамматических особенностей научного стиля. В настоящее время акцент решительно переместился на развитие навыков и умений устной коммуникации. Устная речь включает в себя слушание или чтение, понимание и репродуктивное воспроизведение прослушанного или прочитанного как в устной (диалогической или монологической), так и в письменной форме. Переориентация направления обучения русскому языку в процессе профессионального образования от обучения чтению в качестве приоритетной цели к обучению общению [1] привела к необходимости учета модели специалиста и формируемых профессиональных умений, а также обучения иноязычному общению в конкретном профессионально-тематическом контексте.

Таким образом, инновационные технологии преподавания русского языка в незыксовом вузе заключаются в сочетании традиционных и интенсивных методов обучения, основанных на функционально-коммуникативной лингвистической модели языка и разработке целостной системы обучения речевому общению на профессиональные темы [2; 23]. При этом в качестве основной задачи современного этапа преподавания профессионально-ориентированного русского языка является создание методик, интегрирующих интерактивные подходы к обучению и аккумулирующих их преимущества для решения основной проблемы преподавания профессионально-ориентированного английского языка - обучения не языка, но речи, в более широком смысле - иноязычному общению в профессиональных ситуациях.

Представляется, что ключевым методом в обучении профессионально-ориентированному русскому языку в современной высшей школе является коммуникативный метод, в основе которого лежит представление о том, что язык служит для общения, следовательно, целью обучения русскому языку является коммуникативная компетенция. Полагаем важным отметить, что на возникновение коммуникативного метода и самого термина «коммуникативная технология» оказала влияние концепция языковой компетенции Н. Хомского, под которой понимается способность говорящего порождать грамматически правильные структуры [3].

Однако, по мнению сторонников коммуникативного подхода, эффективное знание языка - это больше, чем просто знание правил грамматики, произношения и лексики. Студентам необходимо научиться использовать русский язык в соответствующей социальной и профессиональной среде.

Для этого обучение русскому языку должно происходить в адекватных условиях, среди которых необходимо выделить следующие: учет индивидуальности каждого студента, речевая направленность процесса обучения, функциональность обучения, ситуативность обучения, новизна процесса обучения [4].

Кроме того, как отмечает Д. Нунан [5], коммуникативный метод является гибким методом, при этом он имеет определенные характеристики, которые коренным образом отличают его от других широко известных методов обучения русскому языку. Эти характеристики включают:

- акцент на обучение общению посредством взаимодействия на изучаемом языке;
- включение аутентичных текстов в ситуацию обучения;
- предоставление обучаемым возможности сконцентрироваться не только на языке, но и на самом процессе обучения;
- включение личного опыта обучаемого как важной составляющей обучения в рамках аудиторного занятия;
- попытка связать обучение русскому языку в рамках аудиторного занятия с самостоятельной языковой деятельностью студентов.

В данной связи полагаем, что основными методическими принципами организации процесса обучения профессионально-ориентированному русскому языку являются следующие интегративные принципы: принцип практико-ориентированного контекстного обучения, личностно-ориентированной направленности обучения, активности учения, проблемности, коммуникативно-ситуативного обучения, интерактивной направленности обучения, баланса осознанного и неосознанного в обучении, комплексности подхода, принцип коллективного взаимодействия, рефлексии в обучении.

Это предполагает использование в процессе обучения таких стратегий, которые будут стимулировать познавательную и коммуникативную деятельность студентов, применения разнообразные коммуникативные технологии обучения русскому языку: технологию коммуникативного обучения, информационно-коммуникативную технологию, технологию обучения в сотрудничестве, проектную технологию, игровую технологию [6]. Немаловажная роль также отводится кейс-методике, поскольку ее использование приводит к развитию, обновлению, повышению интенсивности и многообразию коммуникаций между субъектами учебного процесса, так как ее сущностной характеристикой является ориентация на межличностное взаимодействие, воздействие на психическую и социальную структуру личности [7].

Инновационными коммуникативными методиками также являются методики, основанные на различных формах коммуникации с привлечением интерактивных средств обучения, что включает:

- методы самообучения - печатные, аудио и видеоматериалы;
- педагогические методы на основе коммуникации «един - одному» - электронная почта, использование социальных сетей;
- преподавание на базе коммуникации «един - многим» - аудио и видеоматериалы, электронные лекции (электронная лекция может представить собой не
традиционный лекционный текст, а подборку статей или выдержек из них, а также учебных материалов, которые готовят обучающихся к будущим дискуссиям):

■ обучение на базе коммуникации «многие - многим» - синхронные и асинхронные аудиографические, видео-, аудио - и компьютерные конференции - например, форумы в edu.pglu, работа в социальных сетях, например, Facebook.

Исходя из вышеприведенного, полагаем, что использование предлагаемых методов обучения, основанных на коммуникативной монодидактической модели языка, а также разработка целостной системы обучения речевому общению на профессиональные темы будут способствовать формированию у студентов целого комплекса коммуникативных и профессионально-ориентированных компетенций.

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PROBLEMS OF TEACHING THE RUSSIAN LANGUAGE IN ECONOMIC UNIVERSITIES

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ANNOTATION
When teaching Russian for economics, the connection between content, general vocabulary and special terminology is obvious. Thus, searching for interesting texts relating to the latest information in this field, meeting the complex and changing needs and expectations of students, using eclectic methods and teaching methods adapted to the learning strategies of students, can lead to successful Russian language classes.

KEYWORDS: Vocabulary of students, cryptocurrency, currency, blockchain, credit cards, central bank, cryptographic tokens.

ВОПРОСЫ ПРЕПОДАВАНИЯ РУССКОГО ЯЗЫКА В ЭКОНОМИЧЕСКИХ ВУЗАХ

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Аннотация
При обучении русскому языку для экономики связь между содержанием, общей лексикой и специальной терминологией очевидна. Таким образом, поиск интересных текстов, касающихся самой последней информации в этой области, удовлетворение сложных и меняющихся потребностей и ожиданий учащихся, использование эклектичных методов и приемов обучения, адаптированных к стратегиям обучения учащихся, может привести к успешным занятиям русским языком.

Ключевые слова: Словарный запас студентов, криптовалюта, валюта, блокчейн, кредитные карточки, центральный банк, криптографические токены.

I. Введение
Криптовалюта — очень популярная тема в наши дни, многие считают ее впечатляющим техническим достижением и денежным экспериментом [1]. Это также актуальная тема при обучении русскому языку для экономики.

2. Теоретическая основа
Существует бесчисленное множество доступных определений криптовалюты, но четкое из них представлено в исследовании Европейского парламента (EP) от 2018 года: криптовалюта — это цифровое представление стоимости, которое предназначено для создания одноранговой альтернативы государственному законному платежному средству, используется в качестве
средства обмена общего назначения (независимо от какого-либо центрального банка), защищено механизмом, известным как криптография, и может быть преобразовано в законное нежным и наоборот [2].

Однако из-за ее анонимности, трансграничного характера и быстрой передачи [2,6] регулирующие органы обеспокоены тем, что криптовалюта используется для незаконных действий, таких как отмывание денег, финансирование терроризма и уклонение от уплаты налогов [2,110]. Самая популярная криптовалюта — биткойн (торгуется с 2009 года), средство обмена, в некоторых отношениях превосходящее наличные (например, его можно использовать в Интернете) и платежи по кредитным картам (это достоинство).

Тем не менее, она более волатильна по сравнению с фиатными валютами, потому что у нее нет центрального банка, а ее предложение не реагирует на изменения спроса [1, 8-9].

Более того, он уязвим для кражи в Интернете (фишинг, мошенничество, взлом). Упрощённое определение блокчейн, технологии распределенного реестра, на которой работает большинство криптовалют, таково: его можно рассматривать как распределенную базу данных. Дополнения к этой базе данных инициируются одним из участников (то есть узлами сети), который создает новый «блок» данных. Затем этот новый блок передается каждой стороне в сети в зашифрованном виде (с использованием криптографии), так что для того, чтобы в него добавить новый блок, нужно иметь большинство узлов сети, которые считаются независимым органом в данной сети.

Блокчейн имеет множество применений во всех областях человеческой деятельности: от криптовалют до блокчейн-деривативов, от регулирования финансовых сделок до обеспечения безопасности в сетях. Блокчейн позволяет исключить посредничество, а также обеспечивать прозрачность и непрерывность всех транзакций. Это позволяет упрощать и ускорять процесс обработки платежей, а также улучшать безопасность и надежность финансовых систем. Блокчейн также позволяет создавать цифровые фиатные валюты и фиатные криптовалюты, а также цифровые акции и ценные бумаги.

3. Преподавание делового русского языка.

Одемир подчеркивает важность обучения предпринимательству в вузе, поскольку наличие предпринимательского мышления и хорошее владение русским языком так же важны для успешной карьеры. Он считает, что включение в занятия тематических занятий по предпринимательству может стимулировать дух предпринимательства у студентов и формировать предпринимательское мышление. Поэтому Европарламент должен помочь студентам мыслить нестандартно, легко адаптироваться к новым ситуациям, мыслить независимо и учиться на ошибках. Знакомство с предметами и словарным запасом, которые могут вдохновить на предпринимательство, является обязательным условием для достижения цели. Это и обучение русскому языку, и обращение к подсознанию; например студенты находят историю успеха предпринимателей интересными [3,293-296]. Чтобы творчески обучать студентов разных программ обучения, к ним следует подходить мысленно, с числами, графиками, конкретной информацией [3, 343]. Авторы предлагают такой ледокол, как предоставление индивидуальных карточек с цитатами из мира бизнеса. Такие цитаты привели бы к энтузиазму и стимулировали бы студентов учиться на примере конкретных случаев. Авторы также приводят примеры полезных материалов: «Проверьте свой словарный запас для итого контрольных работ». Мы считаем, что лексика специального назначения важна так потому, что она напрямую связана с языковыми потребностями студентов, так и потому, что понимание и использование этой лексики специального назначения позволяет студентам владеть языком на высоком уровне, который необходим для успешной работы в бизнесе.

Согласно Алиеву А.Д. и др. (2020, стр. 100-102), преподавание и изучение русского языка должны быть основаны на содержании, а не просто в аудиториях для ввода языка, в результате растущего спроса на интеграцию языка и содержания с упором на коммуникативную компетентность. Автор подчеркивает важность знаний практиков о специализированном языке для конкретной дисциплины, но для того, чтобы знать языковой дискурс, они должны сначала иметь некоторые базовые знания об области обучения студентов. Таким образом, преподаватели языка должны контекстуализировать свои курсы русского языка для соответствующей области, в то время как студенты должны знать то, что они изучают в аудитории русского языка, со своей областью обучения или своим будущим рабочим местом. Особое внимание следует уделять неологизмам, учитывая, что криптовалюты —
организатор новое явление. Неологизмы - это слова или словосочетания, которые являются новаторскими по своей форме или значению в фиксированный момент времени и несут новую социальную и культурную отсылку. Изучение неологизмов позволяет узнать о современных культурных ценностях, образе мышления и жизни сообщества, говорящего на этом языке [6,314]. Среди стратегий обучения неологизмам автор перечисляет группировку и обучение неологизмам в соответствии с основными темами, предоставление исходной информации и контекстуальных подсказок о неологизме, предоставление образа, связанного с ним.

Паркинсон подчеркивал необходимость того, чтобы учителя обращали внимание не только на лексику, грамматику и жанры, но и учитывали дисциплинарный контекст, в котором социализируются студенты, включая культуру и ценности этих дисциплин [6,168]. Преподаватели русского языка обычно обучаемые как учителя письма или языка, работают за пределами своих собственных дисциплин и должны стать этнографами, исследуя незнакомые языковые разновидности, дисциплинарные культуры и способы [6,155]. Тематические исследования позволяют студентам практиковаться в определении параметров проблемы, распознавании и формулировании позиций, оценке вариантов действий и аргументировании различных точек зрения. Тематические исследования представляют собой сценарии, в которых концепции, изученные в классе, применяются в реальной жизни. Ситуации и уже часто используются на факультетах экономики и менеджмента. Кроме того, поскольку это интерактивный метод обучения, студенты чувствуют его мотивацию, воспринимают положительно, как возможность проявить инициативу, ощутить самодостаточность в освоении теории и овладении практическими навыками [7,297].

4. Методология исследования.

Упомянутые выше мероприятия являются частью методологии, используемой для разработки плана урока, основанного на понятии и термине «криптовалюта» и направленного на обучение деловому русскому языку, целями, которые преследует преподавательский состав, могут быть обучение специализированной лексике, развитие у студентов навыков чтения, аудирования, разговорной речи и аудирования с помощью аудиовизуальных средств (видео, онлайн-словари, онлайн-платформы)

Воспользованные литературы

6. Пакион А.В. Методика преподавания иностранных языков в среднеспециальных учебных заведениях.
THE CONCEPT OF SUSTAINABLE COMPARISON OF RUSSIAN LANGUAGE

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SUMMARY
The article deals with the stable comparisons of Russian. The comparative turns created by national dishes are in the focus. The turns are claimed to be of conceptual character. Concept which is the object of comparison present important cognitive feature for phraseologisation.

KEY WORDS: national kitchen, comparative turn, concept, cognitive sign

КОНЦЕПТ УСТОЙЧИВОГО СРАВНЕНИЯ РУССКОГО ЯЗЫКА

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Аннотация
В статье рассматриваются устойчивые сравнения русского языка. В центре внимания сравнительные обороты, созданные национальными блюдами. Утверждается, что повороты носят концептуальный характер. Концепт, являющийся объектом сравнения, представляет собой важный когнитивный признак для фразеологизации.

Ключевые слова: национальная кухня, сравнительный оборот, концепт, когнитивный признак

В эту группу сравнительных оборотов входят следующие выражения: как блин, как масляный блин, как блины печь, как последний на хлеб, как каша, словно каша во рту, как кисель, как панчика, как пышка, как ракинад, как сахар, как сметана, как сосиски, как студень, как сыр в масле катиться, как тесто, как хлеб насущный. Сразу же бросается в глаза то обстоятельство, что эта группа делится на две части. Одна часть сравнений построена на чисто русских понятиях и представлениях. Сюда входят обороты „как блин, как масляный блин, как блины печь, как последний на хлеб, как каша, словно каша во рту, как кисель, как панчика, как пышка. Обороты второй группы строятся на универсальных образах хлеба, сахара, сметаны, теста, студня. Образ сосисок может даже считаться заимствованным, поскольку он не носит ни универсального характера, как хлеб, сахар, тесто, ни собственно русского.

В основе оборота как сосиски лежит признак «пухлость». Интересно, что этот признак способен ассоциироваться как с положительной, так и отрицательной коннотацией. В Словаре Ожегова приведены примеры как отрицательную, так и положительную коннотацию. Однако сам характер коннотации не находится в интерпретации. Не отражено это обстоятельство и в словарном описании. Здесь указано только: «Толстые, пухлые. О пальцах на руке человека» (1, 640).

Характер коннотации определяется контекстуально. Только в ситуации определяется, какое впечатление производят толстые и пухлые пальцы человека. Например: «Капитан Хомяк обходит строй. Ему лет сорок пять. Он обрез. У него толстые, как сосиски, пальцы на синих, распухших руках» (80, 640). В этом предложении дистрибуция синие, распухшие руки указывает на то, что эти толстые пальцы неприятны на
вид. Значимо, что сам сравнительный оборот не раскрывает характера коннотации. Он как бы индифферентен по отношению к коннотации.

Напротив, в следующем предложении сравнение с сосисками не носит очевидного отрицательного характера, а содержание дополнительной дистрибуции говорит о положительном впечатлении. Например: «Магунов сел за стол, снял очки, протер их безукоризненно чистым платком и, рассматривая свои холеные руки с пухлыми, как сосиски, пальцами, спросил: - Ну так как дела Фемида?» (1, 640).

Округление пухлые не дает представления о коннотации, однако дополнительная дистрибуция холеные руки совершенно четко создает представление об ухоженности и красоте. Дело в том, что само окружение также индифферентно по отношению к коннотации.

Блин/блинчик может считаться предметом русской кухни. За этим предметом стоит большой объем фоновой информации. Так, блины легко пекутся, они вкусные, т.е. несмотря на легкость приготовления, это своеобразный деликатес. Блины, как правило, пекут в большом количестве. В Словаре Огольцева зафиксированы три сравнительные оборота с компонентом блин как блин, как масляный блин, как блин печь.

В системе сравнений русского языка зафиксировано три типа сопоставления: блин с блином как одинаковый блин, блины с масляным блином и блин со сравнительным компонентом (1, 58). В приведенных иллюстрациях посмоляков, как блин, оказывается кровать, фуражка, минометы.

В системе сравнительных оборотов русского языка блин становится олицетворением блеска, радости, сияния. Внешний вид блина, разумеется, является чрезвычайно апpellитным. Признак аппетитности на знаковом уровне, на уровне газер семантической схемы означает «притягательность». Например: «Как (слово, точно) <масляный> блин Сияй, расплываться <в улыбке>, О человеке ( – лице человека)» (1, 58).

Наконец, в русском сознании блины остаются символом легкости, быстроты и большого количества приготовления. В Словаре Огольцева отмечается и такой признак, как небрежность: «Как (слово, точно) блины печь Делать, производить, выпускать что-л. – быстро, легко, наскоро, небрежно, в большом количестве (ион.)» (1, 59).


Такое блюдо, как каша становится объектом для сравнения. В русском языке существует и метафора каша, образованная на таком символе переноса, как «полужидкая масса». Например, бетонная каша. Огольцев пишет: «Как (слово, точно) блина Густой – о жидкости; полужидкий, вязкий – о веществе, массе. Чем холоднее лед, тем он крепче. Как согреется лед, так он слабеет, сделается, как каша. (Л.Н.Толстой. Лед, вода и пар)» (1, 250).

В принципе тот же признак лежит в основе сравнения словно каша во рту, однако в этом случае он представлен имплицитно. В данном случае актуально то, что человек не умеет говорить.

Сравнение как кисель, судя по Словарю Огольцева, строится на двух признаках – густота и вязкость. Например: «1. Густота – о жидкости; полужидкий, вязкий – о веществе, массе; раскисать, расползаться, превращаться в полужидкую, вязкую массу» (1, 250).

Эти значения носит естественный характер, так как сравнивают предмет с предметом, или состояние предмета с предметом. Некоторое противоречие можно обнаружить в признаках «густоты» и «полужидкости». На самом деле это один и те же признаки, различаются реалии, по отношению к которым применено сравнение. В первом случае, когда реализуется признак «густота», это жидкость, которая естественным образом соотносится с киселем. Во втором случае кисель идет о какой-либо массе, находящейся в полужидком состоянии. Таким образом, здесь мы видим дифференциацию по реалиям.

Сравнение как кисель имеет и второе значение, более метафорическое и не соотносящееся непосредственно с первым, которое имеет физический и визуально представленный характер. Это второе значение имеет отношение к внутреннему миру человека: «2. Сладкий, безвольный, бесхарактерный, инертный» (1, 250).

Следует отметить, что во втором значении символ переноса является «несостоятельность», непосредственно производя от признака «полужидкий», т.е. «нетвердый». Сопоставление семантических характеристик показывает, что в первом случае употребление киселя идет к густоте, твердости. Во втором значении, напротив, от твердости к размягченности. Интересно, что и в варианте второго значения (не о жидкости, а о массе) внимание также сосредоточивается на качестве скипетра: «Много дождя – распустилась наша пашенка словно кисель» (1, 250).

Казалось бы, идентичны выражения как рафинад и как сахар, но они не совпадают по семантическому объему. Так, в Словаре Огольцева сравнение как сахар строится только по одному признаку – белизниники, т.е. «нетвердый». Сопоставление семантических характеристик показывает, что в первом случае употребление сахара идет к густоте, твердости. Во втором значении, напротив, от твердости к размягченности. Интересно, что и в варианте второго значения (не о жидкости, а о массе) внимание также сосредоточивается на качестве скипетра: «Много дождя – распустилась наша пашенка словно кисель» (1, 250).

Как пампушка – круглая, белая, румяная (1, 450) и как пышка – «круглая, белая, румяная» (слово, точно) рафинад и как сахар не совпадают. В обороте как каша «полужидкая» связана исключительно с кашами человека. Здесь два ограничения. Во-первых, блины, во-вторых, человека.

Как пампушка – круглая, белая, румяная (1, 450) и как пышка – «круглая, белая, румяная» (слово, точно) рафинад и как сахар не совпадают. В обороте как каша «полужидкая» связана исключительно с кашами человека. Здесь два ограничения. Во-первых, блины, во-вторых, человека.
как пампушка отличается положительной коннотацией и высокой степенью эмоциональности. Это со всей очевидностью обнаруживается как в семантических структурах слов-индикаторов круглый, белый, румяный, так и в их сочетании, конкретном наборе. Кроме того, характерно, что все эти прилагательные даются не в исходной форме мужского рода, а форме женского рода. Иными словами, как пампушечка ассоциируется с образом красивой, обаятельной женщины.

Оборот как пышка не имеет таких эмоционально окрашенных индикаторов. Во-первых, слова даются в форме мужского рода, и только в скобках представлены окончания женского рода. Во-вторых, только указывается, что преимущественно речь идет в данном случае о ребенке, девушке, молодой женщине.

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PROBLEMS OF NATURE IN RUSSIAN LITERATURE

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ANNOTATION
This article discusses the issues of describing nature in Russian literature. The lyrical works of A.S. Pushkin, M. Lermontov, A. A. Fet about nature are analyzed.

KEY WORDS: lyrics, poets, landscape, nature, emotional experiences.

Вопросы природы в русской литературе

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Узбекистан.

Аннотация
В данной статье рассматриваются вопросы описания природы в русской литературе. Анализируются лирические произведения А.С.Пушкина, М.Лермонтова, А. А. Фета о природе.

Ключевые слова: лирика, поэты, пейзаж, природа, душевные переживания.

Вопросы изображения природы Родины всегда была актуальной темой в творчестве русских поэтов и писателей. Русские поэты в своих лирических произведениях часто обращались к теме природы. Данная тема находит отражение в стихотворении Ф.И. Тютчева «Не то, что мните вы, природа», в стихотворении А.А. Фета «Учись у них – у дуба, у березы» и в стихотворении М.Ю. Лермонтова «Когда волнуется желтеющая нива».

Одной из самых главных тем в творчестве русских поэтов является тема природы, которая тесно связана с темой Родины. «Любовь к родной природе – один из важнейших признаков любви к своей стране…» Это слова писателя К. Г. Паустовского, непревзойденного мастера описания русского пейзажа, писателя, сердце которого было переполнено нежностью и любовью к родной природе.

Кто может не согласиться с ним? Нельзя любить Родину, если не живешь одной душой с жизнью любимой березки. Нельзя любить весь мир, если не имеешь Родины. Именно эти идеи рассмотрены в стихотворениях таких великих поэтов, как А. С. Пушкин, М. Ю. Лермонтов, А. А. Фет, Ф. И. Тютчев и многих других.

Как истинный художник, Пушкин не выбирал особых «поэтических предметов», источником его вдохновения была жизнь во всех ее проявлениях. Как русского человека, Пушкина не могло не волновать все, что связано с Родиной. Он любил и понимал родную природу. В каждом времени года поэт находил особое очарование, но больше всего он любил осень и посвятил ей немало строк. В стихотворении «Осень» поэт писал:

Унылая пора! Очей очарованье!
Приятна мне твоя прощальная краса –
Люблю я пышное природы увяданье,
В багрец и золото одетые леса...

[1]
Пейзаж у поэта не бесчувственный образ, он активен, имеет свое символическое значение, свой смысл. В стихотворении «На холмах Грузии...» пейзаж сквозит не только в пейзаже, но и в настроении поэта. Он пишет: «На холмах Грузии лежит ночной мгла...». В этих строках передана романтическая меча о волшебном крае. Пушкин изображает мир сильных страстей и чувств.

Говоря о другом великом русском поэте, М. Ю. Лермонтове, мы должны отметить, что в образах природы поэт искренен и как «певец природы». Действительно, природа в его стихах запечатлена тонко, поэт замечает малейшие перемены в ее состоянии: «И слышу я: в излечение росстой Впозднее скрытая коростели...»[5]

Знаменательно, что мы имеем дело с автором, который по голосу различает птиц и, более того, замечает, где эта птица находится. Это, конечно, не просто следствие хорошего знания природы, а любовь к ней поэта, давняя и обстоятельная.

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Лирический герой стихотворения М.Ю. Лермонтов способен видеть красоту природы, которая его окружает. В лирическом произведении появляются образы желтеющей нивы, снежного леса, ветерка, сада, малиновой сливы, зеленого листка, росы, ландыша родных просторов, природы как бы лечат истинную человечность, великой любовью к ней, ко всему живому на Земле. Можно сказать, что одними из самых прекрасных являются стихотворения, затрагивающие волнующую нас тему, и, кроме того, пейзаж является неотъемлемой частью всех лирических произведений русских поэтов.

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Пейзаж у поэта не бесчувственный образ, он активен, имеет свое символическое значение, свой смысл. В стихотворении «На холмах Грузии...» пейзаж сквозит не только в пейзаже, но и в настроении поэта. Он пишет: «На холмах Грузии лежит ночной мгла...». В этих строках передана романтическая меча о волшебном крае. Пушкин изображает мир сильных страстей и чувств.

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Воспользованные литературы

3. Там же.
THE DEVELOPMENT OF PARLIAMENTARISM IS AN IMPORTANT FACTOR OF DEMOCRACY

Usmanova Umida Samatovna
Lecturer at the Department of Humanities, Tashkent State Agricultural University Uzbekistan.

ANNOTATION
This article discusses issues related to the development of a democratic society in the Republic of Uzbekistan.
KEY WORDS: parliament, parties, society, democracy, legislation, dress coats, politics.

РАЗВИТИЕ ПАРЛАМЕНТАРИЗМА – ВАЖНЫЙ ФАКТОР ДЕМОКРАТИИ

Усманова Умида Саматовна - Преподаватель кафедры Гуманитарных наук Ташкентского государственного аграрного университета. Узбекистан.

Аннотация
В данной статье рассматриваются вопросы, связанные с развитием демократического общества в Республике Узбекистан.
Ключевые слова: парламент, партии, общество, демократия, законодательство, фраки, политика.

В Узбекистане с первых лет независимости на основе провозглашенного в Конституции страны приоритета верховенства закона важнейшей задачей становления и развития национальной государственности и управления было определено усиление роли и влияния законодательной ветви власти. В рамках этого процесса совершенствуется парламентская система страны, которая сегодня является самостоятельной, независимой ветвью власти, активно влияющей на принятие и реализацию государственных решений.[1]

Осуществляемые в Узбекистане по инициативе Президента Ш.М. Мирзиёева масштабные реформы имеют системный, последовательный и взаимосвязанный характер. Парламент, чьи члены избраны народом, играет центральную роль в практике демократии и применении законов. Создание двухпалатного парламента, принятие закона о повышении роли политических партий, растущая конкуренция их фракций – все это практические шаги к удовлетворению двух самых демократических институтов в Узбекистане – политических партий и парламента. Открытые демократические выборы предоставляют возможности для реализации политического потенциала людей. Развитие современного парламентаризма в Узбекистане – одно из ключевых направлений государственной политики по дальнейшей демократизации и модернизации страны. Реформы в этой важнейшей сфере, включающей в себя и избирательный процесс, осуществляются с учетом особенностей национального общественно-политического развития и международных правовых стандартов, на основе собственного опыта, богатейшего исторического и культурного наследия, ценностей и традиций народа Узбекистана. [2]

Демократия – процесс динамичный, она всегда находится в развитии. Национальное избирательное законодательство отвечает всем международным стандартам. Развитию плюрализма, конкуренции между политическими партиями, их фракциями в парламенте способствовала реализация принятого по инициативе Президента Ш.М.Мирзиёева программ «Стратегия развития страны на 2022-2026 годы». Создана законодательная база, опираясь на которую, партии превращаются в решающую и эффективную силу преобразований в нашем обществе. Общепризнанной
формой активного участия политических партий и движений в формировании органов представительной и исполнительной ветвей власти, имплементированной в национальное законодательство, являются выборы. В независимом Узбекистане с самого начала было установлено фундаментальное, гарантированное законодательством право всех граждан участвовать в выборах и голосовать. Вследствие демократического развития политические партии приобретают все больше прав и полномочий. Демократический процесс, происходящий в стране по инициативе нашего президента, основан на принципе поэтапности, который обеспечивает сбалансированность и последовательность осуществляемых реформ.[3]

Либерализация национального избирательного законодательства продолжается с целью его дальнейшей гармонизации с общемировыми демократическими тенденциями, происходящим в стране углублением демократических преобразований. Принятый Закон «О внесении изменений и дополнений в некоторые законодательные акты Республики Узбекистан в связи с совершенствованием законодательства о выборах» значительно расширяет роль и возможности участия в них институтов гражданского общества. Повышается информированность населения о деятельности политических партий, их фракций в парламенте. Кроме того, следует отметить такую новую норму, как участие в работе парламента Экологического движения.

Узбекистан имеет хорошую парламентскую систему. В мире есть разные парламентские системы, но существуют общие тенденции развития демократии. Граждане должны знать, что такое демократическое общество, учится понимать друг друга и уважать иное мнение. Важнейшие условия сохранения согласия в обществе – образованность и нормальный уровень жизни населения. Изменения в избирательном законодательстве, парламентской и избирательной системах страны говорят о стремлении к развитию. Наличие разных политических партий позволяет людям иметь свободный выбор. В то же время подчеркивалось, что универсальной модели демократии не существует, каждое государство вправе использовать те демократические инструменты, которые наиболее точно отражают особенности его развития, самообность, исторические и национальные традиции, а также уровень правовой и политической культуры населения, его социальной активности.

Уровень развития избирательного законодательства, парламентской и выборной систем в Узбекистане отвечает базовым международным нормам. Однако узбекского населения нет, каждая страна основывается на реальных потребностях своего общества. Следует отметить включение в парламентскую систему общественного Экологического движения – без преобразования его в политическую структуру. Для Центральной Азии тема экологии очень важна, особенно с учетом Аральского кризиса. В Узбекистане парламентская система развивается достаточно быстро. Принимаемые меры по либерализации демокрации общества способствуют прогрессу и повышению уровня жизни людей. Обеспечение общественно-политической стабильности еще больше повышает эффективность реформ и уверенность граждан в завтрашнем дне.

Воспользованные литературы
IMPACT OF COVID-19 ON PERSONAL DEBT OF STREET VENDORS IN ROURKELA CITY: A LOGISTIC REGRESSION APPROACH

Dibya Jyoti Suniani, Sandeep Kumar Patra, Bikash Sethy, Bhagaban Behera, Jitamitra Mishra

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ABSTRACT

Undoubtedly covid-19 amidst lockdown has impacted millions of people across the world and various sectors altogether, the informal sectors are mainly affected as more than 60 percent of the workforce are engaged in the informal sector. Street vendors also fall under the category of informal sectors also got affected due to covid-19 and lockdown. The policy of work from home does not apply to them as they are the daily bread-earners, they spent on living what they have earned in a day. This paper focuses on studying the impact of Covid-19 on the personal debt of street vendors during the lockdown period. Using the Logistic regression technique, the impact of Covid-19 on the income of street vendors has been studied. The data mainly used in the study are primary and were collected from street vendors, fruits vendors, and vegetable sellers which were later analyzed by applying logistic regression and using E-views. It is found from the study that there is a significant impact of Covid-19 on increasing the personal debt level of the street vendors.

KEYWORDS: Covid-19 Pandemic, Lockdown, Street Vendors, Personal Debt

INTRODUCTION

Street vendors are an integral part of urban economies around the world, offering easy access to a wide range of goods and services in public spaces. They sell everything from vegetables to prepared food, from building material to garments and crafts, from consumer electronics to auto repair to a haircut (WIEGO). In March 2020, the government announced the strictest lockdown in the country, which came at the cost of the livelihood of millions of street vendors in the country (shah, 2020). Despite strict guidelines laid down by the government to combat the covid-19 situation, the street vendor risks their lives to supply products, goods to the needy and also for their self-survival. The street vendors are fighting not only with covid-19 but also from hunger. They hardly had any financial backup to meet this pandemic by simply staying at home and depending on their saving thus it is impossible on their part to remain at home and stop their business. However, Odisha announced 29 cr package for street vendors to be provided to each registered vendor amounting to Rs 3000 amid pandemic (mohanthy, 2021)

LITERATURE REVIEW

Husain et.al., (2015) tried to assess the socio-economic conditions and business issues of different street vendors.it also highlighted that poverty, lack of education, migration from rural areas & large family size are the main driving force for carrying out the street vending business. The author also discussed the socio-demographic and economic characteristics of street vendors followed by the problem faced by them. Further, the author suggested Bangladesh government strengthen the street vendors financially and can help in boosting the infrastructure development of the city so that their business is uninterrupted.
Meher et al. (2020) tried to explore the impact of lockdown on the livelihood of a street vendor. The author uses thematic analysis to analyze the data and find that lockdown impacted street vendors vulnerably. It is also found that during lockdown many other people entered into the street vending business which creates tough competition with the pre-existing vendors and many have taken a loan to sustain their business during lockdown period Deka (2020) impact of lockdown on street vendors and adverse effect on the livelihood. The author also studied the street vendor’s views on street vending business activity post lockdown. The author for the study uses non-probability convenient sampling from 50 street vendors and finds that many street vendors shut down their business during the covid-19 period as lack of sufficient capital compels them to leave the job and continue doing other jobs. He concluded by suggesting that financial help from the government is of great importance to revive the livelihood Vijayarani & Selvam (2021) use convenience sampling method from 300 street vendors to compare pre and post covid-19 period to investigate the working lives of vendors in terms of financial and marketing conditions and also to assess the prospects of street vending in the context of Covid-19. The author applied the paired sample t-test and finds that there is a significant difference between pre and post covid-19 impact on street business but the livelihood conditions bring no change between both the pre and post covid-19 period moreover government relief plans do not bring any change in their situation Ullah (2021) tried to explore the livelihood of street vendors during Covid-19 in Bangladesh. Using the purposive sampling technique, he makes a depth interview of 15 street vendors and finds that the Covid-19 lockdown is a significant burden for street vendors, leaving them no other options for earning. And during lockdown they spend total savings, borrow money from others and sell home furniture to fulfill their needs and demands Majithia (2020) highlighted the issue that arises to the street vendor during the covid19 period in Delhi and advised that though the registered street vendor are about 13100 out of roughly 300000 street vendors, TVC’s must find the unregistered vendors by conducting a survey and make them registered to avail various government package directly into their bank account. The author also suggested the government take the step to ensure hygiene and social distancing at the site of vending Turner et.al, (2021) tried to examine how street vendors experienced and responded to the Covid-19. The author mainly focuses on rural to urban migrant street vendors for which 61 semis structured interview was used. He concluded that migrant vendors still continue with vending due to the household financial needs as the migrant vendors cannot have moved back to rural places due to the fear of facing social stigma.

RESEARCH GAP

The review of various studies on the impact of Covid-19 on street vendors revealed that there are population and empirical gap exists in the existing literatures because research on the impact of Covid-19 on the personal debt level of the street vendor in Rourkela city has not yet been attempted. The present study is an attempt to fill this research gap.

RESEARCH OBJECTIVE

The objective of this study is to find out the effect of Covid-19 on the personal debt of street vendors of Rourkela city.

RESEARCH METHODOLOGY

The present study was confined to the western part of Odisha that is Rourkela city. Primary data was collected for the study, for which a questionnaire is formed and was collected from 105 street vendors of Rourkela. A few of the respondents refused to take part in the survey. The convenience sampling technique is used to select the sample size from an undefined population size in Rourkela city. The first part of the questionnaire covers the demographic profile and the next part covers the impact of Covid-19. Primary data collected from 105 street vendors of Rourkela city it is found that 73 are male representing 69.5 % of the total sample & 30.5% of street vendors are female-headed which that is 32 females are also engaged in street vending jobs and are from all the age group and maximum respondent belongs to the category of 35-45 age group representing 31.4% of the total respondent. The household size showed that out of a total of 105 respondents 52 members had a family size between 4 to 6 members & all the members are fully dependent on the street vending job as their only source of livelihood. In the same way, the education profile of respondents depicts 36.2% of the street vendors i.e. 38 respondents have no primary education and are conducting their business without any literacy & in the same way 29 and 32 street vendors have studied up to primary and upper primary education respectively. With regards to daily income, 79 street vendors had a daily income of Rs 500-700 and only 4 respondents earned above 2000 i.e. 3.8%. The present study aims to study the effect of Covid-19 on the personal debt level of street vendors and also examine the ways adopted to tackle economic vulnerability during the Covid-19 period. The respondents were asked whether the personal debt is increased or not which is our dependent variable this is the prime reason for selecting logistic regression to analyze the data using E-Views software out of various statistical models as for binary or nominal variables the logistic regression model is very much useful. for the independent variable, the daily income of the workers, and the Covid-19 variable which is Changes in Fixed time slots of business are taken. The time slot that is available for the Street vendor is 6.00 AM to 11.00 AM so many street vendors caring business in the evening changed to the fixed time slot available.
Table 1 - Variables and definitions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Debt (Dependent Variable)</td>
<td>1 for increase in debt, Otherwise 0</td>
</tr>
<tr>
<td>Fixed Slots Changes (Independent Variable)</td>
<td>1 for time slot of business change, Otherwise 0</td>
</tr>
<tr>
<td>Mobility Restrictions (Independent Variables)</td>
<td>1 for mobility restrictions, Otherwise 0</td>
</tr>
</tbody>
</table>

ANALYSIS AND DISCUSSION OF RESULT

Table 2 - Logistic Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIXED_TIME_SLOT_CHANGES</td>
<td>-2.950123</td>
<td>0.811741</td>
<td>-3.634316</td>
<td>0.0000</td>
</tr>
<tr>
<td>MOBILITY_RESTRICTION</td>
<td>-1.730758</td>
<td>0.805461</td>
<td>-2.148780</td>
<td>0.0317</td>
</tr>
<tr>
<td>C</td>
<td>2.624395</td>
<td>0.478178</td>
<td>5.488325</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

McFadden R-squared           | 0.517058    | Mean dependent var | 0.647619   |
S.D. dependent var           | 0.480003    | S.E. of regression  | 0.304600   |
Akaike info criterion        | 0.683912    | Sum squared resid  | 9.463708   |
Schwarz criterion            | 0.759740    | Log likelihood     | -32.90540  |
Hannan-Quinn crit.           | 0.714639    | Deviance           | 65.81080   |
Rest. deviance               | 136.2707    | Restr. log likelihood | -68.13535 |
LR statistic                 | 70.45990    | Avg. log likelihood | -0.313385 |
Prob(LR statistic)           | 0.000000    |                    |            |

Obs with Dep=0               | 37          | Total obs          | 105        |
Obs with Dep=1               | 68          |                    |            |

Table-2 shows that the dependent variable having 0 value are 37 in numbers and the dependent variable having 1 as value are 68 in numbers, it suggests that among respondents out of 105 respondents 68 have increased in debt and 37 have not increased in debt level, the LR statistic of 70.45 and Prob (LR statistic) value of 0.00 which suggest that the Covid-19 Variable i.e. fixed time slot change and mobility restriction together affects the personal debt of street vendor significantly as probability value of LR (Likelihood Ratio) statistic which is equivalent of F-test in linear regression Model is nearly 0. The McFadden r square value of 0.51 is suggesting that the model fits well as in logistic regression the value of McFadden r square above 0.2. The sign of the coefficient of both the variables such as fixed time slot changes and mobility restrictions minus (-) which suggests that if Mobility restriction falls and Fixed Time Slot changes the personal debt level of the street vendor in Rourkela will increase. The P-value of Both the variable which are 0.000 and 0.0317 suggest that individually both the variables are significantly affecting the debt level of the street vendors of the Rourkela city. Overall, the result from logistic regression shows that the personal debt of street vendors in Rourkela city does increase because of covid-19.
Table 3- Prediction Evaluation for Binary Specification

<table>
<thead>
<tr>
<th>Estimated Equation</th>
<th>Dep=0</th>
<th>Dep=1</th>
<th>Total</th>
<th>Constant Probability</th>
<th>Dep=0</th>
<th>Dep=1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>P(Dep=1)≤C</td>
<td>31</td>
<td>5</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P(Dep=1)&gt;C</td>
<td>6</td>
<td>63</td>
<td>69</td>
<td>37</td>
<td>68</td>
<td>68</td>
<td>105</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>68</td>
<td>105</td>
<td>37</td>
<td>68</td>
<td>68</td>
<td>105</td>
</tr>
<tr>
<td>Correct</td>
<td>31</td>
<td>63</td>
<td>94</td>
<td>0</td>
<td>68</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>% Correct</td>
<td>83.78</td>
<td>92.65</td>
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<td>% Incorrect</td>
<td>16.22</td>
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<td>0.00</td>
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</tbody>
</table>

Prediction Evaluation for Binary Specification from table 3 suggests that with a cut-off point of 0.5, in the estimated equation the Correct % is 89.52% which means out of 105 observations our model correctly predicted the outcomes 94 times. With constant probability, the model correctly predicted the outcome 68 times out of 105 observations.

FINDINGS

The objective is to study the effect of Covid-19 on the personal debt of street vendors, and it has been found that there is a significant effect of covid-19 on the personal debt of street vendors as the not only majority of the respondent lose their job during Covid-19 period but strict lockdown also affected their earnings. It is also found that the fixed time slot to do business was only limited to 4-5 hours from 6:00 AM to 11:00 AM also limited their earning and had to throw away those unsold perishable goods on which they had invested their capital.

CONCLUSION

Undoubtedly Covid-19 Pandemic severely impacted almost every sector of the economy and street vendors also didn’t remain untouched. Their daily income is drastically reduced and becomes difficult to even earn for a day living. They are still fighting with Covid-19 by risking their lives just for a day earnings to support their family.. Their condition was very harsh & pitiful, especially during the Covid-19 period. Though both central and state governments have come up with PM SVANIDHI loan and state scheme of amounting to 10000 & 3000 respectively but 61 out of total 105 respondents are not aware of this scheme & 98 respondent nor does avail PM-SVANIDHI loan hence awareness of this scheme is needed at this time.

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FORMATION OF VOCATIONAL KNOWLEDGE, SKILLS, SKILLS AND COMPETENCES OF STUDENTS IN THE PROCESS OF VOCATIONAL AND LABOR EDUCATION

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ANNOTATION
Research is being conducted on the relationship of professional skills with professional qualifications and professional skills in disciplines such as pedagogy and methodology of vocational education, labor psychology, psychology of professional activity. We emphasize that the concept of professionalism is formed and put into practice based on a specific system of professional knowledge, skills, competencies and competencies.

The article addresses the issues of formation of professional knowledge, skills, abilities and competencies of students in the process of vocational and labor education.
KEYWORDS: profession, labor, education, professional skills, practical training, industrial education, practice, knowledge, skill, qualification, competence.

Research to date on the theory and methodology of vocational and labor education shows that the content of vocational education has traditionally been divided into theoretical and practical education, theoretical knowledge and practical skills.

However, the analysis showed that the concepts of “practical education” and “industrial training” have been used to describe the process of practical education in traditional educational practice [1].

However, the concept of “practical education” or “industrial training” fully covers the practical aspects of vocational education, ie practical-laboratory work in special disciplines, teaching practice in professions and specialties, production (technological) practice and undergraduate practice. can not. However, the secondary use of the concept of “practical education” itself (in relation to practical education in pedagogy) is inappropriate, and the expression of all practical aspects of vocational education under the concept of “industrial education” is methodologically and organizationally-methodologically unacceptable.

The fact is that when it comes to “practical education”, they are accustomed to using the term “industrial education”.

In our study, based on the above, the theoretical and practical aspects of integrated vocational education in professional colleges - "theoretical vocational education" and "practical vocational education" (or "vocational theoretical education", "vocational practical training") to fully express the components. concepts.

If there are difficulties with the use of these concepts in the text or pedagogical communication, the terms “theoretical training for professional activity” and “practical training for professional activity” or “theoretical professional training” and “practical professional training” can be used as their meaning.

Theoretical professional knowledge alone will not suffice to carry out professional activities. However, it will be necessary to master the practical professional skills that will enable you to perform this activity. For example, a person who knows the structure of a car well or has studied its control mechanism may not be able to drive it in practice.

In theoretical vocational education, the features aimed at theoretical modeling of the content of professional activity in a particular profession and specialty are studied, while in practical vocational education, the features that ensure the application of the theoretical model of professional activity in practice are studied [2].

Accordingly, the main structural elements of theoretical vocational education are a set of general and special disciplines, while the structure of practical vocational education consists of practical and laboratory work, teaching practice, production (technological) practice and undergraduate practice.

The basis of theoretical vocational education is the process of acquisition by students of professional knowledge in general professions, general technology, special technology, technological equipment, network economics, safety and labor protection, network ecology in certain professions and specialties. This process is often referred to in practice as ‘professional knowledge’. "Professional mastering (learning)” is provided through the professional knowledge of students.
Professional knowledge is reflected in professional concepts, that is, it integrates the general and important features of a particular professional object, event or process. For example, the concept of "labor process" and others. A professional concept can also represent an individual professional object. For example, the labor of a builder, the labor of a cotton grower, the labor of a herdsman.

In the formation of professional concepts, the use of methods of comparison, analysis of the whole into parts (analysis), collection of ideas into parts (synthesis), abstraction and generalization plays an important role.

The content of vocational education includes a set of professional knowledge, skills and competencies expressed in curricula and textbooks in general and special disciplines, as well as in training, production and undergraduate internship programs.

How does the formation of professional skills and competencies go proportionally? To determine this, it is first necessary to understand the essence of practical vocational education as a whole process [3].

Therefore, in theoretical vocational education, the features of theoretical activities aimed at modeling the content or essence of a particular professional activity are studied, while in practical vocational education, the features of practical activities that ensure the implementation of this model are studied.

Practical vocational education is a separate independent part of the general pedagogical process, which has its own purpose, content, logic, principles, forms, methods and means of implementation. Thus, practical vocational education is the process of practical vocational training of students for a specific type of production work in certain professions and specialties on the basis of the state educational standard [1].

In this context, the general components of the process of practical vocational (industrial) education are:

1) goals (educational, pedagogical and developmental);
2) content (a set of practical professional skills and competencies in professions and specialties);
3) activity of masters of special disciplines and industrial education - training (instruction) activity;
4) student activity - learning (mastering) activity;
5) educational aids - logistics, training and production documents, manuals, etc.

The basis of the process of practical vocational education is the educational and experimental work of students and educational and production work, the purpose of which is to form in students the basics of professional skills, the content - professional skills and abilities.

Practical vocational education is a special methodology in terms of pedagogy and methodology of vocational education, which studies the process of practical training of future professionals and the laws of formation of the basis of professional skills and abilities in them.

Thus, practical vocational education or practical preparation for professional activity is directly related to the concepts of "professional ability", "professional qualification" and "professional skill" [4].

The process of vocational education is a rather complex process, which can be described by two different approaches in terms of content and nature:

Approach 1: The process of vocational education is an integrated process consisting of the interaction of vocational training and vocational training processes:

1) Vocational training is a process of transferring professional knowledge and skills, as well as professional activity (skill) experience to students, which describes the activities of teachers of special subjects and masters of industrial education.

2) Vocational reading - is the process of mastering social professional experience, the basics of professional skills through comprehension, thinking, transformation, independent reading, use, etc., which characterizes the activities of students.

The basis of the vocational education process is the interrelated professional knowledge, skills, competencies and competencies provided by teachers of special subjects and masters of industrial education in the process of vocational training and mastered by students in the process of vocational training.

"Knowledge is the information that people create about natural and social phenomena, the reflection of reality in human thinking" [5]; knowledge - a system of concepts about the object, event and process studied, memorized, accepted in theoretical and practical activities [6]. This also applies in general to the concept of "professional knowledge".

Professional knowledge - information necessary for the work of a junior specialist; the result of a student's professional cognitive activity in the process of vocational education is the acquisition, systematization and consolidation of concepts and ideas about professional laws, laws, as well as methods of labor activity.

Professional ability - the ability of a junior specialist to apply the acquired professional knowledge in their practical activities in non-standard, unusual and complex situations; the process and outcome of performing his professional actions consciously quickly, economically, correctly, with minimal physical and mental effort.

In other words, professional competence is a way for a junior specialist to perform practical actions based on his or her existing professional knowledge; the ability to target in the work environment, to use the necessary methods, and to be prepared to take action to solve a task. In terms of formation of professional skills can be divided into the following levels: 1) basic skills; 2) intermediate skills; 3) complete skills.

Professional qualification - the ability of a junior specialist to perform a particular professional activity skillfully; automation of certain components of professional activity; a work style that has become a habit as a result of repetition and practice of professional skills many times. The higher the automation of labor activity, the higher the level of qualification.
Professional competence is a set of knowledge, skills, qualifications, attitudes, values and qualities of an individual, the ability to demonstrate or influence a field. Its components include: knowledge of their specialty; work on yourself; be able to plan, evaluate and provide feedback on the work process; formation of motivation in students; knowledge of modern technologies; innovation in the work process; perfect knowledge of technological operations, etc.

First of all, it is necessary to explain the essence of the categories that define the meaning of “competence” and “competence” and answer the following questions:

1. How is a competent approach different from an approach based on knowledge, skills, and competencies in science?

2. What changes need to be made to the organization of the educational process (organization of its forms and methods) to help identify and reveal the competencies of learners?

The word “competence” (its roots are Latin competens - meaning compatible, capable) has two different meanings in its semantics: 1) deep knowledge, thorough knowledge; 2) competent, aware of news in a particular field.

In pedagogy, the word competent (Latin competere - to achieve, conform, match) is defined as the scope of knowledge, experience of the person, and is strengthened in job descriptions or other normative documents. In the pedagogical dictionary, “competence” is the level of knowledge of the individual, which is determined by the degree of mastery of theoretical means of cognitive or practical activity.

From the pedagogical point of view, competence is interpreted as the correspondence of knowledge, skills and experience of individuals with a certain socio-professional status to the level of real complexity of the tasks they perform and the problems to be solved.

Appropriately for the competency approach we are considering, such categories include “competence” and “competence” with different ratios.

First of all, it is necessary to explain the essence of the categories that define the meaning of “competence” and “competence” and answer the following questions:

3. How is a competent approach different from an approach based on knowledge, skills, and competencies in science?

4. What changes need to be made to the organization of the educational process (organization of its forms and methods) to help identify and reveal the competencies of learners?

There are two options for interpreting the relationship between the concepts of “competence” and “competence”: they are either identified or stratified. According to the first option, “competence” and “competence” are defined as follows: “1. Knowing something well and effectively.

2. Compliance with the requirements for employment. 3. Ability to perform individual work tasks. In this case, the term "competence" is usually used in a descriptive sense. In the context of such identification, it is noted that the practical orientation of the competency approach has been significantly expanded - "competence is a field of existing relations between knowledge and action in human practice."

The second version of the interpretation of the concept of “competence, competence” focuses on the use of competencies in education, considering them as a system that creates the processes associated with the use of thinking, knowledge, skills and abilities.

Thus, the term “competence” is one of the concepts of ability, skill, competence, ability, skill, and it is closer to the concept of "I know in style" than "I know". Consequently, a competency-based approach to teaching emphasizes, first and foremost, the practical, all-embracing aspect of teaching, reinforcing the practice-oriented nature of teaching.

At the same time, the approach based on the concept of “competence”, which includes, in particular, personal qualities (motivation, ethical and moral norms, etc.), is defined in a broader way, comparable to the humane values of education. It is clear that competence includes not only the learning outcomes - knowledge, skills and competencies, but also the needs-motivation area and the system of targeting the values of the individual, its ethical, social and moral components.

In her research (2002) M.A. Belyakova argues that the most serious factors influencing the employment of young professionals today are their independence, initiative, communicability, aspiration to employment and other similar professional competencies and personal qualities [7].

Thus, a competent includes a set of interrelated qualities (knowledge, skills, abilities, methods of activity) that are given to a person in relation to a range of specific objects and processes and necessary for quality, productive activity [82].

All the great and important things around us are created by the labor of experts.

The opinion expressed in the work of an expert is determined by his culture, the level of his moral intellect. A 21st century junior specialist must be a modern person, both spiritually and morally, with the following important professional qualities:

1. Sustainability and professional confidence of the specialist, determined by the level of knowledge and skills.
2. The prospect of an expert, that is, the ability to see the object and the world in a new way, the ability to understand the situation in a new way in science and practice.
3. The flexibility of the specialist, the ability to think quickly, the ability to reconstruct the style and methods of thinking due to changes in science, technology and social practice (life).
4. Communicativeness and mobility — the ability to work alone, in a group, or in an interactive environment with team members.
5. Fundamental, that is, knowledge of the basic theoretical blocks that are determined in the object of their profession.
6. High level of ethics, professional culture.
7. Personal hygiene, healthy lifestyle and nutrition.
Thus, the positive impact of theoretical and professional knowledge, skills, qualifications and competencies on the quality of professional training of future professionals is as follows.

First, the process of mastering (mastering) the labor practices, methods and operations of students is carried out more consciously, and thus creates a solid quality foundation for future professional activity. Second, there are favorable conditions for the formation of general professional skills and competencies specific to related and neighboring (close) groups of professions, which leads to the rapid acquisition of several occupations and high professional mobility of the specialist in the maintenance of related devices and more complex equipment (mobility).

Third, students will have a real opportunity to successfully master the basic, basic technical and technological skills and abilities, as well as to transfer them to the new conditions of the employee’s work. Fourth, it will be possible to model the future profession to a certain extent, to lay the foundation for some special labor tasks.

REFERENCES

USE OF MODELING TECHNOLOGY IN ECOLOGICAL EDUCATION OF PRIMARY SCHOOL STUDENTS

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ANOTATION
The use of modeling in the environmental education of primary school students is related to the diversity of natural phenomena. However, many of them, such as fear, the hidden lifestyle of animals, the periodic nature of seasonal changes, hidden within communities and perceptions of dependence, are objectively difficult for primary school-age children, so modeling these things is important.

The article discusses the use of modeling technology in environmental education of primary school students.

KEY WORDS: reader, nature, model, education, practical action, ecology, thinking, environment.

The study of the impact of teaching on a child’s mental development plays an important role in child psychology and primary education pedagogy. The impact of the learning process is directly related to its content and tools. With the help of spatial and graphical models, orientation activities improve relatively easily and quickly, cognitive, intellectual and practical actions are formed, and there are shifts in the development of environmental thinking in children of primary school age.

In pedagogy, modeling as a visual-practical method is widely used, especially in environmental education for children of primary school age.

The encyclopedic dictionary gives the following definition: “Modeling is the study of any event, process using the construction and study of models” [1].

According to NV Fetisova, ON Lazareva, “modeling is the process of creating and using models to form knowledge about the properties, structure, relationships and connections of objects” [2].

Psychologist I.A. Telegina describes modeling as “an indirect practical or theoretical study of an object, in which what we are interested in is not a direct, but an auxiliary, artificial or natural system (“half-object”), some objective correspondence with an object capable of providing information about the object” [3].

Models are objects of modeling. A model is any image (mental or conditional) (“original” of a particular model) that is used as a “substitute.”

Therefore, in our opinion, Novik more fully reveals the essence of modeling as a process of replacing real objects or objects with artificially created objects.

The uniqueness and importance of modeling is that it plays an important role in the formation of knowledge, facts, phenomena, the formation of properties, connections, content close to the concept of things that are hidden directly from perception.

The use of modeling in the environmental education of primary school students is related to the diversity of natural phenomena. However, many of them are objectively challenging for primary school-age children, hidden from perception, such as fear, the latent lifestyle of animals, the periodic nature of seasonal changes, relationships within communities, and dependence. After all, their ecological thinking activities are still going on.

Therefore, in some cases it is necessary to simulate certain events, objects of nature and their symbols. Working models are of particular importance because any static substitute for a natural object (painting, puppet) only gives an idea of its external features. The current model, similar to nature, reveals the nature of the object, its relationship to the environment, and is more comfortable for children (which is very important!). In addition, the visual demonstration allows children to form a true, genuinely benevolent attitude towards living things, defining elements of ecological culture.

From the point of view of mental education, working with abstract models is of great importance because it is abstract and clearly shows the natural relationship, cause and effect relationship of natural objects. And this allows for a general knowledge of the phenomena, contributing to the development of not only visual-figurative, but also logical ecological thinking. For the development of children of primary school age, it is also important to get acquainted with the regular changes in nature: the growth and development of living things, the seasonal changes of nature.

Thus, in developing the content of knowledge for students, teachers should pay great attention to change, movement, and development as universal properties of the things around them. At the same time, to predict such aspects
of the environment is to think of it as the ability to establish the generality of objects on a genetic basis.

The constant value of mastering visual modeling is a convincing proof of a number of studies conducted by Uzbek scientists [4, 8, 9].

Thus, it has been shown that the reason for the failure of school students in physics is their inability to present the objective conditions of the problem in an exemplary form. If such an opportunity is created (by moving children to later modeling and teaching them to draw real diagrams), school children will be able to successfully solve problems that were previously difficult for them.

Visual modeling has found wide application in the work of the gradual formation of mental actions and concepts, which serve as one of the main means of creating an indicative basis of action.

The scope of modeling is not limited to solving educational problems. It encompasses the most diverse types of human thinking, allowing us to conclude that modeling their conditions plays an important role in solving technical, constructive, geometric, heuristic, and even logical problems.

An important part of thinking is analysis. Analysis is a complex process of thinking, which involves distinguishing important features and properties of the object of knowledge (the process under study) [11].

Analysis is inextricably linked with the process of synthesis, ie the integration of different features and properties of the object of knowledge into a whole, in which all the information about the process of practical vocational education is known-generalized models, ie analysis of this information, highlighting the main idea, represented by integral diagrams [11].

Accordingly, we found it appropriate to use the method of modeling in the development of the methodological structure of the organization of the process of practical vocational education and acted on the principle of a systematic approach. In doing so, we have taken into account the following points of view:

1) The term "model" is interpreted in a number of ways: a model is a specific tool that allows you to master the generalized knowledge of a number of relationships and laws of existence (P.Ya. Galperin et al.); model is a means of forming generalized notions about quantitative relations; a model is a block diagram that helps to analyze the information, highlight the main idea, and generalize the knowledge obtained [7].

2) According to the research of philosophers, psychologists and educators (Yu.G. Tatur, VV Kraevsky, etc.), pedagogical structures (systems) are inherent in social structures, which have the following important features: purpose, general laws and the existence of real interrelationships characterized by [6].

In our study, we carried out didactic (methodological) modeling of the process of practical vocational education in professional colleges and its structure (components) on the basis of a number of principles:

1) the content, organizational forms, methods and means of practical vocational education, which are the basis of the educational process of students, as well as the order of experimental and educational work performed by students;

2) the structure of the educational process, ie they consist of certain interrelated parts;

3) uniform complexity, brevity and accuracy of the components that make up the content of the educational process;

4) the emergence of new structures, defined by the selection and selection of goals and objectives, key concepts and cause-and-effect relationships;

5) the richness of the educational process in change - that is, the transition from simple to complex work in a constant sequence, and so on.

We have identified the following main functions of the structure (model) of the organization of the process of practical vocational education based on the above principles:

1) explanatory (informant);
2) a guide (initiator of practical activity);
3) diagnostic (determining the outcome of the process);
4) predictor (providing information on when and where to use the process);
5) evaluator (meaning the results of activities in response to the questions "what to do?", "How to do?", "What was done?") [9].

These functions were carried out by means of information on the content of the educational process and its components (structural-logical system diagrams) and arrows (lines) indicating the relationship between them.

It is determined that the modeling is based on the principle of substitution: in children's activities, the real object can be replaced by another object, image, symbol. The child learns early on the exchange of objects in play, speech, activity. By playing a specific plot in a game, children imitate the relationship between adults, and using what is used as a substitute for the game, they create models that reflect the relationship of real objects [10].

Drawings of children of primary school age are undoubtedly a visual model of the depicted object or situation, and it is no coincidence that many researchers of children’s drawings call it schematic, which means that the child draws and schematically (i.e., model) similarities. images used in adult activities ...

Modeling time is more clearly reflected in children's constructive activities. Buildings made by children from building materials and various constructors are three-dimensional models of objects and situations that are then used in the process of role-playing games.

The above facts have drawn the attention of teachers to the development and application of science models in the teaching of primary school age children.

There are three different models in didactics (see Appendix 1).

The first type is an object model in the form of a naturally related object or the physical structure of objects. In this case, the model resembles an object, repeating its main parts, design features, proportions and proportions of parts in space. It can be a flat model of the human figure with movable articulation of the trunk and limbs; bird of prey model, stimulating coloring model.
The second round-theme-schematic model. Here, the main components identified in the object of cognition and the connections between them are represented using substituting objects and graphic symbols.

The third type is graphical models (graphs, diagrams, etc.).

For a model to function as a visual and practical learning tool, it must meet a number of requirements:
1) clearly reflects the main features and relationships that are the object of knowledge;
2) easy to understand and easy to create and use;
3) bright and clear communication of the features and relations to be mastered;
4) facilitate knowledge.

The analysis of the research shows that the process of introducing models to children of primary school age can be divided into several stages.

The first stage involves mastering the model. As they work with it, children learn how to replace real-life components with traditional characters. At this stage, an important cognitive task is solved - to separate the whole object, the process into its components, the abstraction of each of them, the establishment of a working connection.

In the second stage, the topic-specific schematic model is replaced by a schematic. It allows children to bring general knowledge and ideas. The ability to distract from a particular content and mentally imagine an object with functional connections and dependencies is formed.

The third stage is the independent use of mastered models and methods of working with them in the mastered activity. Children of primary school age can use them in cognitive, artistic and aesthetic, labor activities.

The psychological and pedagogical literature identifies several forms of modeling in primary school children:
1) you should start with the formation of spatial relationship modeling - in this case the shape of the model corresponds to the type of content specified in it, then you should move on to modeling temporal relationships, and finally - to modeling other types. relationships;
2) it is expedient to start with the modeling of single specific situations, and then move on to the construction of models with a generalized meaning;
3) it is necessary to start with iconic models by moving to models with a conditional symbolic representation of the relationship;
4) It will be easier to teach modeling if it starts with the use of ready-made models and then their construction is observed.

Simulation training is carried out in the following sequence.

Teacher:
1) invites children to describe new objects of nature with the help of a ready-made model;
2) organizes the comparison of two objects with each other, teaches to identify signs of differences and similarities, as well as gives the panel the task of sequential selection and placement of models that replace these signs;
3) gradually increases the number of comparable objects to three or four;
4) teaches children to model important or significant features of activity (e.g., selection and modeling of plant features that determine the method of dust removal from plants in a corner of nature);
5) Controls the creation of models of elementary concepts such as "fish", "birds", "animals", "pets", "wild animals", "plants", "living", "inanimate" and so on.

Teaching elementary school-age children to model should be related to the use of survey actions. It is also important to teach children to systematically analyze and compare objects or natural phenomena. For example, when comparing two plants, first teach them to study and model the signs of a flower or leaf, then the stem, root. In examining and distinguishing properties, each of them must be called a definite word.

Summary of the lesson "What makes people different from each other”:
(for children of primary school age)

Purpose:
creating conditions for children to clarify their opinion that not all people are the same (their gender, age, height, eye color, hair color, they like to do different things, etc.);
to develop comparative skills in children: highlight the necessary signs, differences and similarities (people are similar because their bodies are in a vertical position; they have two legs to move; two arms to help a person perform different movements. People are alive: they eat, breathe, move they grow, etc.).

Preliminary work: a system of self-observation of the peculiarities of children's appearance and the main moments of life, together with the teacher and independent activity. Get acquainted with models that reflect visible differences between people.

Course:
Dunno arrives, greets the children, and mispronounces their names.

World: I haven’t been with you in a long time, I’ve forgotten the names, but you all look the same: their hair and eyes are the same.

Educator: Let’s assure Dunno that all people are different, everyone is different from other people.

The children stand freely in a circle so that everyone can clearly see each other.

Teacher: What do you think Dunno should be told to make sure everyone is different?

How are people different from each other? (There are boys and girls, women and men). Assignment: Calculate how many boys and how many girls are in the group.

How are people different again? (Different heights). Assignment: Find something that suits your height. Why did you come together? (Similarly, differences in eye color are identified, and children of the same color are given the task of combing).

I don’t know: where should I stay? (The children help Dunno and gather in a circle again).
I remembered everything. Masha's eyes are green, Dima's are gray. (Calls it wrong). Olya's long hair, Sveta's short hair (again confusing) and so on.

Tutor: It's hard to remember Dunno. There are many children, but he is alone. Let's help him. Each of them uses pictures to point to themselves. Dunno sees and remembers all the children. (Children use pictures that reflect the specific features they see to create portraits. Dunno makes portraits from pictures, children correct it. Several children talk about themselves from the pictures).

Educator: How are people different from each other? Tomorrow is a day off. What do you do? Why did everyone name different cases? People are also different in that everyone has their own hobby.

Dunno: All people are different, why call them the same?

Tutor: How are all the people? (They move with two legs, say they have two arms, a face, dress, etc.).

Dunno: Masha's doll is very similar to a human, she has two arms, two legs, so she is also a human being.

Children’s responses are generalized, concluding that man is alive: he moves, eats, breathes, grows. (A model of living characters is used).

From the above, it is clear that modeling is important in teaching children systematic analysis and comparison, which has a great impact on the quality of education in the current context.

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SATIRICAL METHODS IN THE WORKS OF FOUR CONTEMPORARIES OF EVELYN WAUGH

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ANNOTATION
Before analyzing Evelyn Waugh’s satirical works it should be mentioned that Evelyn Waugh was not alone in satirizing the period between the two World Wars. For examining it we focus on his four contemporaries’ works. Thus, we take into consideration Ronald Firbank, Aldoux Huxley, Norman Douglas, Nancy Mitford’s works and make a comparison with Evelyn Waugh’s works. To begin with Ronald Firbank, being born in Britain on 17 January, 1886, he was the son of MP Sir Thomas Firbank and Lady Firbank. At the age of ten he went to Uppingham School for two years and then on to Trinity Hall, Cambridge. His first story, "Odette d’Antrevernes" was published in 1905, before going up to Cambridge.

KEY WORDS: satire, methods, short stories, novels, writers.

He then produced a series of novels, such as The Artificial Princess (written in 1915, published in 1934) and Vainglory (1915, his longest work) Concerning the Eccentricities of Cardinal Pirelli (1926). Most critics describe this writer as “butterfly”. Some utilize it to praise, the others to damn. According to Sir Osbert Sitwell (English writer) “he must attempt to pin down upon a sheet of paper that unrivalled butterfly…” [1:68].

Yet Hugh l’A Fausset (the author of Between the Tides) writes that “Doubtless we will be accused of breaking a butterfly on the wheel of criticism” [2:42].

Another critic says, “His personal legend is slender, and on its score he might only have fallen into the ranks of the minor eccentrics, something between a wit and a dandy, a butterfly whose life need not be further inquired into once it had flown past” [3:824].

Finally, Professor E. M. Forster claims in his essay: “To break a butterfly or even a beetle, upon a wheel is a delicate task”[4]. Throughout the essay he retains this figure as representative of Firbank. As a matter of fact, many critics have urged against him a frivolity and pointlessness. Other critics are re-evaluating him nowadays, therefore, most of them admit that his novels have a significance, but not all critics have changed their opinions, for instance, R.D.Charques (English literary critic): “I have never in the past been able to read him with any very great pleasure, since his fanciful and impudent triviality seemed to me to have not merely too little reference to human affairs put too little formal or stylistic virtue”[5:902].

Edmund Wilson (American literary critic) considers that “Ronald Firbank is dealing with a later and less lusty phase of the same society as Congreve” [6]. In his article Cyril Connolly writes that “Firbank recognized frivolity as the most insolent refinement of satire” [7:45].

Mocking at the people of his time Ronald Firbank used most frequently the method of the light touch, mannerisms, “incessant titterings” and “flickering inanities” to some of them [8:42], and an apparent aimlessness to others. Waugh satirizes at aimlessness of young generation. Here, one can notice some similarities between Ronald Firbank’s and Evelyn Waugh’s writing. In addition Waugh comments on R.Firbank’s writing style: “His art is purely selective. From the fashionable chatter of his period, vapid and interminable, he has plucked, like tiny brilliant feathers from the breast of a bird, the particles of his design… The talk goes on, delicate, chic, exquisitely humorous, and seemingly without point or plan. Then, quite gradually, the reader is aware that a casual reference on one page links up with some particular inflexion of phrase on another until there emerges a plot;usually a plot so outrageous that he distrusts his own inferences”[24:96]. Therefore, Evelyn Waugh proves his ideas by showing an example from R.Firbank’s work The Flower Beneath the Foot. So, he demonstrates very essential and concrete points of his view. Furthermore, he adds that it is typical of Firbank method: “The case of the Ritz Hotel v. Lady Something in The Flower Beneath the Foot is typical of the Firbank method. The King at a dinner-party employs the expression: “I could not be more astonished if you told me there were fleas at the Ritz,” a part of which assertion Lady Something, who was blandly listening, imperfectly chanced to hear. “Who would credit it… It is too appalling…Fleas have been found at the Ritz.” [9:196].

When Firbank describes lacking of importance and aimless, there is a seriousness, and also a sadness, in most of his novels. The primary themes in his novels are
Huxley rejects the philosopher's name. According to Worchester, Niven Wilder (poet) depicts the author's notion of the human tragedy"[11;113]. While analyzing Firbank's works reviewer feels that the works might have undone him, for though he was moving "toward a subdued tragic feeling... his was not the genius to bear the full interpretation of the human tragedy”[12;804].

One of the critics of that time, W. H. Auden is one of the few who fail to remark upon the underlying sadness in Firbank’s novels: “Firbank's extraordinary achievement was to draw a picture, the finest, I believe, ever drawn by anyone, of the Earthly Paradise, not, of course, as it really is, but as, in our fallen state, we imagine it to be, as the place, that is, where, without having to change our desires and behavior in any way, we suffer neither frustration nor guilt... Everyone is welcome to this Eden”[13;5].

If what Auden says is true, one should admit that the Eden of Firbank excluded the greater number of his characters. The next contemporary to Evelyn Waugh, Aldous Huxley, who is close to Ronald Firbank with his writing style. Being born in Godalming, England in 1894, he was the son of the writer and schoolmaster Leonard Huxley and his wife, Julia Arnold, who founded Prior's Field School. According to the information taken from wikpedia, “Huxley's education began in his father's well-equipped botanical laboratory, after which he enrolled at Hillside School, Malvern. IAfter Hillside, he went on to Eton College”[14]. Huxley completed his first novel when he was at the age of 17, but this novel wasn’t published. Then he began writing seriously and at his early20’s he became a successful writer and social satirist. His early novels were social satires, Crome Yellow (1921), Antic Hay (1923), Those Barren Leaves (1925), and Point Counter Point (1928).

Amos Niven Wilder (poet) depicts the author’s world as: “Aldous Huxley world is minute in its detail, and peopled with men and women who, having found out that nothing is worth doing, do not what to do next; there is no game worth their playing even if there were a candle to light the board. So they expend their energies, scientist and soldier, big brother and sweet philosopher, stenographer and misunderstood wise and aristocratic tart”[15;163].

As a matter of fact, the critic also has an idea in terms of aimlessness of young generation which is depicted in Aldous Huxley’s works. It should be taken into account that in R.Firbank’s works one can come across such a topic. A.Wilder continues his assessment and says about A.Huxley’s satirical skills: “And it often seems as though the best of the post-war novelists had discarded form as we know it so that the line between their work and the critical essay, the satire the expanded character sketch is a faint one. This has been especially true of Virginia Woolf and of Aldous Huxley”[16;162].

Louis Kronenberger, a professor of theater arts at Brandeis University, considers that “it seemed once, most of all perhaps in his first novel, “Crome Yellow”, that Aldous Huxley had in him, not only brilliant gifts of satire, wit, fantasy and style, but the makings of an important creative novelist”[17;164]. Thus, this critic praises A.Huxley as a great satirist and a creative novelist. From the point of his view it seems that he admires A.Huxley’s writing style used in his creative works.

Additionally, Connolly (English literary critic) writes about Firbank and Huxley as “Firbank and the early Eliot seem to me the pure artists of the twenties, Lawrence and Huxley the philosopher-artists, the explainers” [29;115]. This shows the difference between the two. While Firbank may expose men’s vices but he does not stop to explain them, Huxley demonstrates them at length.

As Professor Savage points out, "When human life is seen as intrinsically meaningless and evil, then the work of the novelist, whose task is to present a picture of that life in terms of its significance and value, is deprived of all justification”[18;34].

Here we may notice the differences in the purposelessness of Huxley, Waugh, and Firbank. Huxley in his early novels presents life itself as intrinsically meaningless. Waugh describes people living meaningless lives but always with the declaration that this is contrary to the right order. Firbank depicts people living meaningless lives, but he doubts to say whether or not there is such a thing as the right order. Among other methods of Huxley's satire, is his use, like Waugh's and Firbank’s, of odd but suitable burlesque names for his characters. For instance, Gumbril, Bojanus, Boldero.

David Worcester (English critic) claims that "of all present day satirists Huxley stands the best chance of survival”[19;118]. According to Worcester the outstanding feature of his satire is his use of irony. Illustrating the devices of “the most ingenious ironist of modern times,” he says, "Biological determination is impressed on us by descriptions of the involuntary workings of cells, kidneys, spermatozoa; the emotional content of music is contrasted with the mechanics of sound waves and the auditory system”[10;122].

Considering Huxley as a preacher rather than a writer, Wilson gives both Waugh and Firbank better chances of survival. Very tellingly he points out that “Huxley rejects the world because he doesn't know what is in it” [31;212].

Thus, the method of his novels is concerned, Huxley is greatly dependent upon Norman Douglas, who himself is dependent upon Thomas Love Peacock. Norman Douglas was born in Thuringen, Austria in 1868. He was brought up mainly in Scotland. He got his education at Yarlet Hall and Uppingham School in England. His first book “Unprofessional Tales” (1901) was published under the pseudonym Normyx. He is famous for his “South Wind”. He is also the author of travel books, including “Siren Land”(1911), “Fountains in the Sand” (1912), “Old Calabria” (1915) , “Together”(Australia) (1923), “Alone” (Italy) (1921).

According to Johnson’s criticism of Douglas, namely, that his stature as a satirist is diminished by his desire to impress the reader with the “delicate and civilized
superiority of Norman Douglas” [20;502]. Above all else Douglas's method of satire relies upon his sophisticated superiority. Perhaps, his manner is too severely criticized by Johnson; but there is some truth in the assertion that Douglas “has no loyalty to truth, but only to his intellectual dandyism; he would reverse himself for a witticism’’ [21;505].

Paradox is a favorite device of Douglas in his novel, and it is Keith character of “South Wind”) who especially illustrates this in his dealings with the Bishop. We may not be as easily persuaded as the Bishop(character of “South Wind”) to believe all that Keith says, but the paradoxes are present.

“What can a person of that kind have in common with a mother of any kind?”

“Everything,’ said Mr. Heard(character of “South Wind”) enthusiastically.

“Nothing at all” [22;220] replied Keith.

In should be noted that in Evelyn Waugh’s novels we often come across his paradoxes. In Chapter III we will discuss E.Waugh’s paradoxes.

Another novelist, who as a satirist, Nancy Mitford, to whom Waugh dedicated “The Loved One”. Nancy Mitford was an English novelist who was born in 1904. Mitford has great importance as a novelist, tho she has written two interesting books. She represents a new development in satirists; she is one who goes after Waugh for imitation. Reading her works one not only sees points of similarity to Waugh but also the road Waugh might have taken. Of course, he would never have written exactly like her. As Waugh does in his early novels, Miss Mitford assembles a light-headed characters who act everything in extremely unpredictable ways. Thus, we may say that we determine some similarities between the authors’ writing style.

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PROSPECTS OF THE DUAL EDUCATION SYSTEM IN THE PROCESS OF INTERNATIONAL PEDAGOGICAL TEACHING

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ANNOTATION
This article highlights the unique features and innovative aspects of dual education. Today in the education system there is a growing demand for qualified personnel with dual education, i.e., both professional and in-depth knowledge in the educational process. Now the staff hired in the labor market must not only be educated, but also have the skills and professional competence. Therefore, if we take Germany as an example from the European experience, it is one of the first countries in the education system to switch to dual education.

KEYWORDS: Dual education, dual education system, contract, enterprise (organization), practice, professional competence, experience, features of dual education.

Today's market economy is developing rapidly, and the level of quality is changing, along with the diversity of supply and demand. Currently, there is a significant shortage of professionally and technically qualified personnel in the country. As the role of practical training increases, future professionals will acquire production skills at the training stage. This is achieved by increasing the practical component of the educational process and conducting trainings directly in the workplace.

Dual education - combines training in an educational institution with the mandatory periods of industrial training and professional practice in the enterprise (organization) with the employment of students and compensation with equal responsibility of the enterprise (organization) form of teaching. [1]

The experience of dual education is available in many countries, such as the United Kingdom, Germany, Sweden, Japan, which shows the need to integrate the educational process with practice. The experience of dual education in Germany is of particular importance. For more than 15 years, the state has been operating on the principles of a dual system.

The student's internship comes first in teaching. It is the student's responsibility to find an internship base and sign a contract with the company. The experience of introducing dual education in the education system in Russia began in 2014, when pilot projects appeared in Kaluga, Ulyanovsk and Yaroslavl regions, Perm and Krasnoyarsk regions. The combination of theory and practice is a feature of the German dual education system, which is in demand all over the world. Low unemployment among young people is a blessing of a dual vocational education system that differs from pure pre-school education in many countries.

The dual education system implies a close relationship between students’ learning and professional development in production. The socio-economic demand of the society for the required number of specialists is equated with the most accurate quantitative and qualitative indicators of their training.

Dual education is a type of specialized education in which the student has the opportunity to acquire theoretical knowledge in an educational institution, and practical skills directly in the workplace, i.e., in the organization. The main goal of dual education is to improve the quality of students' professional training by combining the efforts of the educational institution and employers as a key factor in the practical training. [2]

In Germany, nearly half of young people are studying one of the 326 state-recognized professions after graduating from high school in the dual system. The practical part is held 3-4 days a week at the enterprise, 1-2 days at the vocational school. Dual vocational training is, as a rule, intended for two or three years and includes tuition. In
Germany, about 500,000 new interns enter the profession each year, about two-thirds of them on a dual system.

Dual education system is an education system that ensures that teaching in an educational institution is consistent with the periods of production activity. The dual education system ensures that teaching in an educational institution is consistent with the periods of production activity. Training in this system is structured as follows: in parallel with regular classes at a college or other vocational education institution (general education). Students go to work in a particular enterprise and gain practical experience there.

The dual education system consists of the following stages:
- signing of agreements between educational institutions and enterprises;
- identification of staffing needs;
- organization of training;
- Development of curricula in accordance with the needs of the labor market and their constant updating;
- assessment of the qualifications of the trained personnel trained in dual education.

A number of educational institutions in Germany promote dual vocational training and ensure its quality. Thus, the Chambers of Commerce advise educational institutions and inspect the equipment of enterprises, as well as organize and conduct examinations. Trade unions and employers’ associations agree on the amount of fees to be paid for the internship, and participate in the formation of training standards in the enterprise. The government finances and oversees the state vocational education system, helping unemployed or low-income youth find suitable places to study.

Great interest in the German model

The combination of theoretical knowledge and practical work experience is in great demand in many companies. The same is happening internationally. Many countries are now adapting Germany's dual vocational education system to their needs. Due to this high demand, the Federal Government opened the German Bureau for International Cooperation in Vocational Education and Training (GOVET) under the Federal Institute for Vocational Education and Training (KTTFI).

GOVET accepts all inquiries on the German dual vocational education system. In 2019 alone, the center received 239 applications from abroad. [3] In the framework of international cooperation, the German Federal Government supports partner countries in the development of their vocational education system, thereby increasing the opportunities for young people to pursue a career. This framework is set out in the Federal Government’s Strategy for International Cooperation in Vocational Education and Training, adopted in 2013 and continuing in 2019.

The following goals, objectives, and principles are key to better articulating the concept of dual education.

Objectives:
- Improving the system of vocational education through development an effective structure for training workers;
- introduction of modern methods in the curricula of educational institutions and teaching aids;
- modernization of the system of continuing vocational education;
- professional development of employees.

Functions:
- Eliminate the inconsistency of the training system with the structure of market demand
- Establishment of appropriate vocational education institutions, study of all spheres of life and the needs of the labor market.
- change the content and structure of curricula and improve their quality professional training of personnel, ensuring their high professionalism and mobility.
- Introduction of scientific, methodological and logistical support in the organization of advanced training.

The dual model enterprise that unites the educational organization and the industry must carry out its activities for one purpose, which is joint, planned profit. It is not only the entrepreneurial activity that does not bypass the field of education, the sole purpose of any goal, but also the basis or clear motive of long-term mutually beneficial cooperation is the basis of clear, transparent market relations.

Dual education for the state is, firstly, the training of highly effective qualified personnel and their unimpeded employment, and secondly, from an economic point of view, this education is self-financing. Based on the above text, it is necessary to emphasize the clearly expressed advantages of the dual education system:

First, the practical training of specialists is carried out not only in the workshops, laboratories and landfills of educational institutions, but also in enterprises.

Second, the content and structure of educational programs are agreed between the educational institution and the enterprise, which allows to meet the requirements of all parties.

Third, the close relationship between the educational institution and the enterprise can and will develop.

Fourth, there is the possibility of rapid adaptation to the labor process. Fifth, the constant change from theoretical activities in the Educational Institution to the practical work in the enterprise serves as the best motivation for learning if the production process is not greatly damaged.

Sixth, it guarantees a clearer understanding of the profession, as well as a standardized level of training. [4; 5; 6; 7; 8; 9]

The requirements of enterprises to which a number of economic freedoms are granted are determined by the basic principles of the modern market economy, which should be taken into account when creating a dual education model.

Free choice of activities and forms of activity is a basic principle of the market. It gives any business entity the right to choose what it wants, a vital, beneficial or preferred type of economic activity and ensures that it carries out this activity in any form permitted by law. Dual partnership should be built on the financial interests of all participants.
Disadvantages of the dual education system.

1. In addition to motivation in the enterprise, the level of education may also deteriorate.
2. Curricula of educational institutions are not always supported due to the seasonal sequence of work performed in the enterprise.
3. The educational organization sometimes does not have time to provide the required enterprise training materials.
4. Reluctance of enterprises to hire new specialists due to lack of jobs.
5. Due to the lack of financial resources for education, enterprises are forced to earn income by increasing the cost of their products.

In conclusion, today's market economy is developing rapidly, and the level of quality is changing along with the diversity of supply and demand. The dual education system is not only a system of secondary special education, but also higher education. Its introduction in educational institutions is an innovative approach to today's educational process.

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USE OF MODERN TEACHING METHODS IN EDUCATION OF STUDENTS IN PRIMARY SCHOOLS

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ANNOTATION
The search for new ways and forms of organizing education has created a new term in the methodology of learning “modern lesson” as opposed to traditional lesson. The requirements of the subject of pedagogy for the lesson, the effectiveness of the pedagogical process is constantly growing and changing. In addition to non-traditional lessons, non-traditional teaching technologies are used in school practice in conjunction with modern teaching methods. The article discusses the use of modern teaching methods in teaching students in the primary grades.

KEYWORDS: pedagogy, education, method, teacher, student, skill, ability, tool, education.
approach to a lesson involves a good knowledge of its normative principles. Any technology, whether manufacturing or pedagogical. It is characterized by a combination (combination, combination) of any components; logic, the sequence of components; methods, techniques, actions.

The relevance of the work is that the current transition to new educational technologies depends on changes in the existence and development of society, which requires new approaches and methods to the education of young students. The object of research is the child and the learning process.

The research topic is modern methods of teaching in primary school. The aim of the work is to study the methods of teaching in a modern school in primary schools. Objectives: Review the theoretical foundations of teaching methods; to study the peculiarities of some methods of teaching in a modern school; consider using them in lessons;

1. Classification of teaching methods. 1.1 The concept of teaching methods and their classification

Teaching methods (Greek, "Way to something") - methods of interaction between teachers and students aimed at solving educational tasks is one of the main components of the learning process. If you do not use different methods, it will not be possible to achieve the goals and objectives of teaching.

Teaching methods include not only methods, but also how to organize learning activities. And any method can be chosen for learning, it all depends on the goals he wants to achieve. Sometimes a certain method is required to achieve success in education, while others are ineffective, the methodology of organizing training in vocational education was studied by A. Khodjaboyev, Sh. Kasimov and others [3; 4; 5; 6; 7; 8].

Depending on the method of teaching: the purpose of the lesson; from the course stage; from the content of education; availability of textbooks; from the teacher's personality;

Tasks of teaching methods, techniques and tools: Education; Purpose; Development; Education; Organizational

Classification according to the source of knowledge. Oral teaching methods: it is used to prepare for the study of new material in the process of explaining, assimilating, generalizing and applying it.
- Widely used in the formation of students’ theoretical knowledge. Ensuring the exchange of information between teachers and students.
- Facts and presentations are given in a ready form. There are not enough opportunities to solve the problem and solve the problem, to do creative work. Development of logical thinking, knowledge of independent activity.

Story-events, processes, phenomena in nature, society, in the life of an individual, in a group of people. Management function training. Relevant functions: development, nurture, encouragement, control and correction. Pedagogical requirements:

The didactic objectives of the lesson should be achieved: To present new material. In order to generalize. To strengthen the material. To prepare for material comprehension. Contains only reliable and scientifically proven evidence. Being emotional. Have a clear logic of the expositions. Define a simple and convenient language. The type of bright and convincing examples includes facts that prove the validity of the proposed proposals. Continue for 10-15 minutes.

The structure must be taken into account: The beginning. The course of events. The highest point. The last part. Extensive use of clarity.

Conversation - The teacher leads students to understand new material by asking questions and checks the assimilation of what has been learned. The leading function is the motivator. Pedagogical requirements:

Because conversation is a form of question and answer, most importantly, a system of well-thought-out questions and students’ expected answers. Different questions should be used in the conversation: primary, secondary, additional. There should be no answers to questions.

Questions should be appropriate to the student’s level — not difficult to achieve. For small classes, the question needs to be repeated only once — attention. Don’t ask long or two-sided questions. There should be no “offer” questions. If no one can answer, then the question should be divided into parts and the leading question asked.

Activates student activity in the classroom. Develops memory and speech. Helps to control students' knowledge. It can be a guide for the teacher’s personal impact on the student.

Explanatory-educational material is a subtle and logically coherent presentation combined with student observation by the teacher. The leading function is the motivator. Pedagogical requirements:

Because there are always a lot of judgments, conclusions, and arguments in a teacher’s explanation, then the main thing in the method of explanation is: a clear, concise statement of the new question for the students. Consistent presentation of the material. Mandatory briefing (explanation type and assignment presentation): Conversation elements. Demonstrate work methods, order of movement.

Checking the quality of assimilation of materials. The lecture-teaching material is usually a consistently monologue presentation of a theoretical nature by the teacher. Debate is a method of teaching by increasing the intensity and effectiveness of the learning process, actively involving students in the collective search for truth.

Work with the book - a teaching method that includes a number of independent work methods with printed resources: Summary. Create a text plan. Theses. Quote. Explanation. Creating a formal logical model (diagram-read image). Create basic concepts for the topic, section. Creating a matrix of ideas from different authors.

Practical teaching methods. Objective: To develop abilities and skills. Repetition of certain actions by students in order to develop and improve skills and abilities in practice-learning activities. Oral: Helps to develop students' speech culture, memory, attention, cognitive abilities.

The method of explanation and explanation The first method, the main purpose of which is to organize the
assimilation of information by students, is called explanatory-explanatory. Otherwise, this method can be called informative and receptive, reflecting the activities of the teacher and the student. This teacher communicates the finished information in a variety of ways, and students receive, understand, and correct this information in memory.

Instructor oral (story, lecture, explanation), printed word (textbook, additional manuals), visual aids (pictures, diagrams, movies and films, in class and on excursions) natural objects), practical demonstration of methods of operation (experiment, machine work, inclination patterns, problem-solving methods, theorem proofs, planning methods, annotations, etc.). Students perform activities necessary for the first level of knowledge acquisition — listening, seeing, feeling, reading, observing, and linking new information to previously learned and remembered information.

The method of explanation and explanation is one of the most economical ways of transmitting the generalized and structured experience of humanity to the younger generations. The effectiveness of this method has been tested with many years of practice and it has taken a strong place in schools in all countries, at all stages of education.

REPRODUCTIVE METHOD The knowledge gained from the explanatory method does not form the skills and abilities to use this knowledge. The system of teacher tasks for the acquisition of knowledge and skills of students and, at the same time, for the acquisition of secondary knowledge, organizes the activity of repetition of knowledge and methods of activity of school students.

The teacher gives assignments and the students complete them — solve similar tasks, follow the pattern and come together, make plans, work according to instructions. To increase the effectiveness of the reproductive method, didactics, methodologists work with psychologists to develop exercise systems, as well as software materials that provide self-control.

Much attention is paid to improving student briefing methods. As the level of knowledge of students increases, the frequency of application of the explanatory-explanatory method increases with reproduction.

Therefore, with any version of the combination of these two methods, first, before the second. An algorithm that plays an important role in the implementation of this method, the idea of which was developed by In Landa. Students have an algorithm, i.e. rule and order of action, as a result of which the student learns to recognize the object (event), determines its existence and simultaneously performs a certain sequence of actions.

In particular, the application of the algorithm involves the use of both methods - information-receptive and reproductive: it is reported and then the student repeats his recipes.

The algorithm is very effective in some cases as a means of implementing both or one method. However, when applied in this way, the essence of cognitive activity does not go beyond the activity organized by these methods. Both methods enrich students’ knowledge, skills, and abilities and shape basic mental operations (analysis, synthesis, inseparability, etc.), but do not guarantee the development of students’ creative abilities, allowing them to be formed in a regular and purposeful manner. does not put. This goal is achieved in other ways. And the first of these is a problematic presentation.

THE METHOD OF STUDYING THE PROBLEM At the heart of modern problem-based education is the idea of the well-known local psychologist Sergei Leonidovich Rubinstein (1889-1960). Problem-based learning (PbO) is seen as the development of cognitive activity, independence, and creative thinking. In this regard, problem-based learning as a creative process is presented in the form of solving non-standard scientific and educational tasks in non-standard ways.

The basic concept of PbO is learning problems — the mental state of students’ mental interactions, a group of students with a problem under the guidance of a teacher. A problem is a complex theoretical or practical question that involves a hidden contradiction and leads to different (often contradictory) positions in resolving it.

Learning problems are characterized by: a) the type of conflict identified by the teacher together with the students; b) there are known ways to solve such problems; C) lack of new data or theoretical knowledge; g) students’ ability to complete the task.

Problem situations are divided into a number of fundamentals, such as a field of scientific knowledge or a discipline (mathematics, history, psychology, etc.); new (new knowledge, methods of action, transfer of certain knowledge and methods of action to new conditions); level of problems (depending on the severity of the conflict). There are two tactics to build a problem situation:

a) “from knowledge to problem”. The transition from the scientific content of the problem to the “consumption” of ready-made achievements of science is not enough to develop students’ independent research skills and abilities; b) “from problem to knowledge”. Based on the subjective experience of the listeners included in the logic of solving scientific problems, the motivation to look for ways and means to solve it forms an active theme of purposeful cognitive activity.

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THE MAIN PROBLEMS IN THE ORGANIZATION OF THE EDUCATIONAL AND UPBRINGING PROCESS IN PRESCHOOL EDUCATIONAL ORGANIZATIONS OF THE REPUBLIC OF UZBEKISTAN

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Basic concepts: preschool education, educational organization, pedagogical process, pedagogical potential, professional skills, innovation, pedagogical technology, material and technical base, teaching methods

ANNOTATION

This article contains analytical information on the problems that arise in the organization of the educational process in preschool education institutions of the Republic of Uzbekistan on the basis of the state curriculum "First Step", the causes and solutions found

Looking back over the past five years on the development of our country, we are struck by the process of rapid improvement and quality modernization in the field of preschool education. We recognize this by the reforms being carried out under the leadership of the President in the field of preschool education, the conditions created to improve the quality of the educational process, creating modern curriculum based on studying the best practices of foreign countries and improving the pedagogical processes based on this curriculum, to use innovative methods on the basis of measures taken to raise the level of education of the child, taking into account his personality and individual characteristics. But just as every process of improvement has its advantages, so does the process of improvement and modernization have problematical sides. Implementation of the State Curriculum "First Step", which is currently used in the field of preschool education and serve as guide to action in the educational process on the basis of the "State Standard of Preschool Education and upbringing" and regulatory documents in the field of preschool education. There are a number of problems that hinder the effective work of teachers in the implementation of the State Curriculum "First Step" and other normative documents of preschool education. In order to determine the causes and composition of their origin, a survey was conducted among a number of specialists working in the field of preschool education, and their results were analyzed. During the analysis, the questionnaires of 102 respondents working in the field of preschool education, such as the head of the city department of preschool education, director of preschool education organization, methodologist, speech therapist, educator, were studied. As a result of the study, 35% of participants did not understand the essence of the ongoing reforms and regulations in the field of preschool education, 32% of participants have low skills in the use of innovative pedagogical technologies and ICT in the organization of the educational process, 21% of participants were critical of the effectiveness of the process of formation of competencies provided for in the State Requirements during the types of children's activities organized in the development centers, while the problem of the formation of According to 10% of respondents, parents are poorly involved in the life of the preschool education organization. 2% of teachers surveyed mentioned other problems. During the analysis of the questionnaires, in order to supplement the views of the participants, their opinions on the causes of the problems and ways to overcome them were studied, and were formed the following problems:

1. Normative and legal documents in the field of preschool education, in particular, the state curriculum "First Step" and the Republic of Uzbekistan "State requirements for the development of primary and preschool children" by teachers of preschool education organizations the essence of is not fully understood;

2. Insufficient level of skills in the implementation of innovative pedagogical technologies in the organization of the educational process of preschool children on the basis of the State Curriculum "First Step";

3. On the correct organization of the implementation of the tasks of the development areas outlined in the "State requirements for the development of primary and preschool education".
children" of the Republic of Uzbekistan on the basis of integrative education in order to increase the effectiveness of the educational process theoretical and practical skills are not formed at the required level;

4. Presentation of new knowledge and improvement of existing skills to children during the organization of educational activities in the development centers provided for in the State Curriculum "First Step", the formation of technical skills in the field of visual activities during this process, lack of manuals for these activities, including methodological recommendations for the proper equipment of development centers;

5. Low level of ICT skills and computer literacy required in the organization of the educational process of teachers of preschool education organization on the basis of the State Curriculum "First Step";

6. Significant inactivity of parents in the life of the preschool education organization and the organization of the educational process of kindergartener on the basis of the State Curriculum "First Step".

The above-mentioned problems have a negative impact on the effectiveness of reforms in the field of preschool education, as well as a huge obstacle to the formation of the younger generation as a full-fledged adult. It should be noted that the leadership of the state and officials in charge of preschool education have developed a system of appropriate measures based on the results of a step-by-step study of the activities of preschool education organizations and research of teachers is being done. For example, the Resolution of the President of the Republic of Uzbekistan No. 3261 dated September 9, 2017 "On measures to radically improve the system of preschool education" and the development of preschool education in the Republic of Uzbekistan. Approval of the Roadmap for further improvement of the education system of the Republic of Uzbekistan, approved by the President of the Republic of Uzbekistan on May 8, 2019 No. 4312. It is expedient to consider the set of measures and tasks provided for in the resolution. Among the measures envisaged in these documents are the shortage of management staff in the preschool education system and their low qualifications, insufficient knowledge of parents about the positive aspects and benefits of preschool education in the formation of the child's personality, modern teaching materials and a lack of visual aids. According to them, the priorities for the development of the preschool education system are:

- further improvement of the regulatory framework in the field of preschool education;
- creation of conditions for comprehensive intellectual, moral, aesthetic and physical development of preschool children;
- Increasing the coverage of children with quality preschool education, ensuring equal access to it, developing public-private partnerships in this area;
- Introduction of innovations, advanced pedagogical, information and communication technologies in the preschool education system;
- Improving the management system of preschool education, ensuring transparency and efficiency in the financing of preschool education;

Introduce completely new approaches to the training, retraining, advanced training, selection and development of staff in the preschool education system;

The exact similarity of the structure of priorities in the above-mentioned normative documents and the problems formed as a result of public opinion polls aimed at studying the problems in the organization of the educational process in the field of preschool education confirms the compatibility of social and government orders. Therefore, it is expedient to find a solution to the existing problems in the field of preschool education and to carry out large-scale work to eliminate them. If we take a closer look at each of the problems mentioned earlier, we can suggest the following solutions.

Problem 1: Normative and legal documents in the field of preschool education, in particular, the State Curriculum "First Step" and the State of the Republic of Uzbekistan "On the development of primary and preschool children" were developed by teachers of preschool education. The essence of the "requirements" is not fully understood. The intended solution to the problem:

- Organization of the knowledge of teachers of preschool education on this basis during the methodological activities within and outside the preschool education organization on the basis of practical and theoretical knowledge in this area, control over the organization of the educational process of the covered knowledge on the basis of normative legal acts and bleaching this process. Implementation of the control process with the involvement of highly qualified pedagogical staff in order to introduce an analytical approach to the process and quality assurance.

- Pay special attention to the process of working with regulations and implementing reforms in the practice of preschool education organization during the training of teachers of preschool education. The organization of foreign experience in the field of professional development of teachers, taking into account the level of development and specific features of the system of preschool education of the Republic of Uzbekistan serves as a tool.

- Creation of a national online platform for the exchange of experience in working with regulatory documents and the creation of the necessary conditions for the use of this platform in preschool education organization. High-quality work in this area is a topical issue today, it is a step forward in the improvement of areas based on digital technologies, and serves to improve the skills of teachers of preschool education organization in the use of digital technologies.

Problem 2: Inadequate methodological knowledge and skills of preschool education organization educators in the organization of activities at the center and their lack of confidence in the quality of this type of education. The following propositions can be suggested as a solution to the problem:

- It consists of guidelines and specific recommendations developed by researchers working in the field of preschool education, tested on experimental sites during the research, the educational process in preschool education organization developed on the basis of the State Curriculum "First Step" Creating existing manuals.
Bringing the exchange of experience and dissemination of best practices in this area to the Republic, encouraging high-potential and leading employees in the proper organization of activities in the centers. Present these processes to the public for active use of media services.

Orientation of the activities of methodological associations at the regional level on this topic and the organization of the activities of methodological associations using the above-mentioned media materials.

Improving the skills of teachers in the effective organization of educational time through the active use of integrative education in the organization of the educational process and the implementation of integrative education

As an example, consider ways to work as a large group in the State Curriculum “First Step” on the formation of the first mathematical concepts of preschool children and the organization of activities in the centers on the basis of integrative education. If we go out in order to strengthen the understanding of middle-aged children about the shape of a square, children are asked to connect points using pencils or draw a square using a stencil ensures the simultaneous development of skills and speech. In addition, in the “Art Center” in the process of proposing to make images of this shape from counting sticks or plasticine, it is possible to teach in depth that the square has 4 sides, 4 corners and 4 edges, and the sides are the same length. At the “Language and Speech Center”, children's vocabulary and spatial knowledge are strengthened as they find and describe square objects around them. During the grouping of square objects on the basis of the theme of the week in the "Science and Nature Center" will be enriched knowledge of the names and functions of these objects, their structure and application. The preparation of fairy-tale characters from square shapes for theatrical activities and the use of square-shaped equipment during the action play also form the ability of children to apply the knowledge acquired during educational activities in play activities. This activity can be further enriched by the teacher's skill and creativity in implementing integrative education in the educational process.

Problem 3: Lack of a set of materials recommended by Ministry of preschool education of the Republic of Uzbekistan and methodological guidelines for working with them, ready to equip development centers with visual, practical and handouts on the topic. The following can be suggested as a solution to the problem:

Modeling of development centers envisaged in the State Curriculum “First Step” at preschool education organization based on the best practices and organization of model training and experimental sites in each region. Organization of master classes with the participation of high-potential personnel on these training sites.

Based on the thematic planning presented in the State Curriculum "First Step", taking into account the pedagogical, physiological and psychological characteristics of preschool age groups, consists of equipment for the organization of visual aids, handouts and educational games in accordance with state standards Development of the content of the collection, supplementing these collections with practical recommendations for independent use by teachers.

Study of foreign best practices, on the basis of this experience to carry out modernization practices taking into account the level of development of preschool education in the country and the establishment of development centers in each preschool education organization that meet international standards.

Organization of national competitions and projects aimed at creating an integrated development environment in MFIs on the basis of the State Curriculum “First Step”.

Problem 4: Insufficient theoretical and practical knowledge of the interactive form of education at the level of modern requirements, innovative pedagogical technologies and methods and techniques of application of information and communication technologies in the educational process organized in the centers. The following can be suggested as a solution to the problem:

Orientation of methodological events at the regional level to the introduction of methods of using innovative pedagogical technologies in an interactive form.

Exchange of experience on the application of innovative pedagogical technologies in the work process and the use of media services for the dissemination of best practices

Development of guidelines consisting of guidelines and recommendations tested on experimental sites to work with innovative pedagogical technologies and interactive methods with children

Active use of interactive pedagogical technologies in the organization of the educational process

Problem 5: Parents knowledge of the types of educational activities provided for in the State Curriculum “First Step” is not formed, their participation in the educational process and cooperation with preschool education organization is significantly weak. The following can be suggested as a solution to the problem:

Organize methodological activities for parents, covering the activities of the center in cooperation with preschool education organization.

Creation of literature and manuals for parents, covering the main essence and objectives of preschool education in accordance with state standards.

To acquaint parents with the educational process of preschool education organization online through social networks

Regularly cover in the media the activities of NGOs on cooperation with parents in the implementation of the “State Standards of Preschool Education” and present them to the public for discussion in order to improve their quality.

In conclusion, it can be said that the basis of the reforms carried out by the leadership of the state in the system of preschool education is to study the existing problems in preschool education and to put into practice the ideas that have emerged as a result of this research. A special aspect of this process is that every employee working in the field of preschool education - regardless of the direction in which he works - performs his duties responsibly and constantly improves his professional skills. It is a necessity at the level of state importance. Therefore, the main task of preschool education, which is the starting point of continuing education, is to prepare students for school education in a quality manner,
taking into account the individual characteristics and abilities of kindergartener. It is the sacred duty of the staff of the preschool education system to carry out pedagogical work on the formation of a person who fully understands his rights and duties, with the help of all participants in the educational process, overcoming the problems and difficulties.

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PRACTICAL METHODS OF HOLDING AND PLAYING KARAKALPAK PEOPLE’S NATIONAL HORSE GAMES

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ABSTRACT
The article describes Karakalpak people’s national horse games as the important kind of sports which play a significant role in the upbringing young generation in physically strong state and developing their future intelligence. The article deals with explaining practical methods of holding and playing our national horse games and circumstances how they had been developed historically and reached our times. The classification of Karakalpak national horse games are based on customs, traditions and rituals of our ancestors established during the long period of their existence and cultural developing. In the paper, we have analyzed about twenty kinds of national horse games played as a sport at various folk family celebrations and public holidays. The paper states that some kinds of horse sport, for instance, as hunting on horseback with birds of prey (eagles, falcons) had been occurred as vital needs of our earlier ancestors. Horse games as a sport have been developed with the appearance of tribal communities, social groups of people, khanates and whole nation.

KEY WORDS: national horse games, sports, family celebrations, public holidays, kokmar (stuffed sheep – ilaq), horse racing, cantering race, horse breeding.

INTRODUCTION
Nowadays, before us there put an important goal to rise the popularity of horse sport games all over the republic both among the youth and adults for forming the healthy way of life everywhere. This duty of our people has been steadfast by the government of our country and the desire of young people to go in for this type of sports is rising day by day. Our youth is very impressed by the facts of opening of horse sport (schools) manages, where our youth are trained to higher horsemanship skills under the guidance of experienced specialists. We believe our youth will actively go in for this type of sports and become winners of international contents on these kinds of horse sports, being rewarded with the highest praises and titles.

In the life of the Karakalpak people’s horse games have been played as a sport beginning from ancient times. In ceremoniest on occasions of family celebrations (wedding, sunnet toy feasts) and public holidays (Navruz, Harvest holidays) Our ancestors used to hold the earliest forms of horse games as at shabis /jarisi/ horse racing; jorga surispek/ contest on riding a horse in the even pace (cantering), ilaq. Periods having passed and reached our days kinds of our national horse games have been enriched both in quantity (with new types) and in quality (they were played fairly with new standard rules). Nowadays horse games including their types of ilaq oyini (Ilaq oyini – a sport game played riding on a horseback in two or three teams or two teams which team fights against each other to win the kokmar (korpor) (a stuffed sheep (young foal) seized between the feet of the rider/opponent and his stirrup (P. Sh. The author), alaman baygi (Alaman baygi – a contest on horse racing held in a number of groups of participants representing all the local tribes and neighboring countries. Nowadays the contest is called as “Horse reacing maratho), (horse racing marathon) jorga jaris (jorga surispek (Eng: cantering)), at oimrawlerstiriwi, (horse wrestling) attan awadarispaq (wrestling on horseback), qiz quwiw, gumiis aliw, tay jaris, at sekirtiw, at arba aydaw jarislari and other types of Karakalpak people’s national horse games are renewed and played at ceremonies on occasions of family and public holidays as wedding and sunnet toy feasts. Navruz, Harvest holidays and Independence Day. Besides, the list of horse games has been filled with one another type, girls’ horse riding.

Our government pays a new attention to further development of national horse games as one of the popular type of sports. There was adopted the Decree of the President of the Republic of Uzbekistan “On the further development of Horse breeding and Horse sports in the Republic of Uzbekistan” from the 18th of February 2019, which was followed by the organizing of the “Federation of the Horse breeding and Horse sports of the Republic of Uzbekistan” [1]. There were put forward before us an important task of further developing horse breeding and horse sports, taking the youth for going in for these kinds of sports, propagandizing a healthy way of life and also achieving higher results in national and international contests on all types of horse sports.

People’s national sports games bring up our citizens to cheerfulness, cleverness, artfulness, tolerance,
quickwittedness, activeness and powerfullness. There was no
ceremony among karakalpak people held without national
games. Before beginning of people’s sports games on feast
days there are held festive gatherings in the open streets and
squares on public holidays with a high joy and cheerfulness
including dances and songs in bäsquis (A bäsqui – a national
performer of folk eposes and songs in his/her own
accompaniment on the national two – stranded musical
instrument – dwutar) and jiraw’s (A jiraw - a national
performer of folk eposes and songs in his/her own
accompaniment on the national musical instrument
with strings called qobiz, played with a bow) performing in dwutar
and qobiz contests between maidens and young people in
singing or inventing rhymes or verse lines humorously for fun,
playing in national musical instruments as shinqobiz, balaman
and other kinds of wind. The ceremonies are held in high
spirits with enthusiasm.

METHODODOLOGY

According to a number of scientific – methodological
works, pedagogical researches and points of views occurred
after disputes among scholars and specialists one can have
conceptions on the denominations of the horse sports
games given below. Due to their rules of playing and meaning horse
sports games are introduced in the following types (kinds):
1. Kokpar (ilaq oyin) (a horse sports game for winning Kokpar)
2. Atti baxgige jiberiw (Horse racing)
3. Qiz qwiiw (Chasing after a girl on horseback)
4. Attan awdarispaq (wrestling on a horseback)
5. Attan nayza ilaqtiriw (throwing a spear from horseback)
6. At ustinde qilishlasiw (Fencing on horseback)
7. At ustinde ogjaidan atsiw (shooting an arrow from bow on a horseback)
8. Jorga jaris (jorga surispek) (Contest on riding a horse in the cantering pace
9. Alaman baygi (horse racing marathon) a multi
    grouped horse race with participants from everywhere)
10. Qizlardin at shabis jarisi (Girls ‘ horse racing)
11. Gamis aliw (taking out a bundle with jewels in it from the
    surface of land cantering on a back of horse
12. At omirawanin alyaniw (making rounds round the neck of
    the horse while galloping)
13. Tay jarisi (Horse racing on a back of colt)
14. At omirawlastiriw (Making horses push each other
    with their chest until one of them move behind or
    aside or fall)
15. At sekirtiw (making a horse jump out barriers)
16. At seyislew (training a racing horse)
17. Burkit saliw (Hunting on a horseback with eagle)
18. At arba jarisi (carriage race)
19. Qanigga qzartiw (riding on horseback together with a
girl behind)
20. At ustinen doyir uriw (making guys fall down dealing
    a blow with cudgel from a back of a galloping horse).

Originally according to their types and importance
the above mentioned games are considered very significant
ones in further developing and everlasting our national
mentality as they require from individual being always active.
Besides, a horseman (horse racer) should be a strong, highly
skilled, clever, crafty, cunning and tolerant enthusiast. At
present period of cultural and global cultural development
young people must be fairly informed and thoroughly aware
of our popular national horse sports games as ilaq (kokmar),
horse racing and etc. Above all, this is one of the most
important tasks put forward before our youth. The youth of
our country all should deeply feel it as their civic moral duty.
Saying with the folk language “people’s national games” are
held and played at a place where a huge crowd of people is
gathered where one can believe that there is holding a real
nation – wide festive celebration. Thousands of people watch
the games and evaluate them. Horsemen receive their awards
depending on their results and places achieved at the games.
From the side all this can be seen as a very simple sight,
however, it rises the consciousness of the youth and motivate
them to go in for such activities with a high creativity eagerly
looking forward for becoming all – round mature and sound
both knowledgeably and culturally. People’s national horse
games not only a test for determining how the horsemen are
strong and behave, but they are an enormous part of the
spiritual values of our nation that allow young people to
understand the customs of their grand – grandparents and bear
a great upbringing significance. At the same time national
horse games had been functioned as one of the kinds of
military methods, which required a great quickwittedness and
cunning of a cavalryman.

RESULTS AND DISCUSSION

Below, we introduce how the games are played nowadays:
Ilaq oyin in the past the game was played with the
participation of two, three and more teams. Every team
consisted of 3 – 10 most skilled horsemen representing their
communities, for instance, as “Irg’aqli awildin
shabandozleri”/“Horsemens from the village of Irg’aqli”
“Kholdawlinin jigitleri”/“Representatives from Qoldawli”
Shakhhamannin shabandozleri”/”Horsemens from Shah-amani”,
Alimbet – Da’w topari”/?The team of Alimbet – Da’w” “Arzi
Ataliqin jigitleri”/”Arzi Ataliks’s Men” and etc. if there were
horsemen representing neighboring countries, they were
allowed to form their own team, having agreed with game
holders. Nowadays ilaq oyin is played between two teams
each consisted of 8 – 10 members at the age of 18 – 35, who
can cope with all the rules and methods of horsemanship.
The place where the game is held must be chosen in the area
outside the city or town (centre), where the surface of land
is level and not very stony for not hurting horses’ feet. The
length of the square is equal to 300 – 400 meters and the width
– 150 – 200 meters. And in the centre of the square there is a
circle with diameter of 9 meters. Teams’ members greet each
other on horseback round the circle standing in opposite sides.
Team leaders with the Head Referee draw lots to decide two
players to begin the content. Then two representatives from
the teams fight against each other to take out Kokmar from
the surface of land first. The horseman who takes out of
the surface of land the ko’kmar gallops away on horseback trying
not to give back the ko’kmar to their opponents and return it under the defence of his teammates and throw into the circle in front of adjudicators. The head reference record the first point into the account of the player who opened the scoring. In circumstances a horseman can pass the ko’kmar to one of his teammates. The play continues familiarly to the above mentioned tactics. Both teams showed struggle for best opportunities for holding a victory. However trying to seize the ko’kmar a horseman shouldn’t display a coarseness hitting his opponent or shouting nonsenses, unless referees instantly fine him or remove him from playing. The team which throws the ko’kmar more times into the circle in front of the stand of the body of adjudicators. The weight of ko’kmar mustn’t increase 15-24 kilogram. The content lasts an hour or two. After finishing the game the results are summed up and the winners are awarded.

Qiz quwiw. (Running after a horsegirl on horseback) The game is popular among the young people. It is one of the national horse games played as sport with the participation of a girl who is good at horsemanship and young fellow of the age of 17 who is also a skillful horse-rider. The play is popular among people of Middle Asia. Girl horse rider’s age must be 16 years old and can be exceeded to some 2 or 3 years.

The game of Qiz quwiw is held a remote place outside the city (town, village) where the land is level or in the special place race-course. The distance of the race mustn’t exceed 1000 (thousand) meters. A young horseman stand at the start line but the girl rider is allowed to start her racing from 25 th meters. (The start line is considered zero point). The goal of the game: a young man in the racing must catch up with the girl before she passes the finish line he is considered a winner, if not, a failed one. If the contest is held among teams the team with more scores is a winner. If girls believe that they can cope with the matter, they can also form the own teams against young horsemen.

Atti baygige jiberiw. Horse racing. Horse racing is one of the most popular types of Karakalpak national horse sport. Contests are held on wedding ceremonies, at sunnet toy feasts and public holidays as Nawriz, Independence day and at a particular ceremonies held on the occasions of jubilees and anniversaries of public figures (People’s Heroes, Honoured Artist, Meritorious Sportsman of our people etc.) and Harvest Holiday etc. In this contest there are tested and chosen the fastest and strongest horses and the most skillfull horseriders. Horse-breeders present their best horses and their youngest riders acquiring with higher skills of horsemanship in horseracing there must be involved youngest quick-witted riders in real sports manner. So to horseracing competitions must be sent per a horse by each horse breeder. They sent their own horses which are prepared and thought in advance by their riders both physically and accordingly to requirements of sports competition.

The distance of the racing track must be equal to 8-10 km (for youngsters) (14-16 aged) and 10-16 km for adults (27-35 years old).The successful participants are rewarded due to their results by adjudicators. The holders of the first, second and third places are awarded with golden, silver, bronze medals the rest activists with certificates for ten tops and praise lists. The types of horse games as Wrestling in horseback, Throwing a spear from horseback, fencing on horseback, shooting an arrow from a bow on horseback (at omirawlastiriw) making horse to push each other with their chest until one of them move away or fall making guys fall with a blow of a cudgel from horseback are usually held at celebrating the Day of Defendens of Motherland the Cavalry Day and etc. Besides making rounds round the neck of the horse while galloping belong and familiar to the above-mentioned types.

Jorga jaris. Contest on riding a horse in cantering pace. The competition is held with the participation of horsemen and horsewomen of the age 16 and older. The distance for women is 2-3 km and for horsemen is 8-10 km. The cantering horse’s age mustn’t be younger than 3 years. The riders compete by two or four horse racers. In the contest the main index is time at which every horseman reached the finish. Horsemens and horsewomen should break the pace of cantering while they ride towards the finish. It’s not allowed to lash the cantering horse and make it gallop. If a horseman/horsewoman makes the horse break it’s cantering pace two times within 2 km, 5 times within 4 km, 6 or 7times within 6km and 8-10 times within 10 km the horseman/horsewoman is debarred from participating in the content the winners are rewarded with prizes offered by the host of the celebrity on the organizers of the competition.

Alaman baygi (horse racing marathon). A multi-grouped horse-racing with participants from everywhere. A multi-grouped horse racing is held in cases when the number of participants exceeds some 40 or more horsemen and they have opportunities to form teams by themselves. The horses and horsemen participating in this type of horse racing can be represented from various teams, each team can represent per 6-7 horsemen. All the horsemen and horses are registered in advance by adjudicators. The distance from start to finish shouldn’t exceed 16 km. Besides, there are distances which are equal to 7-12 km. The youngest member of the team can be 18 years old. In competitions teams bear their own emblems. The horse’s ages ranges from 5 to 7. It’s forbidden to gallop along a straight path in order to cheat other horsemen. The race should be held on the specially arranged level place or on the race-course. The results of teams are summed up by times of their members’ reaching the finish line, recorded by referees. When two horse race in parallel pace the horse which passed the finish with its head stretched forward is considered a winner.

Girls’ horse racing. Only girls of the age of 14-17 participate in this types of racing. The difference of this racing is in the shorness of the distance of the track. It’s equal to 2-3 km. The rules are the same with other types of racings.

Attan awdarispaq, (making gays fall down with dealing a blow with while galloping on horseback) / Wrestling on horseback. In this kind of horse sport two horsemen on horseback try to make each other fall out of the back of the horse by the strength of their hands steadily holding on horseback with their legs.

Gumis aliw. Taking a bundle with jewels in it out of the surface of land on a back of cantering horse. In this kind
of Horse sport horse-men compete in taking a bundle with jewels in it out of the surface of land riding on a back of cantering horse. The distance from the start line until the finish line is 100 meters. On the 50th or 60th meter of the track there put a white flag on the top of pole with lower and spread deeply onto the land and aside of the pole is placed a bundle with jewels in it. Horsemen / horsewomen participating in the contest compete in turns cantering on horseback and trying to take the bundle out of the surface of land in the cantering piece. Competitors are given per three attempts, when they are individual participants. In the competition between teams attempts are not given. The individual competitor who takes the bundle in the first attempt wins the first prize, who copes with the task second wins the 2nd prize and if it turns out well for the third time he/she will win the third award. If the board of adjudicators agree attempts can be considered as rounds, so in this case the one who achieves scores in all the three rounds becomes a pure winner who will be awarded with a super prize. The reset shares the second and third prizes according to their results. All the results are defined due to the referees’ reports. The places between teams are shared by the sum of scores, achieved by their members.

Bu’rkit saliw. Hunting on horseback with eagle. This type of sport began from prehistory period not as sport but it had been used as the way of earning their need for food and dress. Milleniums passing after the occurrence of social groups, scribal communities, kingdoms, khanates, nations, etc, there appeared the mentioned types of horse sport for instance in some folk tales it is read as: “At that moment a Khan and his men were out hunting with his eagle and falcons. Suddenly, a gazelle run out before the King, he set his eagle after the gazelle, but the eagle, instead of chasing after rose high into the sky and swooped down… when the Khan and his men reached the place … they saw the most beautiful girl in the world had ever seen lying on the ground unconscious. The eagle was sitting near the head of the girl” [2, 91-92] or “… I am not here by chance, nor I’m here on a special visit to you, my shepheads!” said Gu’lziba. “I was hunting with my forty men and we run into a deer. I started to chase the deer alone and lost my forty men. If any of you helps me to join the forty men I’ll give 1000 gold coins in reward, including my second horse” [2, 223].

This kind of horse sports is held only for entertainment between a group of themselves without pans as the sport requires natural circumstances. Eventually the galpes can present their tame birds of prey among spectacles on Harvest holidays and other public holidays. Only as highly skilled galpes (trainers of tamed birds of prey) can demonstrate their art completely (with making their tame bird make hunting the pray suddenly freed out of their shirt or cage.

The organizers (holders) of the content and the adjudicators board (the Chairman of the A.B., the chief referee, a doctor, a veterinarian and secretary) are responsible for holding the contest without any extraordinary cases. The participants are divided into following weight categories:
1. Horsemen of light weight category up to 60kg
2. Horsemen of light weight category up to 70kg
3. Horsemen of average weight category up to 80kg
4. Horsemen of high weight category exceeding 80kg.

The competition begins with the signal of chief referee and going. It is ended also by going. Wrestling on horseback lasts 20 minutes. If nobody can achieve a decisive victory within these 20 minutes, the narrow victory is given to the horseman who has scored a bit more. The wrestling is held inside of the circle with 9 metres diameter in front of the stand of the board adjudicators. The horsemen shouldn’t cross out the circle line. If one of wrestlers is lightly wounded or sports from has become not fit for a moment the wrestling should be stopped for 5 minutes and in five minutes the one who has given a break can cope with opportunity and continue the struggle he is considered failed.

CONCLUSION

Thus, to conclude, having got encouraged by the above mentioned genius of our ancestors the time to achieve popularity of sport, including especially horse games that have been experiencing a period of stagnation in our Republic. In order to achieve this goal we should buy brood mares from neighbor countries and abroad and breed them for this important purpose and open horse sports schools, manages where young horsemen are trained to higher horsemanship skills under the experienced specialists. As the horse games had been inherited from our earlier ancestors the games mustn’t only played among us in our family celebrations or public holidays, we, our people and authorities must manage or our national horse games to join the list of games played in international competitions. People all over the world never refused from breeding horses and horse sports. Horse breeding is an important branch of economy in many countries of the world. Besides, horse-racing and other kinds of horse sports are developed and played in international countries. It has become one of the popular sports all over the world.

REFERENCES
DESIGN AND THERMAL ANALYSIS OF SINGLE POINT CUTTING TOOL

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ABSTRACT
Temperature at tool-chip interface of a single point cutting tool is determined, generated in different speed machining operations. Specifically, three different analyses are comparing to an experimental measurement of temperature in a machining process at slow speed, medium speed and at high speed. In addition, three analyses are done of a High Speed Steel and of a Carbide Tip Tool machining process at three different cutting speeds, in order to compare to experimental results produced as part of this study. An investigation of heat generation in cutting tool is performed by varying cutting parameters at the suitable cutting tool geometry. The experimental results reveal that the main factors responsible for increasing cutting temperature are cutting speed (v) and depth of cut (d) respectively. Various researches have been undertaken in measuring the temperatures generated during cutting operations. Investigators made attempt to measure these cutting temperatures with various techniques during machining.

KEY WORDS: Single Point Cutting Tool, HSS tool and Carbide tip tool, Centre lathe, Fluke IR Thermal Imager, Finite Element Analysis, Solid Modelling

INTRODUCTION
A large amount of heat is generated during machining process as well as in different process where deformation of material occurs. The temperature that is generated at the surface of cutting tool when cutting tool comes in contact with the work piece is termed as cutting tool temperature. Heat is a parameter which strongly influences the tool performance during the operation. We know the power consumed in metal cutting is largely converted into heat. Temperature being developed during cutting it is of much concern as a result heat are mainly dependent on the contact between the tool and chip, the amount of cutting force and the friction between the tool and chip. Almost all the heat energy produced is transferred into the cutting tool and work piece material while a portion is dissipated through the chip. During machining the deformation process is highly concentrated in a very small zone and the temperatures generated in the deformation zone affect both the work piece and tool. Tool wear, tool life, work piece surface integrity, chip formation mechanism are strongly influenced at high cutting temperatures and contribute to the thermal deformation of the cutting tool, which is considered as the largest source of error in the machining process. There has been a considerable amount of research devoted to develop analytical and numeric models in order to simulate metal cutting processes to predict the effects of machining variable such as speed, feed, depth of cut and also tool geometry on deformations of tool. Especially, numerical models are highly essential in predicting Chip formation, computing forces, distributions of strain, strain rate, temperatures and stresses on the cutting edge and the machined work surface. Advanced process simulation techniques are necessary in order to study the influence of the tool edge geometry and cutting conditions on the surface integrity especially on the machining induced stresses. The objective is to analyse the temperature distribution on a tool of different materials at various machining parameters using analysis software ANSYS.

DESIGN OF EXPERIMENT
In randomized complete block design, it is possible to reduce error variance by forming blocks such that the experimental units within the blocks are relatively more homogeneous with respect to the dependent variable of interest to the experimenter. The primary objective of creating the blocks is to eliminate from the experimental error the variation due to the differences between the blocks. The experimental units or the subjects correspond to plots and block comprises of k subjects that are fairly homogeneous with respect to a given variable. Here, each block will consist of k subjects matched on a given variable. Thus, the subjects within any block will be more homogeneous than the subjects that are selected at random. The objective of this local control is to create homogeneity within each of the r blocks and consequently heterogeneity between the blocks. The variation due to block differences is eliminated from the experimental error.

DESIGN OF EXPERIMENT FOR HSS TOOL
In our case, experimental results are the temperature formed at the cutting tool tip face when machining at different speed and depth of cut. Here we analyse the error using the temperatures obtained for HSS tool at a time 10 seconds after machining starts. The analysis carried out for a significance level of 0.01.

LOAD AND BOUNDARY CONDITIONS
Structural loads and boundary conditions are applied as usual. Here we have four conditions.
1. Cylindrical support for work piece
2. Longitudinal displacement of tool (63.7 mm)
3. Tangential displacement of tool (0.1 mm, 0.4 mm, 0.7 mm)
4. Speed of rotation of work piece (150 rpm, 420 rpm, 710 rpm)

HSS tool - Speed: 70.25%, Depth of cut: 28.88% Carbide tool - Speed: 69.86%, Depth of cut: 29.75%
2. Compared the results obtained from experiment and finite element analysis, the results were validated. The difference in temperature obtained for HSS tool and Carbide tool as, HSS tool - not more than 4% Carbide tool - not more than 7%
3. It can be observed that an increase of the cutting speed produces an increase of the cutting temperature. This result is due to the fact that an increase of the cutting speed

REFERENCES

FINITE ELEMENT ANALYSIS OF TOOL
Finite element analysis of single point cutting tool is carried out by using ANSYS, a powerful general purpose finite element analysis package. ANSYS is a finite element analysis package to numerically solve a wide variety of mechanical, structural and non-structural problems. These problems include static/dynamic structural analysis (both linear and non-linear), heat transfer and fluid problems as well as acoustic and electromagnetic problems. In this project we carried out thermal analysis of a single point cutting tool using Ansys. Thermal analysis is used for determining the temperature distribution and quantities such as thermal distribution, amount of heat loss or gain, thermal gradient, thermal fluxes etc. The problem analysed here is basically a multiphysics coupling (structural thermal). Usually, physics coupling is ignored or simplified. Simulation engineers are usually using single-physics. Because coupled analyses are more computationally intensive. However, coupled analyses provide more realistic results. ANSYS Workbench is designed to make it easier to simulate multiphysics coupling.

CONCLUSION
1. Using ANOVA table, the speed is the most significant parameter followed by depth of cut for rising the temperature during machining. The percentage contribution obtained for HSS tool and Carbide tool as,
PATHOGENETIC MECHANISM OF DEVELOPMENT OF INSULIN RESISTANCE IN CHRONIC VIRAL HEPATITIS C

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ABSTRACT

The purpose of the study: to determine the pathogenic mechanism of the development of insulin resistance in CHC (chronic viral hepatitis C).

Research methods: during the examination at the Virology Scientific Research Institute, 90 patients were examined and genotype and viral load of VHC (viral hepatitis C) in these patients was determined using PCR (polymerase chain reaction) and divided into small groups. In these small groups, glycemic index values were determined and evaluated in patients.

Results: among the carbohydrate indicators according to the genotype in the patients we examined, the results of the study showed that HOMA index was 3.7±0.43 in patients typical to type 1 genotype and significantly increased compared to other examined 2 and 3 genotypes (r<0.05). Thus, patients with type 1 genotype HCV have a higher risk of developing DM type 2 than those with type 2 and 3 genotypes. In patients with high viremia, the content of morning blood sugar was 5.9±0.16 (P<0.001) and HOMA index was 4.6±0.87 (P<0.05).

Conclusion: in patients with 1b genotype of CVG, a reliable increase in insulin resistance indicators was identified in relation to genotype 3 a (r<0.001). Increased viremia caused a dramatic increase in glycerol and HOMA index (r<0.001). In the correlation analysis, a strong bond was formed between the increase in viral load and the Noma index (r=0.71).

KEY WORDS: chronic hepatitis C, insulin resistance, diabetes

INTRODUCTION SECTION

Chronic hepatitis C (CHC) disease is an orthopedic-medical-social problem of the last twenty years. According to WHO (the World Health Organization), the number of people infected with hepatitis C virus (HCV) around the world is about 500 million to date. Clinical features of hepatitis C recurrence can be attributed, first of all, to high frequency of chronic hepatitis (85%), cirrhosis of the liver, the risk of developing hepatocellular carcinoma and, at the same time, the progression of pathomorphologic changes in liver tissues. One of the main factors in the progression of chronic viral hepatitis C disease is the correlation of the disease with metabolic disorders. In patients with chronic viral hepatitis C, insulin resistance and the independent role of HCV viruses in the formation of Type 2 diabetes are noted, which together affect the rate of development of fibrosis, the degree of liver damage and the development of resistance to interferon therapy. Insulin resistance caused by the virus is a rather limited process, since the organs and tissues infected with the C virus primarily determine it. The presence of viral particles in the liver in the case of hepatitis C is considered to be the onset of the development of insulin resistance (1,2). A study conducted in the Republic of Belarus showed that only 201 out of 3209 patients with diabetes treated during the 4 years (2006-2009 years) in the Department of Endocrinology were tested against HCV(1). The results of the analysis showed that the main sign of CHC (anti-HCV) was recorded in 32 patients, which was 16%. Such a high frequency of hepatitis C marker detection once again confirms that patients with diabetes belong to the risk group and requires constant monitoring of chronic viral hepatitis markers [10]. These data indicate an inseparable link between HCV infection and type 2 DM Diabetes mellitus (DM), [9]. It was noted that in 21% of patients with type 2 Diabetes mellitus (DM), and HCV infection, HCV was detected in only 3% of cases in the 2A genotype and control group, which is indicative of the diabetes sorgen effects of HCV-specific sivens. Similar results were obtained in liver material that was implanted by other researchers [8]. The simplest way to assess insulin resistance is the HOMA-IR index of insulin resistance – Homeostasis Model Assessment of Insulin Resistance [3]. In this regard, data on the study of glucose metabolism in patients with CHC in the early stages of the disease attracted attention. It was noted that HOMA test scores were significantly higher in patients with HCV infection and fibrosis level from 0 to 1 compared with subjects whose gender, age, body weight index and thickness of fat layer is not different [2]. The frequency of IR in patients with CHC (chronic hepatitis C) who produced HCV 1 genotype gel was recorded in 30-70% of patients [6]. It was noted that in the presence of DM in the diagnosis of IR in patients with CHC, and in the absence of it, HOMA-IR was higher than 2,16% of patients with DM and CHC, and 85,7% of patients with idea and DM were detected in 90% of patients with your CHC. This not only confirms the presence of IR in
patients with CHC, but it is also estimated that HCV can provoke the development of IR in the early stages of the disease [5].

**PURPOSE OF THE STUDY**: To determine the pathogenetic mechanics of the development of insulin resistance in chronic hepatitis C.

**METHODS AND OBJECT OF INVESTIGATION**

The study was conducted between 2018 and 2021 years at the Research Institute of Virology. 90 patients with CVHC were involved in the study. CVHC included patients whose duration does not exceed 10 years. Of these, 61 (68%) were women, 29 (32%) were men, their average age was 47.5±1.55 in women, and 46.1±1.85 in men. The study included patients with severe liver cirrhosis and decompensation stage CHC, those who received antiviral therapy, those who received drugs, those who drank hepatotoxic and immunosuppressive drugs, those who suffered from chronic alcoholism, CAD (Coronary artery disease).

APT (Angina pectoris of tension) FC (functional class)3,4, there is uncontrollable and symptomatic arterial hypertension. Patients with severe concomitant somatic disease were not included. During our study, 3 different genotypes were observed in patients with chronic viral hepatitis C (n=90) when genotype was detected based on polymerase chain reaction quality control data. According to the observed genotypes, the distribution was also mainly divided into 3 groups, that is, only patients with 1b genotype in Group 1, patients with 2 genotypes in Group 2, and patients with 3 genotypes in Group 3 were examined. In the quantitative examination of the polymerase chain reaction of patients in the study, the viral load was investigated, and we determined the clinical laboratory change analysis of patients, which, according to its results, divided into both groups. According to the results of the analysis, according to the viral load, 21% of patients had low viremia, 54% had moderate viremia, and 25% had high viremia.

To assess carbohydrate metabolism compensation, blood was taken from the elbow vein from the patient in the morning and the glucose content was determined by the method of photometric glucosooxidase, the level of glycatehaemoglobin (“HUMAN”, biochemical analyser of the Germany reagent firm Mindray BA-88A polytomatic, the manufacturer SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., Ltd.) was determined. The amount of insulin in the serum was determined by immunochemiluminescent method (IMMULITE 2000, Siemens). Insulin resistance index was evaluated by the HOMA index, at the same time, in the blood from the elbow vein the amount of insulin and glucose in the serum was determined, the HOMA index was found by the formula:

\[
\text{Glucose in the blood, mmol} / L \times \text{insulin in the serum} / 22.5
\]

The normative indicator is equal to 2.86, if it is higher, it indicates the presence of insulin resistance.

To determine the etiologic of viral damage to the liver, RNA was determined by the method of polymerase chain reaction of the viral load and CVHC genotype in the blood plasma to separate HCV from plasma. The virus load summary was analysed as follows.

The reliability of the difference between statistical analysis was carried out using Fisher and Student criteria. In the correlation analysis, the Pearson correlation and regression analysis coefficient were used and its significance was determined according to the reliability table. The differences were found to be significant at r<0.05. It was found to be reliable at r<0.01, very reliable at r<0.001, while at r>0.05 it was found to be unreliable.

**RESULTS OF THE STUDY**

The classification of patients with 1b, 2 and 3 genotypes in CVHC patients according to the average age and duration of CVHC (Table 1.1). According to this, 27.2% of patients in the 1B genotype group consisted of men, 72.8% of women, the duration of HCV was 3.4±0.22. The duration of HCV was 1.0±0.0; the duration of HCV was 24.4% and 56% in male and female patients in our 3 genotype group, and the duration of HCV was 4.1±0.38. The average age of our patients was 47.3±1.4, respectively in 1b, 2, 3 genotypes; 33.8±7.0; It was 49.0±2.0.

<table>
<thead>
<tr>
<th>Table 1.1.</th>
<th>CVHC classification according to genotypes in patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGC genotypes</td>
<td>Age</td>
</tr>
<tr>
<td>--------------</td>
<td>-----</td>
</tr>
<tr>
<td>1b tip</td>
<td>47.3±1.4</td>
</tr>
<tr>
<td>2 tip</td>
<td>33.8±7.0</td>
</tr>
<tr>
<td>3a tip</td>
<td>49.0±2.0</td>
</tr>
</tbody>
</table>

If we analyse according to the genotype of patients with VGC in the study, 1-genotype was observed in patients with VGC when the blood sugar level was determined in patients with 5.9±0.21; 2-genotype was determined in patients with 5.0±0.17 (P<0.05); 3-type genotype was determined in patients with 5.1±0.14 (P<0.05). In patients in the 1 Type genotype group, insulin levels were 14.9±1.16 (R<0.01) and it was found to be dramatically high compared to the type 2 genotype (10.6±3.0). Insulin resistance index was determined at the normative limit in patients with type 3 genotypes (3.1±0.33), while, in patients with type 1 genotype (3.7±0.43), it was shown that patients with type 2 genotype (2.4±0.69) had higher convincing (P<0.05). When the indicators of glycatedhaemoglobin were determined in CVHC patients, there was a significant difference in the 1b, 2, 3 genotype in the mutual genotypes.(respectively 7.2±0.17; 5.6±0.38; 7.3±0.24 (p<0.05;P<0.01).
Among the carbohydrate indicators according to the genotype in the patients we examined, the results of the study showed that insulin resistance status was significantly increased in type 1 genotype-specific patients compared to other identified type genotypes. So, it turned out that in patients with type 1 genotype HCW, the probability of infection with type 2 of DM was higher than in patients with type 2 and type 3 genotype.

During the examination, the number of patients with low viremia was 19, 27.6% of men, 18% of women and among them was 44.8±3.46. In this group of patients, it was shown that morning sugar, insulin, HOMA index, HbA1 indicators were normal. CVHC patients in our group 2, in which the average viremiawas detected, consisted of 48 people, men 55.2%; women 52.5%, and the average age of them was 47.8±1.57. Patients with high viremia observed CVHC consisted of 23 people, men and women consisted of 17.2 and 29.5%, the average age was 47.3±1.9. According to Viremia-specific indicators were not observed in our patients at the minimum level as we did above. Basically, low, medium and high viremia indicators were identified and, accordingly, we divided our patients into 3 subgroups. (Table 1.3)

<table>
<thead>
<tr>
<th>Types</th>
<th>Early morning Glycemia</th>
<th>Insulin</th>
<th>HOMA index</th>
<th>Glycyrrhizin haemoglobin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b tip</td>
<td>5.6±0.21</td>
<td>14.0±1.2</td>
<td>3.7±0.43</td>
<td>7.2±0.17</td>
</tr>
<tr>
<td>2 tip</td>
<td>5.0±0.17</td>
<td>10.6±3.0</td>
<td>2.4±0.69</td>
<td>5.6±0.38</td>
</tr>
<tr>
<td>3a tip</td>
<td>5.5±0.14</td>
<td>12.4±1.3</td>
<td>3.1±0.33</td>
<td>7.3±0.24</td>
</tr>
</tbody>
</table>

Note: *- the difference with respect to type 1 b indicators is reliable (*- P<0.05; * * - P<0.01). ^ - 2 the difference in relation to the type indicators is reliable (^- P<0.05; ^^ - P<0.01)

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<table>
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<tr>
<th>Types</th>
<th>Average age</th>
<th>Gender</th>
<th>CVHC duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>abs.</td>
<td>%</td>
</tr>
<tr>
<td>Down viremi</td>
<td>44.8±3.5</td>
<td>8</td>
<td>27.6</td>
</tr>
<tr>
<td>Medium viremi</td>
<td>47.8±1.6</td>
<td>16</td>
<td>55.2</td>
</tr>
<tr>
<td>High viremi</td>
<td>47.3±1.9</td>
<td>5</td>
<td>17.2</td>
</tr>
</tbody>
</table>

During the examination, the number of patients with low viremia was 19, 27.6% of men, 18% of women and among them was 44.8±3.46. In this group of patients, it was shown that morning sugar, insulin, HOMA index, HbA1 indicators were normal. CVHC patients in our group 2, in which the average viremiawas detected, consisted of 48 people, men 55.2%; women 52.5%, and the average age of them was 47.8±1.57. Patients with high viremia observed CVHC consisted of 23 people, men and women consisted of 17.2 and 29.5%, the average age was 47.3±1.9. According to Viremia specific indicators were not observed in our patients at the minimum level as we did above. Basically, low, medium and high viremia indicators were identified and, accordingly, we divided our patients into 3 subgroups. (Table 1.3)

<table>
<thead>
<tr>
<th>Virus installation</th>
<th>Early morning Glycemia</th>
<th>Insulin</th>
<th>HOMA index</th>
<th>Glycatedhemoglobin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down viremi</td>
<td>4.7±0.15</td>
<td>9.9±1.5</td>
<td>2.1±0.32</td>
<td>6.7±0.22</td>
</tr>
<tr>
<td>Medium viremi</td>
<td>5.7±0.24</td>
<td>13.0±0.87</td>
<td>3.4±0.33</td>
<td>7.1±0.18</td>
</tr>
<tr>
<td>High viremi</td>
<td>5.9±0.16</td>
<td>16.7±2.6</td>
<td>4.6±0.87</td>
<td>7.6±0.33</td>
</tr>
</tbody>
</table>

Note: *- the difference with respect to the indicators of downviremia is reliable (*- P<0.05; * * - P < 0.01; * * * - P<0.001)
is considered to be the onset of insulin resistance development. Thus, according to the results of the analysis, it was found that the greater the viral load detected in our CVHC patients, the greater the severity of the disorder, the greater the risk of IP insulin-producing and DM 2 Type development in patients may increase if the amount of viral load is shown.

During the review process, we performed a statistical correlation analysis of factors, which led to an increase in the insulin resistance index HOMA in our CVHC patients. According to these results, the weak correlation between insulin and the 1b genotype of HOMA index CHC was r=0.26 and R=0.21. When the analysis of the indicator of the Virus load carried out correlation with the HOMA index of insulin concentration, the indicators of r=0.39 and r=0.71 were determined, the correlation between the viral load and insulin levels was determined, the correlation between the virus load and the HOMA index was determined.

In Figure 1.1, shown below, a regression statistical mathematic analysis was performed, based on the observations of patients, and it was proved that a high prevalence of insulin resistance was observed in CVHC, with an increase in the level of viral load.

![ROC Curve / CVHC / AUC=0,506](image)

1.1 picture. The correct strong association of the Virus with the IR in the progressive rise of the load.

**PART OF THE DISCUSSION**

The presence of insulin resistance in chronic HCV infection is associated with a decrease in insulin reaction in untreated conceptions of insulin sensitive to insulin, which is a metabolic disorder, and leads to chronic compensatory hyperinsulinemia.

R. Moucari et al. and by chammuallyphs(2008) MS was recorded in 15% of patients with CHC with clearly expressed liver fibrosis, and it was found that IR was associated with high viral strain, HCV 1 and 4 genotypes, moderate and sharply expressed histological activity (14,15).

According to the literature, 2 possible outcomes of insulin resistance in patients with chronic hepatitis C are described. In patients who are not first associated with HCV infection. In this case, the presence of insulin resistance (associated with the effect, hepatitis) is a violation of carbohydrate-fat metabolism-the manifestation of resistance to metabolic insulin. The second Test is carried out exactly as a result of HCV infestation and the progression of chronic viral hepatitis (12,13). We also continue to examine the role of the genotype and viral load of CVHC in the development of cholinreactivity. In our CHC patients, the results of the examination among the carbohydrate markers according to genotype showed that insulin resistance status was significantly increased in 1 end genotype - specific patients compared to other identified end genotypes, and we confirmed that the probability of DM 2-Type disease in patients with End 1 genotype HCV was higher in 2 and 3 end genotypes.

The presence of a “viral” sensation is indicated only in patients with HCV-infected with a high frequency of this condition (11,12). As a result of the research we conducted, both were able to improve the safety of IR and DM 2 Type development in patients when the quantitative indicator of viral load in HCV patients was high, in accordance with this study. According to the statistical correlation analysis conducted, the indicator of viral load was determined by the R=0.39 and r=0.71 indicators when correlating with insulin concentration HOMA index, the correlation between viral load and insulin concentration was determined, and the virus load and HOMA index concentration were determined by the strongly correlated. In addition, the spread of the virus has found its own link in the correlation analysis, which leads to an increase in insulin resistance.

**CONCLUSION**

When 1b genotype of HCVC was detected, a reliable elevated insulin resistance index was noted in relation to the 3 a genotype (r<0.001). A high viremic indicator of viral load in
patients with chronic viral hepatitis C in the formation of insulin resistance has also shown that the percentage is large. In particular, high caused a strong increase in glycemia and HOMA index in viremic patients ($r>0.001$). In the correlation analysis, the correct strong correlation was found between the increase in viral load and the HOMA index ($r=0.71$).

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TO EVALUATION OF THE EFFECT OF OPPORTUNISTIC DISEASES ON CARBOHYDRATE AND LIPID METABOLISM IN PATIENTS WITH HUMAN IMMUNODEFICIENCY VIRUS

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Department of Internal Diseases № 2 and Endocrinology,

ABSTRACT
In recent years, type 2 diabetes mellitus has been growing rapidly and is rapidly spreading among the younger strata of the population. This is manifested by an increase in the number of cases of its occurrence with other diseases, including infection with the human immunodeficiency virus (HIV). In this regard, our study assessed the importance of opportunistic infections in the development of type 2 diabetes mellitus in HIV-infected patients.

KEY WORDS: diabetes mellitus, opportunist infection, glycemia.

INTRODUCTION
Currently, the incidence of diabetes mellitus type 2 and human immunodeficiency virus infection is growing rapidly. This is the impetus for the increase in the number of appeals from patients with 2 diseases to doctors in practice. Metabolic disorders in human immunodeficiency virus infection have often been evaluated as the effect of antiretroviral therapy. The development of opportunistic infections in HIV-infected patients is directly related to the state of immunaturity in the body, the fall of the immune system leads to a head-on bacterial, viral, fungal and parasitic diseases. Opportunist infection means that in a normal immune state, microorganisms that live unharmed without saprophytes in the body are understood, and in a state of immunaturity, their pathologically developed reproduction is understood. These include candidiasis, simple herpes virus, cytomegalovirus infection, toxoplasmosis, tuberculosis infections. However, in our work, we have reaped metabolic disorders according to the type of opportunistic infection.

OBJECTIVE OF THE STUDY
To evaluate carbohydrate and lipid metabolism disorders according to the status of opportunist infections in HIV-infected patients.

MATERIALS AND METHODS OF STUDY
The patients with HIV infection taken into the study were divided into groups according to antiretroviral intake (1 group) and non-response (2 groups). In the 1st group, 115 patients aged 18 years to 65 years who received antiretroviral drugs, of which 56 (48.6%) were women, 59 (51.3%) were men, their average age was 47.5±1.55 in women, and 46.1±1.85 in men. In 2 groups, 39 patients who did not receive antiretroviral drugs were taken and their average age was 40.8±1.47, of which 18 were women, men were 21. Since opportunistic infections do not come alone in most cases in HIV-infected patients, we have summarized and grouped them into the most common combination. According to the most common combinations of opportunistic infections in HIV-infected patients, conditionally divided into 4 groups: 1 group had a nonspecific fever, oropharyngeal candidiasis, angular heylitis and recurrent infection of the respiratory tract, the number of patients was 57 individual, of which women 26 people, men 31 people. In our 2 group of patients, diagnosis of unknown diarrhea, HIV-cachexia, oropharyngial candidiasis and angular heylitis was observed, and the patients were 40 people. Of these, women became 21, men equal to 19. In 3 group of patients, pulmonary tuberculosis, nonspecific fever and generalized lymphadenopathies were observed, the number of patients was equal to 16, of which 7 were women, and 9 were men. In 4 group of patients, diagnosis of unknown Genesis fever, undetectable causative diarrhea, HIV-cachexia and oropharyngial candidiasis was observed, and the patients included 35 people, of whom 17 were women and 18 people were men.
When these patients were analyzed, patients who did not receive antiretroviral therapy in the 2- and 4-group (respectively 38.8±2.3; 37.6±2.2; P<0.05) in terms of age were reliably different from patients in the 1- and 3-group. Patients who did not receive antiretroviral therapy in the 4th group showed a reliable higher outcome than HIV duration from other groups. And according to the duration of art, a convincing minimum result was recorded in 2- and 4-groups. There was no reliable difference between the groups by body weight index. But the indicators of the abdominal index were equal to reliable high scores in patients who did not receive antiretroviral therapy in the 1st group, and in patients who received antiretroviral therapy in the 3rd group. When the highest CD4 index among art drinkers was found in the 4th group (372.8±21.8) (P<0.01), the minimum number of CD4 lymphocytes among patients not receiving antiretroviral therapy was found in the 3rd group (P<0.001). Viral loading constituted a reliable low rate in all other groups of patients in the 3rd group (P<0.05). As can be seen from the above indicators, in the group of patients with the longest duration of art, the indicator of the abdominal index shows the highest result, and these changes make a more in-depth study. In these groups, the indicators of carbohydrate metabolism were studied and the effect of combinations of patients opportunistic infections on carbohydrate metabolism and insulin resistance was assessed in the table below (table 2).

### Table 1
Clinical Description of Patients by Groups

<table>
<thead>
<tr>
<th>Indicators</th>
<th>1-group (n=51)</th>
<th>2-group (n=36)</th>
<th>3-group (n=10)</th>
<th>4-group (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: woman</td>
<td>ARVT+ / ARVT-</td>
<td>28 / 6</td>
<td>15 / 6</td>
<td>3 / 5</td>
</tr>
<tr>
<td>Age</td>
<td>45.3±1.1</td>
<td>44.1±2.7</td>
<td>44.2±1.2</td>
<td>38.8±2.3</td>
</tr>
<tr>
<td>Duration of HIV</td>
<td>10.2±0.57</td>
<td>8.5±0.46</td>
<td>10.2±0.69</td>
<td>8.6±0.48</td>
</tr>
<tr>
<td>ARVT Duration</td>
<td>7.5±0.49</td>
<td>-</td>
<td>6.3±0.43</td>
<td>-</td>
</tr>
<tr>
<td>Body weight index</td>
<td>24.7±0.58</td>
<td>25.2±0.76</td>
<td>23.7±0.69</td>
<td>23.3±1.2</td>
</tr>
<tr>
<td>Waist circumference</td>
<td>97.9±1.7</td>
<td>101.6±2.2</td>
<td>96.8±2.3</td>
<td>81.7±4.4</td>
</tr>
<tr>
<td>Hip circumference</td>
<td>99.3±1.6</td>
<td>99.8±2.9</td>
<td>99.9±2.0</td>
<td>83.3±3.2</td>
</tr>
<tr>
<td>Abdominal index</td>
<td>0.99±0.02</td>
<td>1.02±0.029</td>
<td>0.98±0.027</td>
<td>0.98±0.024</td>
</tr>
<tr>
<td>CD4+</td>
<td>272.6±21.6</td>
<td>185.2±12.4</td>
<td>287.2±15.2</td>
<td>243.9±14.3</td>
</tr>
<tr>
<td>Viral installation</td>
<td>4894.2±4</td>
<td>433023.9±3</td>
<td>327638.9±2282</td>
<td>290875.1±2</td>
</tr>
</tbody>
</table>

Note: * - 1-group reliable differentiation in relation to indicators (**P<0.05; ***P<0.01; ****P<0.001)
^ - 2-group reliable differentiation in relation to indicators (^^P<0.05; ^^P<0.01; +++P<0.001)
&& - 3-group reliable differentiation in relation to indicators (&P<0.05; &&P<0.01; &&&P<0.001)

### Table 2
Evaluation of carbohydrate metabolism and insulin resistance indicators in combination with opportunistic infections

<table>
<thead>
<tr>
<th>Indicators</th>
<th>1-group (n=51)</th>
<th>2-group (n=36)</th>
<th>3-group (n=10)</th>
<th>4-group (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given time glycemia</td>
<td>5.6±0.19</td>
<td>5.7±0.19</td>
<td>5.5±0.19</td>
<td>5.9±0.29</td>
</tr>
<tr>
<td>Insulin</td>
<td>17.9±0.64</td>
<td>18.2±1.0</td>
<td>17.5±0.66</td>
<td>18.9±1.2</td>
</tr>
<tr>
<td>HOMA</td>
<td>4.5±0.23</td>
<td>4.6±0.28</td>
<td>4.3±0.23</td>
<td>4.9±0.45</td>
</tr>
<tr>
<td>glycated haemoglobin</td>
<td>6.7±0.22</td>
<td>6.7±0.39</td>
<td>6.1±0.17</td>
<td>6.3±0.40</td>
</tr>
</tbody>
</table>

Note: * - 1-group reliable differentiation in relation to indicators (**P<0.05)
^ - 2-group reliable differentiation in relation to indicators (^^P<0.05)
& - 3-group reliable differentiation in relation to indicators (&&&P<0.001)
Indicators glikemia was reliably differentiated in 3-group art-receiving patients compared to 1-and 2-group (P<0.05). And the 4 group indicators recorded a reliable low result compared to the 1 group (P<0.05). There was no convincing change in groups between insulin levels. The indicators of the Homa index were not equal to the between groups reliable result, but the insulin of the Homa index was determined from the normative indicators. The amount of glycated haemoglobin is equal to a convincing difference compared to other groups in patients who do not receive 4-th group of art, and this is evidenced by the fact that the glycemic changes of these patients have different variability throughout the day.

In addition to carbohydrate metabolism and insulin resistance status in the groups of patients under study, we also studied lipid metabolism disorders and found that they were reflected in the table below (table 3).

### Table 3

**Evaluation of lipid metabolism indicators in combination with opportunistic infections**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>1-group</th>
<th>2-group</th>
<th>3-group</th>
<th>4-group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ARVT+ n=51</td>
<td>ARVT- n=12</td>
<td>ARVT+ n=36</td>
<td>ARVT- n=10</td>
</tr>
<tr>
<td>Common cholesterol, mmol/l</td>
<td>5,5±0,14</td>
<td>6,3±0,32</td>
<td>5,3±0,17</td>
<td>5,6±0,22</td>
</tr>
<tr>
<td>Triglycerid, mmol/l</td>
<td>1,85±0,11</td>
<td>3,50±0,31</td>
<td>2,09±0,18</td>
<td>3,08±0,17</td>
</tr>
<tr>
<td>hig -density lipoprotein, mmol/l</td>
<td>2,14±0,07</td>
<td>1,03±0,034</td>
<td>1,94±0,12</td>
<td>0,94±0,054</td>
</tr>
<tr>
<td>Low-density lipoprotein, mmol/l</td>
<td>2,50±0,14</td>
<td>3,66±0,30</td>
<td>2,42±0,16</td>
<td>3,30±0,19</td>
</tr>
<tr>
<td>Very low density lipoprotein, mmol/L</td>
<td>0,84±0,05</td>
<td>1,59±0,14</td>
<td>0,95±0,083</td>
<td>1,4±0,08</td>
</tr>
<tr>
<td>Index atherogenesis</td>
<td>4,5±0,14</td>
<td>5,1±0,28</td>
<td>4,3±0,17</td>
<td>5,2±0,39</td>
</tr>
</tbody>
</table>

Note: * - 1-group reliable differentiation in relation to indicators (*-P<0,05; **-P<0,01; ***-P<0,001)
^ - 2-group reliable differentiation in relation to indicators (^-P<0,05; ^^-P<0,01; ^^^-P<0,001)
& - 3-group reliable differentiation in relation to indicators (&-P<0,05; &&-P<0,01; &&&-P<0,001)

Table 3 shows that all indicators were equal to the greatest reliable result in patients who did not receive antiretroviral therapy. When studied among the groups, the amount of common cholesterol was reliably different in 3-4 groups compared to 1 group. There is a reliable difference in the amount of triglycerides by groups. The amount of hig density lipoprotein in the 3-th group was lower than in the 1 group. The amount of low density lipoprotein was reliably low in Group 3 compared to group 1 and 2, even among patients who did not drink art showed a lower result than group 3 compared to group 1, among those who did not drink low density lipoprotein art was the highest in group 4 representatives. There was no sharp difference between the indicators of very low density lipoprotein in the gut. The indicators of the atherogenicity index were also reliably different from the results of the 3- and 4-group of patients, the results of the 1-2-group.

A word about the evaluation of opportunistic infections as a risk factors for diabetes mellitus type 2 go it is important to say that these infections can disrupt metabolism. This, in turn, is proved by the fact that abdominal obesity is called stronger in a group that does not accept art. The presence of insulin resistance in patients of all groups, a reliable increase in glycated hemoglobin in 4-th group of patients, a more pronounced disruption of lipid metabolism among patients without art indicates that the percentage of the effect of this infection is not small.

**CONCLUSION**

1. Abdominal index values were found to be significantly higher in patients receiving antiretroviral therapy (1,16 ± 0,07; 0,95 ± 0,03; P <0,05) than in patients not receiving antiretroviral therapy.
2. Given time-glycemia was equivalent to a reliable high value in patients receiving 3-group antiretroviral therapy, while glycated hemoglobin was recorded as a reliable result in patients not receiving 4-group antiretroviral therapy.
3. Increases in total cholesterol (6,3 ± 0,31; P <0,05) and low-density lipoproteins (3,81 ± 0,31; P <0,05) showed a reliable difference in patients not receiving group 4 antiretroviral therapy.

**REFERENCES**

ISSUES OF IMPROVING THE TAXATION OF REAL ESTATE IN UZBEKISTAN

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Fiscal Institute under the State Tax Committee of the Republic of Uzbekistan

ABSTRACT
This article is devoted to the analysis of the property taxation system in Uzbekistan, based on the study of international experience in real estate taxation. In addition, the article presents the identified shortcomings and gives appropriate proposals and recommendations for their elimination, rational and fair collection of tax on real estate.
KEYWORDS: property tax, objects of taxation, tax calculation base, cadastral value of property, market value of property, rental value, buildings and structures, tax benefits and preferences, market economy, interactive mode, database, database of information resources

ВОПРОСЫ СОВЕРШЕНСТВОВАНИЯ НАЛОГООБЛОЖЕНИЯ НЕДВИЖИМОСТИ В УЗБЕКИСТАНЕ

Садик Р. Боймуратов
Доктор философии
Фискального института при Государственном налоговом комитете Республики Узбекистан в должности старшего преподавателя кафедры “Специальности”

Аннотация: Данная статья посвящена анализу системы налогообложения имущества в Узбекистане, проведенногона основе изучения международного опыта налогообложения недвижимого имущества. Кроме того, в статье представлены выявленные недостатки и даны соответствующие предложения и рекомендации по их устранению, рациональному и справедливому взиманию налога с недвижимого имущества.

Ключевые слова: налог на имущество, объекты налогообложения, база расчета налога, кадастровая стоимость имущества, рыночная стоимость имущества, арендная стоимость, здания и сооружения, налоговые льготы и преференции, рыночная экономика, интерактивный режим, база данных, база информационных ресурсов.

Введение
В практике международного налогового законодательства регулирование эффективного использования земельных ресурсов и имущества с помощью налогов является одним из наиболее актуальных и проблемных вопросов налогового администрирования практически во всех странах мира. В частности, в тех странах, где земельный налог и налог на имущество являются основным источником, обеспечивающим устойчивость доходов местного бюджета в большинстве стран, систематические меры, предпринимаемые муниципальными властями для увеличения доходов бюджета, сыграли важную роль в обеспечении экономической стабильности регионов.

Мировая практика по разработке основных принципов организации наиболее эффективного налогообложения недвижимости, земли и имущества как объекта налогообложения регулируется единым законом (Германия, Швеция, Турция) или отдельными законодательными актами (Австралия, Дания, Новая Зеландия). Однако при определении налоговой базы за основу часто берется рыночная стоимость объектов налогообложения, тогда как в Соединенном Королевстве, Франции и Северной Ирландии за основу принимается арендная стоимость недвижимости (среднегодовой
рост дохода от аренды земельного участка). Подобная ситуаций свидетельствует о том, что при налогообложении земельных ресурсов и недвижимости и определении базы необходимо особое внимание уделять проведению широкомасштабных исследований по причине того, что вышеупомянутые налоги являются основным источником пополнения местных бюджетов.

В развитых странах при анализе определения объекта налогообложения и налоговой базы при налогообложении недвижимости земля, здания и сооружения являются объектом недвижимости, при этом земельные участки учитываются вместе со зданиями и сооружениями, но при определении базы исчисления налога в разных странах применяются различные методы. Например, в Великобритании и Франции налоговая база определяется размером арендной платы, а в Нидерландах, Испании, Италии и России налоговой базой является кадастровая стоимость земли, зданий и сооружений. В то время, когда рыночная стоимость недвижимости в Латинской Америке и Канаде является налоговой базой, в Японии же налоговой базой является стоимость недвижимости.

Таблица 1

<table>
<thead>
<tr>
<th>№</th>
<th>Название страны</th>
<th>Налогоплательщики</th>
<th>Объект налога</th>
<th>Налоговая база</th>
<th>Налоговая ставка</th>
<th>Периодичность определения налоговой базы</th>
<th>Ведомства, осуществляющие оценку</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Великобритания</td>
<td>Юридические и физические лица</td>
<td>Земля, здания и сооружения</td>
<td>Стоимость арендной платы</td>
<td>2</td>
<td>раз в 10 лет</td>
<td>Фискальные и муниципальные органы</td>
</tr>
<tr>
<td>2</td>
<td>Франция</td>
<td>Юридические и физические лица</td>
<td>Завершенное жилье и земельные участки, также земельные участки, строительство которых не завершено</td>
<td>Стоимость арендной платы</td>
<td>5%</td>
<td>Ежегодно</td>
<td>Фискальные и муниципальные органы</td>
</tr>
<tr>
<td>4</td>
<td>Голландия</td>
<td>Юридические и физические лица</td>
<td>Земля и здания</td>
<td>Кадастровая стоимость</td>
<td>0,1–0,9</td>
<td>раз в 4 года</td>
<td>Муниципалитет</td>
</tr>
<tr>
<td>5</td>
<td>Испания</td>
<td>Юридические и физические лица</td>
<td>Земля и здания</td>
<td>Кадастровая стоимость</td>
<td>0,3–0,4</td>
<td>раз в 8 лет</td>
<td>Государственные органы, регистрирующие недвижимое имущество</td>
</tr>
<tr>
<td>6</td>
<td>Италия</td>
<td>Юридические и физические лица</td>
<td>Земельные участки и здания, построенные на них</td>
<td>Кадастровая стоимость, арендная плата по договору</td>
<td>0,3–3</td>
<td>раз в 10 лет</td>
<td>Фискальные органы и органы государственного реестра</td>
</tr>
<tr>
<td>7</td>
<td>Российская Федерация</td>
<td>Юридические и физические лица</td>
<td>Земельные участки и здания, построенные на них</td>
<td>Кадастровая стоимость</td>
<td>0,3–1,5</td>
<td>раз в 3 года</td>
<td>Органы государственного кадастра</td>
</tr>
</tbody>
</table>

1vuzlit.ru stanovleniya_zemelnogo_naloga
2 Таблица подготовлена автором на основе данных налогообложения зарубежных стран.
Следует отметить, что периодичность оценки недвижимости также важна для увеличения доли налога на недвижимость. Если недвижимость в Великобритании и Италии переоценивается каждые 10 лет, в Испании - каждые 8 лет, в Голландии - каждые 4 года, в Японии и России - каждые 3 года, то во Франции, Германии, США и Канаде недвижимость подлежит налогообложению после ежегодной переоценки.

При этом при переоценке недвижимости большое внимание уделяется назначению органов, осуществляющих переоценку, а при оценке недвижимости во всех развитых странах Европы государство осуществляет эту деятельность при помощи фискальных и муниципальных властей. В Японии, США и Канаде оценка объектов недвижимости осуществляется коммерческими организациями, имеющими право оценивать недвижимость.

Кроме того, в мировой практике при налогообложении недвижимости уделяется внимание уровню жизни налогоплательщика, наличию возможности платить эти местные сборы. Следует отметить, что неподъемные платежи побуждают налогоплательщиков покинуть регион, а платежи, приносящие прибыль, наоборот, являются стимулом для привлечения налогоплательщиков и инвестиций, так как имеет место дифференциация недвижимости для целей налогообложения, т.е. налогообложение физических и юридических лиц осуществляется по разным ставкам налога в зависимости от цели использования объектов (коммерческий, производственный, жилой и т. д.).

В результате того, что наша страна сосредоточила внимание на поддержке предпринимательства и снижении налогового бремени с целью создания благоприятного инвестиционного климата для субъектов предпринимательства, освобождение малых предприятий от земельного налога и налога на имущество уменьшило акцент на эффективном использовании земли и собственности. Это, в свою очередь, оказало значительное влияние на доходы местного бюджета.

Таким образом, введение ресурсных налогов и налога на имущество для налогоплательщиков в упрощенном порядке налогообложения с целью справедливого распределения налогового бремени между налогоплательщиками на основе основных направлений Концепции совершенствования налоговой политики в Узбекистане стало важным шагом в налоговую реформу.

В этой связи 3 декабря 2020 года был принят указ Президента Республики Узбекистан №УП-6121 “О дальнейшем совершенствовании ресурсных налогов и налога на имущество”. В соответствии с данным указом, определены такие приоритетные задачи нашей страны на 2021-2024 годы, как обеспечение поэтапного внедрения системы исчисления налога на имущество и земельного налога на основе кадастровой стоимости недвижимого имущества, с целью создания благоприятного инвестиционного климата для субъектов предпринимательства, а также снижение налогового бремени для налогоплательщиков с целью повышения качества жизни населения.

Однако проблемы, стоящие перед нашей республикой по совершенствованию механизма исчисления и взимания земельного налога и налога на имущество, увеличению доли этих налогов в доходной части бюджета, являются одними из важнейших вопросов, стоящих сегодня перед экономистами и экспертами в данной области.

Необходимо отметить, что несмотря на то, что полученные результаты и не столь высокие, но прослеживается положительная динамика.
Анализ практики исчисления и взыскания налога на имущество с физических лиц

Таблица 2

<table>
<thead>
<tr>
<th>№</th>
<th>Годы</th>
<th>Налогоплательщики – физические лица</th>
<th>Уплачено физическими лицами</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Количество</td>
<td>Разница по отношению к прошлому году</td>
</tr>
<tr>
<td>1.</td>
<td>2017</td>
<td>5 341 710</td>
<td>143 039</td>
</tr>
<tr>
<td>2.</td>
<td>2018</td>
<td>5 994 421</td>
<td>650 979</td>
</tr>
<tr>
<td>3.</td>
<td>2019</td>
<td>6 978 872</td>
<td>984 451</td>
</tr>
<tr>
<td>4.</td>
<td>2020</td>
<td>7 255 539</td>
<td>276667</td>
</tr>
</tbody>
</table>

Анализ показывает, что с момента перехода на исчисление налога по кадастровой стоимости имущества физических лиц, произошли положительные изменения в количестве налогоплательщиков и размере налоговых поступлений.

Таблица 3

<table>
<thead>
<tr>
<th>Годы</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Расчетная стоимость налога на имущество</td>
<td>Инвентаризационная стоимость</td>
<td>Кадастровая стоимость</td>
<td>Кадастровая стоимость</td>
<td>Кадастровая стоимость</td>
</tr>
<tr>
<td>База исчисления налога</td>
<td>46543</td>
<td>293542</td>
<td>393875</td>
<td>401150</td>
</tr>
<tr>
<td>Показатель роста</td>
<td>-</td>
<td>6,3</td>
<td>8,4</td>
<td>8,6</td>
</tr>
</tbody>
</table>

Анализ данных таблицы показывает, что начиная с 2018 года переход на налогообложение имущества физических лиц по кадастровой стоимости привёл к тому, что налоговая база объектов недвижимого имущества увеличилась в 2018 году в 6,3 раза по сравнению с 2017 годом, в 8,4 раза в 2019 году и в 8,6 раза в 2020 году (с введением кадастровой стоимости была резко снижена ставка налога на имущество физических лиц).


Однако это не очень большой результат по сравнению с условиями все более развивающейся рыночной экономики. Это связано с тем, что на сегодняшний день текущая кадастровая стоимость объектов недвижимости, принимаемая для исчисления налога на имущество физических лиц, намного ниже рыночной стоимости. При расчете текущей кадастровой стоимости не учитываются месторасположение дома, наличие инфраструктуры, озеленение прилегающих территорий, класс объекта и многие другие рыночные показатели.

В рамках действующего механизма оценка стоимости площади однокомнатного дома, построенного за один год на окраине города, равна стоимости площади такой же жилья, расположенного в центре города, при этом наличие или отсутствие соответствующих транспортных коммуникаций также не имеет большого значения. На самом деле цена кварти в рынке недвижимости сильно разнится в зависимости от их расположения. Например, сегодня рыночная стоимость недвижимости, расположенной в центре Ташкента больше кадастровой стоимости примерно в 4 раза, а недвижимости, расположенной на окраине города – больше примерно в 2 раза.

Следовательно, текущая кадастровая стоимость не соответствует рыночной стоимости объекта, и это считается несправедливостью с социальной точки зрения. С другой стороны, рыночная стоимость позволяет более полно оценить недвижимость с учетом всех вышеперечисленных факторов и является более справедливой с учетом конкретных характеристик каждого объекта.

Вместе с тем, сегодня в налоговой системе страны вопрос налогообложения доходов юридических лиц остается серьезной проблемой в отношении налогообложения имущества, принадлежащего физическим лицам. Это видно из анализа данных, представленных в таблице 4.
Анализ показывает, что количество налогоплательщиков и сумма уплаченного ими налога на имущество, подверженные резким колебаниям за последние четыре года по налогам на имущество, взимаемым с юридических лиц. Конечно, можно сказать, что это связано с внесением изменений в налоговое законодательство в соответствии с концепцией налоговой политики. Однако в данном случае выделяется конкретный объект налогообложения, но остается вопрос, как оценить разницу в количестве налогоплательщиков и налоговой базе.

В действующем налоговом законодательстве база налога на имущество определяется исходя из средней годовой остаточной стоимости зданий и сооружений (недвижимость). В этом случае остаточная стоимость недвижимого имущества определяется как разница между первоначальной (восстановительной) стоимостью имущества и суммой амортизации, рассчитанной с использованием методов, указанных в учетной политике налогоплательщика.

Однако вопрос о том, всегда ли остаточная стоимость недвижимости точно и полностью отражается налогоплательщиками, оказывает резкое влияние на размер исчисления налога на имущество. Это связано с тем, что налогоплательщик не всегда полностью отражает налоговую базу при ее правильном исчислении с целью того чтобы уплатить небольшую сумму налога на имущество.

Например, по состоянию на 1 января 2019 года при сравнении баз данных Государственного налогового комитета и Кадастрового агентства выявлена разница в 7,5 трлн. сумов в стоимости имущества, согласно чему в 2019 году было начислено налога на имущество на сумму в 32288,4 млрд. сумов.

На 1 января 2019 года общее количество предприятий-налогоплательщиков составляло 324,4 тысячи, из них 74,7 тысячи - налогоплательщики на имущество. Однако в 2019 году имущество более 95,0 тысяча предприятий по всей республике было оценено оценочными организациями для различных целей (получение кредита, продажа, внесение в уставный капитал третьих лиц и т. д.). В частности, по данным коммерческих банков, недвижимость 2660 предприятий, включенных в «Залоговый реестр», оценена по рыночной стоимости в 4673,4 млрд. сумов, а 897 из этих предприятий представили имущество с нулевой стоимостью в своей налоговой отчетности по состоянию на 1 января 2019 года.

Однако налоговая база данных объектов составляет 1692,5 млрд. сумов в оценочной стоимости.

Кроме того, 1116 из 2660 предприятий, оценивавших своё имущество с целью залога, указали стоимость недвижимости в налоговой отчетности за 2019 год на сумму 2494,9 млрд. сумов, когда как оценочные организации оценили имущество данных предприятий по рыночной цене на сумму 4673,4 млрд. сумов. Подобные случаи требуют пересмотра методологии определения объектов налогообложения и налоговой базы при налогообложении имущества юридических лиц в нашей стране, и, как было отмечено выше, следует устранить выявленные недостатки в нашей стране на основе глубокого изучения передовой международной практики и многолетнего опыта. Это связано с тем, что реформа налога на имущество и земельного налога является важным приоритетом в налоговой политике с учетом факторов неиспользованного потенциала доходов, включая перераспределение налогового бремени и поэтапное развитие регионов. Развитие инфраструктуры в регионах будет способствовать дальнейшему увеличению налогообложение имущества и внести значительный вклад в рост доходов местного бюджета, в том числе в дальнейшее развитие инфраструктуры района (города).

Практически во всех развитых странах налогообложение недвижимости основывается на ее кадастровой стоимости, которая определяется на основе рыночных данных и состояния рынка недвижимости на определенную дату. Налогообложение объектов недвижимости, близких к рыночной стоимости, указывает на то, что если ставки равны, большая сумма налога взимается с более дорогого объекта, а кадастровая (не основанная на рыночной стоимости) или балансовая стоимость не всегда отражает реальную стоимость объекта.

Высокая эффективность налогов, взимаемых с недвижимости, в основном обусловлена устойчивостью налоговой базы. Определение широкой налоговой базы, включающей землю и здания, имеет ряд преимуществ, поскольку позволяет

Анализ практики исчисления и взыскания налога на имущество с юридических лиц

Таблица 4

<table>
<thead>
<tr>
<th>№</th>
<th>Годы</th>
<th>Количество</th>
<th>Разница по отношению к прошлому году</th>
<th>Уплачено юридическими лицами</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2017</td>
<td>4 325</td>
<td>-2 438</td>
<td>64,0</td>
</tr>
<tr>
<td>2.</td>
<td>2018</td>
<td>5 856</td>
<td>-586</td>
<td>90,9</td>
</tr>
<tr>
<td>3.</td>
<td>2019</td>
<td>64 966</td>
<td>59 110</td>
<td>1 109,5</td>
</tr>
<tr>
<td>4.</td>
<td>2020</td>
<td>58856</td>
<td>-6110</td>
<td>90,6</td>
</tr>
</tbody>
</table>

Анализ осуществлен автором на основании данных Государственного налогового комитета и Залогового реестра Центрального банка Республики Узбекистан.
значительно снизить налоговые ставки с меньшим искажением фактической рыночной стоимости, поскольку реальная стоимость сделок на рынке включает в себя земельные участки и здания.

Что касается оценки имущества, спектр методов оценки очень прост. Данные методы основаны на рыночной стоимости с использованием затрат на площадь и аренду. Использование арендной стоимости, как правило, отражает только текущее использование недвижимости. Надежная система налогообложения имущества основана на методе оценки, который подразумевает базу, увеличивающуюся в соответствие с реальной рыночной стоимостью и экономическим ростом, который, в свою очередь, требует регулярной оценки.

Вывод

Исходя из вышеизложенного, в целях совершенствования системы налогообложения недвижимости в нашей стране предлагается следующее:
- создание правовых институтов по оценке государственного кадастра;
- внедрение современных методов и механизмов определения кадастровой стоимости недвижимости и земельных участков, максимально приближенных к рыночной стоимости;
- обеспечение полноты ведения кадастрового учета;
- создание единой справедливой системы налогообложения фонда жилой недвижимости, находящейся в собственности юридических и физических лиц.

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DEVELOPMENT OF CULTURAL PASTURES UNDER THE ENVIRONMENTAL CRISIS AND WATER DEFICIENCY IN THE ARAL REGION

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ABSTRACT

The ecological situation has changed in Karakalpakstan. In 2000-2001 and even other separate years, there was an extreme shortage of irrigation water, which led to a sharp decrease in the productivity of leading crops such as cotton, wheat, rice, vegetables, melons, etc. According to international experts, this phenomenon may repeat itself in the future. Under such extreme climatic circumstances, it is advisable to develop cultivated pastures for animal husbandry.

KEY WORDS: Aral Sea region, Republic of Karakalpakstan, extreme climate, water deficit, saline soil, harvest, Aral Sea, agriculture, Amudarya, Syrdarya;

INTRODUCTION

The Republic of Karakalpakstan is located between three deserts (Karakum, Kyzylkum and Ustyurt) and at the very end of the central irrigation system of the Amudarya River. Therefore, there is a tense situation associated with the distribution of water resources. Therefore, not all plants in such soil and climatic conditions are able to grow and give a good harvest [3].

For example: in 2000-2001. and other separate years in Karakalpakstan, an extreme lack of water was felt in the fields, which led to a sharp decrease in the productivity of leading crops such as cotton, rice, etc. [5]. According to international experts, this phenomenon may be repeated in the future.

The Aral Sea, which belonged to Uzbekistan and Kazakhstan, occupied the fourth place among the lakes and therefore it was called the sea. Since the 1990s, Kazakhstan and Uzbekistan, from the rostrum of the United Nations and other international and regional organizations, have constantly attracted the attention of the world community and the inhabitants of the globe to the Aral Sea problem [1,2] and its close relationship with the issues of regional and global security.

PURPOSE OF RESEARCH

To solve the essence of the problem, we conducted a specific comparative mathematical comparative analysis for the period 1991 - 2021. The main goal of our analysis is mainly to soften the situation in the Aral Sea region, for this it will be necessary. Develop a forage production strategy based on the strengthening of cultivated pastures in Karakalpakstan for the development of livestock.

MATERIALS AND METHODS

Until the 1960s, the Aral was the largest commercial fish reservoir in Central Asia with an annual catch of up to 40,000 tons of fish. The level of the water surface of the Aral was almost 80 m above the level of the Caspian Sea. It was 428 km long and 234 km wide, with a maximum depth of 69 m and a volume of 1064 cubic km. The Aral Sea zone was considered a region with a large variety of flora and fauna [2].

The Aral Sea at one time served as a climate-regulating reservoir and softened sharp fluctuations in the weather throughout the region. The air masses that invaded the region warmed up in winter, and cooled over the sea in summer [2,3]. Due to the negligence of mankind, negative factors appeared in the region, of which the first one was the Aralkum desert with an area of 5.5 million hectares. The second is that the local climate in the Aral Sea region has changed. Third - to maintain a continuous flow of water, highly mineralized drainage and domestic waste waters were discharged into the Amudarya and Syr Darya [2]. The fourth is the lack of drinking water, the growth of dangerous diseases, the deterioration of living conditions, the reduction in employment opportunities and migration to other countries [5]. Fifth - the productivity of the main pastures is reduced and the sixth - there is a decrease and disappearance of wild plant and animal species.

If the current situation in the Aral Sea region is not regulated taking into account water availability, this can cause
crop losses, which, with demographic growth, will pose a serious risk to food security [5].

RESEARCH RESULTS AND DISCUSSION

In the Republic of Karakalpakstan, due to the extreme climate and lack of water, as well as salinity of the soil, there is sparse vegetation. Based on research, it was found that licorice, wild alfalfa, wild clover, reed, sorghum, azhrik, cherkez, kandym, keurek, zhuusan, etc. grow mainly on cultivated pastures. However, these crops are limited to certain yields. Therefore, according to the established program, we studied the influence of the cultivation of certain species and varieties of non-traditional crops such as sorghum. We mainly studied new varieties of sorghum as a perennial and multi-cut forage variety "Azamat", a multi-cut grain-forage variety "Vakhsh 10" and a multi-cut variety of Sudanese grass "Chimbayskaya-Yubileinaya".

Among the studied crops, in terms of yield and duration of cultivation, the multi-cutting promising variety "Azamat" was distinguished, which in the first year of cultivation provided 3 cuts and an average of 687 centners/ha of yield in each. From the very beginning of cultivation, this variety has been producing a stable increasing yield every year for the 3rd year. The following years provided 4 cuttings of 691 c/ha of crop and 1 aftermath.

Also, to enhance the fodder return of cultivated pastures, the sorghum variety "Vakhsh 10" turned out to be suitable for animal husbandry, which gave 3 mowings of 367 centners / ha in each mowing, the sorghum variety "Vakhsh 10" and the Sudanese grass variety "Chimbayskaya-Yubileinaya" gave 4 mowings, which in each provided 467 c/ha of green mass. In addition, these crops provided 1 grazing aftermath. Indeed, under such circumstances, it will be necessary to develop and expand the areas of these salt-tolerant and high-yielding crops. Since, according to international experts, approximately 11-13% of the total remains from the Aral Sea, and until 2017, 16.5 million tons of salt and dust precipitation annually rises from the bottom of the dried bottom of the Aral Sea and falls on 1 hectare of the land of the Southern Aral Sea on average 425 - 650 kilograms of salt and dust precipitation, i.e. increases the degree of salinization processes [2,3]. In addition to these, these crops are less drought-resistant crops than cotton and rice. According to the forecast, by 2050 the volume of river flow in the Amudarya river basin will be reduced by 10-15% and the Syrdarya by 2-5% [4]. The number of dry years and the number of years with drought will increase with the loss of runoff up to 25-40%, which will cause a sharp increase in water demand and a worsening of water scarcity [4]. Under such a situation, these crops to improve the ability of cultivated pastures to provide livestock with green belts.

Seeing the consequences of the ecological crisis in the Aral Sea region, the UN Secretary General Ban Ki-moon said, “I was personally convinced of the complexity of the ecological situation in the Aral Sea region. This is a serious warning for all mankind. This global problem must be solved jointly by all the states of the region.”

CONCLUSIONS

1. It is necessary to increase the sown areas of high-yielding crops as a new perennial promising variety "Azamat", as a high-yielding and drought-salt-resistant sorghum variety, capable of producing a good harvest in conditions of irrigation water shortage. This variety provides 4 cuts of the crop at 691 c/ha each and 1 aftermath.

2. To enhance the fodder return of cultivated pastures for animal husbandry, it is necessary to sow the sorghum variety "Vakhsh 10" which gave 3 mowings of 367 c/ha in each mowing, the sorghum variety "Vakhsh 10" and the Sudanese grass variety "Chimbayskaya-Yubileinaya" gave 4 mowings, which in each provided 467 c/ha of green mass. In addition, these crops provided 1 grazing aftermath.

3. It is necessary to continue work on the formation of natural landscapes on the bottom and the Aral Sea area of natural and cultivated pastures to increase the volume of animal husbandry, as well as to prevent the rise of salt and dust precipitation from the surface of the dried seabed.

4. For the full development of the dried bottom of the Aral Sea and the creation of a microclimate at the bottom of the Aral Sea region, it will be necessary to continue the development of forest plantations with crops of drought-resistant trees and shrubs (saxaul, selenium, chogon, turanga, zhuusan, etc.) and thereby organize new pastures in desert and cultivated areas.

5. In order to create new pasture places in desert and cultivated areas, as well as to create a microclimate on the dried bottom of the sea and the Aral Sea region, it is necessary to form more fountains from underground spring waters.

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HISTORICAL PROCESSES IN THE FORMATION OF PRIMARY EDUCATIONAL INSTITUTIONS IN JIZAKH REGION AND THE PARTICIPATION OF INTELLIGENTS IN THEIR DEVELOPMENT

(Late 19th century 30s)

Khurshid O. Egamkulov

ABSTRACT

It should be noted that the history of Jizzakh region has been studied less than in other regions of the country for the last almost a quarter of a century. These circumstances and factors determine the relevance and necessity of the topic.

All schools operating in the country have their own history, their own way of growth. Our article tells about the history of the formation of secondary schools in Jizzakh, the stages of development, the life and work of dedicated teachers who worked in them.

There is also talk about statesmen, representatives of culture and art, industrialists, loyal sons of our people, who grew up in educational institutions in the region.

This article describes the private schools that teach reading and writing in accordance with the requirements of the time, schoolteachers, people who built science schools at their own expense, scholars of their time, the development of education in the country, the closure of old schools in towns and villages and their bases, the beginning of the establishment of new schools, the literacy of adults and young people in schools, as well as the conduct of cultural and educational work among teachers in the community.


THE MAIN RESULTS AND FINDINGS

In the early years of colonialism, the government administration limited itself to a comprehensive study of the cultural life of the city of Jizzakh, the traditions of the people, without interfering with the traditions of public education. We know from history that public education was developed in Jizzakh province, the population was interested in science, and teachers educated in mosques and schools in Bukhara madrasses taught literature, mathematics, history and geography, as well as religious education to educate students. After the primary education of local children in about 20 old schools and mosques established in 1880-1888 in the mahallas of Jizzakh, “Sovunchilik”, “Jizzakhlik”, “Kassoblik”, “Uratepalik”, “Toshloq”, after the primary education of local children, trade, handicrafts, calligraphy who studied and worked in their professions. Children from well-to-do families in Jizzakh continued their education in Samarkand and Bukhara madrassas. In the old schools, in the “Sovunchilik” mahalla of Jizzakh, Achit qori, Burhon qori, Egamberdi domla, Mulla Toshpolat domla, in the “Uratepalik” mahalla, Mirzo Sadiq and Ziya Qorilar, as prominent schoolteachers of their time, taught young people the rights of Islam, Sharia law, and Islam[1].

There were a total of 29 schools in the Uzbek volost of Jizzakh district. In particular, there were 3 schools in Sulakli, 4 in Yoyilma, 3 in Kangli, 4 in Kohshbarmak, 2 in Karayantak, 3 in Sharillak, 3 in Saykhan-Khurasan, 3 in Takali-Kudukchka, 2 in Zargar and Duldul and 2 in Kushtamgali. Rabot volost has 1 school in Paymart, Korpa, Kudukchka, Agadjon, Sugunboy, Uchqiz, Chokmozor, Qambar, Rabot, Ardashshan, Laylakhona and Chambul, 2 schools in Pishagor and Beshbulak, and 16 schools in total[2].

In the north-eastern part of the Orda fortress in Jizzakh, in the mahallas “Tashkentlik”, “Jizzakh” Sadriddin Makhsym, Muhammad qori, in the new methodical schools opened by intellectuals such as Mulla Sabir domla and Mulla Hassan in the Qalandarkhoia mahalla, students were taught not only religious knowledge, but also secular sciences, and breaks were organized between classes, extensive use of world maps, globes and other visual aids. In addition to teaching Islam in the schools of the new method, special attention was paid to the teaching of secular scientific knowledge. The elders of Jizzakh respectfully remember the name of Nazirtosh Hazratqul qizi as a respectable woman who spread knowledge and enlightenment to the children of workers. This intelligent woman was a man who loved science and art in Jizzakh. Grandmother Risolat, one of her students, will continue the commemorative work started by Nazirtosh Hazratqul qizi in Jizzakh. He considers it his sacred duty to give vital knowledge to the youth of Jizzakh. In the memoirs kept in the...
archives of the house of the sons of the late Narzikul Yulchibaev, a pensioner of national importance: “A group of young people from Nazirtosh and Risolathon sisters - Kholmat Karimov, Mamadali Abdurasulov, girls Kholida Khudoiberdieva and Ulugoy Sharipova - were educated. It is interesting that at that time we learned from Nazirtash, Risolatkhan, Ochildi qori, Jora qori during the day, and in the evening we went to the orphanage to study”, is emphasized.

In the second half of the XIX century and the beginning of the XX century in Jizzakh there were some positive changes in the education of schools and madrasas. The Holy Quran and Haftiyak, published in Kazan, and collections of books written by various poets from Pakistan and Iran have been delivered. However, funding from the Turkestan Governor-General's Office's treasury for madrasas and schools was soon suspended.

The colonialists tried to educate the people of Turkestan in a European environment and to establish a European way of life in the country.

Beginning in 1870, the Tsarist government decided to open Russian-style schools to train petty officials and mirzas among the local population[3].

The number of Russian-language schools in Central Asia has grown extremely slowly.

"By 1876, six Russian-language schools were opened, three of which were in Tashkent, two in Samarkand, and one in Kattakurgan"[4].

According to the Charter of 1828, 1 boys' and 1 girl's church schools will be established in Jizzakh[5]. According to the table of Russian schools established in Jizzakh on September 20, 1886, there were 1 Russian school in Jizzakh, Zaamin and Yangikurgan (Gallaorol)[6].

In 1880, the issue of opening Russian-language schools in Turkestan to train local children together with Russian children and to train translators and clerks from local children for Russian institutions and manufacturing enterprises in the country was raised. It is approved by the Russian Minister of War, Adjutant-General Count D. Milyutin, Minister of Education Count Tolstoy, Lieutenant-General G.O. Rosenbach, a follower of General von Kaufmann, directly supervised the development and implementation of the project to open Russian-style schools in the country. 6 Russian-language schools will be opened in Tashkent, Samarkand and Kattakurgan. In 1883, a Russian-language school was opened in the Old City of Jizzakh and 15 students were admitted[7].

The construction and launch of the Tashkent-Samarkand railway has further strengthened Jizzakh's ties with Central Asian and Russian cities. The city had to open schools to educate the children of Tsarist army officers, doctors, merchants, and other professionals who had immigrated from Central Russia. Under the influence of Russian intellectuals, new-style schools began to open in the new and old cities of Jizzakh. The school opened by Ibrahim Qori Muminjanov in the old city of Jizzakh was one of such new schools[8].

According to the order of the Governor-General of Turkestan dated December 4, 1886, Fyodor Samsonov, a graduate of the 'Turkestan Teachers' Seminary, was appointed a teacher at the Russian-language school in Jizzakh from December 19[9].

In the autumn of 1883, an Uzbek-Russian school was opened in the old part of Jizzakh, in a newly built four-room white building. This year there was one class with 15 students[10]. This school became the basis of the current school No. 10 named after Sh. Rashidov (formerly named after N. Narimonov).

At first, the locals were skeptical about the future of the school, but as Muslim teachers began to teach at the school, the number of its students increased year by year. By 1889, the school had 21 students. Due to the lack of a special building for the school, the first classes were held at the Saatboy Hotel. In November 1889, a separate, four-room building was built for the Russian-style school. Because it was the only elegant building in the city, people began to call it the White House. In 1889, there was 1 Russian-Uzbek school, 1 madrasah and 1 old school in Jizzakh district. The Russian-language school had 21 students, including 2 girls, the Russian-Uzbek school had 26 students, the madrasa had 20 students, and the old schools had 122 students[11].

Classes at the Russian-language school were conducted in Russian and Uzbek. In those years, the school was headed by Mikhail Shalutov, one of the most talented teachers of his time, who taught Russian and arithmetic[12]. He taught Russian until 1902 and made a significant contribution to teaching Russian to Uzbek children. Textbooks by S.M. Gramanitsky were widely used in the school.

SI Ananev, ND Alekseev, Mulla Ahmad Normuhammedov, Mirzo qori Mirabdulla oglu, Ismail Muminov, Hotam Tursunov and others, graduates of Bukhara madrasah, taught Uzbek literature, Russian language, history and geography at the school. Turkestan Governor-General von Kaufman has ordered the re-registration of Muslim schools and religious institutions, as well as the testing of teachers and the issuance of special certificates, given that Muslim educational institutions contradict colonial regimes and policies. Madrasas that are considered "politically harmful" will be closed. The governor-general has issued an order to ignore complaints from Muslim schools and madrasas. This has had a negative impact on local madrasas and schools.

In this primary school, great emphasis was placed on teaching Russian as well as the mother tongue. Mullah Ahmad Normuhammedov, a graduate of the Bukhara Madrasa, established a new methodical school and taught himself[13]. In 1910, Mirzakori Mirabdulla oglu and Ismail Muminov opened new schools. It was not possible to increase the number of students due to the lack of funds allocated to the school. For example, in 1893, the funds allocated to Russian-language schools in Jizzakh amounted to only 995 soums[14]. This would not have allowed the number of students in the school to increase. The school was mainly attended by children of local rich people.

Ibrokhimkori Muminjanov from the old Khavastlik mahalla opened the first private Jadid school in Jizzakh. He paved a room in his house and installed Khan boards around it, and this school accepted and taught students.

The school opened by Ibrohim Qori Muminjanov lasted until the February Revolution of 1917, and after 1917 it was moved to the building of the school named after
Narimonov (now the 10th comprehensive school named after Sharof Rashidov).

In 1882-1883, a Russian school was built in the new town of Jizzakh district, and a building was built in the old city for the Rus-Tuzem school, that is, the first foundation was laid for the present Sharof Rashidov Secondary School No. 10 (formerly Narimonov).

The school was opened in 1884 and was admitted to the school from wealthy local children. Pupils began to be taught Russian language, mathematics, geography, native language. The school building consisted of three rooms and a porch. The two-bedroom building in the school yard was also built in 1882-1883, and these buildings served as living quarters for teachers and servants.

The school building was later expanded again. In 1915-1916, a large hall and a separate room for teachers were built next to the old building. Classes at the school were conducted mainly in two languages: Russian and Uzbek. The school’s students are mostly children of local rich people, and poor children are not admitted to this school. The first Russian teacher of the school was Mikhail Shalutov, who worked at this school until 1902[15].

CONCLUSION

In addition to being a teacher, Shalutov was the principal of the school and the main manager of the farm. The school’s first Uzbek language teacher was Normatov Mullo Ahmad, who lived in a house near the school’s new building. He was educated in a madrasa and was one of the most educated men of his time. Normatov Mullo Ahmad worked at this school until the end of his life and died in 1902. In 1884-1902, the number of students in the main school did not exceed 15-20 people. During this period, it was found out that Shokirov Nazar, Khazaratqul Chechakchi, Ibrokhim Bobo from Tashkent, Komiljon Bobo studied at this school. During 1902-1916, the classrooms of the school expanded a bit, and a large hall and a separate room for a teacher were built by the current Nuriddin Haji Madrassa.

The school was three years old, with grades 1-2 and 3. The classroom consisted of three rows of desks, with students sitting in three rows in a room depending on their class and taught as a complex.

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DISTURBANCE OF ELECTRICAL SYSTOLE IN CHILDREN WITH ACUTE RHEUMATIC FEVER

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ABSTRACT
Disturbance of the electrical systole in sick children with rheumatic fever play an important role in the formation of rhythm disturbances, often leading to fatal outcomes. The study of this aspect of the disease is most appropriate for the prevention of further complications and the choice of treatment tactics.

KEYWORDS: electrical systole, acute rheumatic fever, children, long SUIQT syndrome.

RELEVANCE
Relatively recently, a group of diseases and/or clinical and electrocardiographic syndromes associated with a high risk of developing life-threatening arrhythmias and sudden death (SD) in young people has been identified in cardiology. These include long QT syndrome (QT SUI), short QT interval syndrome (QT SQI), Brugada syndrome, catecholaminergic polymorphic ventricular tachycardias, and arrhythmogenic right ventricular dysplasia. All these diseases are today united in the concept of "channelopathy", since their pathogenesis is based on molecular genetic anomalies in the regulation of cardiomyocyte ion channels [1,4,6,12,17,19].

Over the past two decades, significant progress in understanding the electrophysiological basis of sudden arrhythmic death has been largely due to intensive research on QT SIS, in which there is a high risk of SCD due to the development of life-threatening ventricular arrhythmias. This syndrome refers to primary electrical heart diseases [2,9,16] and is characterized by prolongation of the QT interval on resting ECG, attacks of loss of consciousness due to polymorphic VT, torsades de pointes, or ventricular fibrillation [7,10,14,20].

Acute rheumatic fever is a disease characterized by a systemic inflammatory lesion of the connective tissue of an autoimmune nature involving the heart and blood vessels, initiated by group A b-hemolytic streptococcus, developing in children with a genetic predisposition to it [3,5,8,15,18].

The primary detection rate of acute rheumatic fever (ARF) currently ranges from 0.06 new cases per 1000 population per year in industrialized countries (Japan, Great Britain) to 19.2 in developing countries (South Africa). In children, the incidence rate is 0.08–10.06% of children. Children 7–15 years old are sick, in 30% of cases the disease has a family character, rheumatic fever practically does not occur in children of preschool age.

The electrocardiogram in rheumatic heart disease is characterized by a slowdown in atrioventricular conduction, usually of the 1st degree. In addition, cardiac arrhythmias, prolongation of the electrical systole, and violations of ventricular repolarization can be detected [11,13].

M.G. Kontemirova et al. in order to determine the current structure and features of the clinical manifestations of acute rheumatic fever in children, an analysis of 62 case histories of 44 children aged 4.5 to 17 years with ARF (acute rheumatic fever) (82%) and BPD (subacute rheumatic fever) was analyzed (18%). There is a tendency to a more severe course of rheumatic heart disease with the development of circulatory failure, pancarditis and / or valvulitis of both the mitral and aortic valves. All children with myocarditis had first-degree atrioventricular block with rapid normalization of the PR interval on the ECG against the background of anti-inflamatory therapy. The severity of heart damage in 25% of children with ARF was due to the development of pancarditis and/or combined valvulitis of the mitral and aortic valves, which, combined with circulatory failure in 65% of children, confirms the data on the trend towards worsening of the course of rheumatic heart disease that emerged at the beginning of the 21st century [13,15,16].

The duration of the electrical systole of the ventricles is of great clinical importance, since pathological lengthening and shortening of the electrical systole of the ventricles can be one of the markers of the appearance of life-threatening arrhythmias.

Studies on the possibility of identifying the frequency of QT SUI in sick children with myocarditis and congenital heart defects have not been conducted in our Republic, and we consider the study of this problem relevant.
PURPOSE OF THE STUDY
Identification of the frequency of occurrence of long QT syndrome among patients with acute rheumatic fever and the development of the most reliable and informative clinical and electrocardiographic diagnostic criteria.

MATERIALS AND METHODS OF RESEARCH
The control group consisted of 80 healthy children of different age categories, comparable in age and sex. The study was carried out mainly in the functional diagnostics room for children in the family polyclinic No. 3 in Samarkand. Various age groups of children have been studied. There were 20 sick children under 2 years old, 20 from 2 to 7 years old, 20 from 7 to 12 years old, and 20 children over 12 years old.

On the basis of the Regional Multidisciplinary Children's Medical Center in the department of cardiovascular rheumatology, we examined 385 sick children, 209 (54.2%) boys and 176 (45.8%) girls, based on stationary and archival materials. There were 167 patients under 2 years of age, 82 patients from 2 to 7 years of age, 78 patients from 7 to 12 years of age, and 58 patients over 12 years of age.

In our study, according to stationary data and archival materials, 205 sick children with non-rheumatic myocarditis were identified, of which 113 were boys and 92 were girls. 103 sick children with rheumatic fever, 51 boys and 52 girls.

Electrocardiography plays an important role in the diagnosis of QT SUI. The QT interval is recommended to be assessed in sinus rhythm with a stable heart rate (HR), the absence of severe sinus arrhythmia in the II standard or chest leads. Normally, the QT interval ranges from 350 to 440 ms.

The research methodology was carried out on the basis of the electrocardiographic research method, where we, using the Eithoven ruler, manually measured the RR interval and the QT interval in various leads for at least 5 cardiac cycles using the classical method of E. Lepeshkin and V. Surawich.

RESEARCH RESULTS
Rheumatic fever in all 385 sick children examined by us was registered in 103 (26.8%) treated in SODMNTS. At the age of 0 to 2 years ARF was registered in 2 children (1.9%), at the age of 2 to 7 years in 24 (23.3%) children, from 7 to 12 years in 42 (40.8%) children, and in children older than 12 years in 35 (34.0%) children. In 74 (71.8%) children, the course of LC was acute, in 29 (28.2%) children it was subacute.

I degree of process activity in children aged 0-2 years was in 1 (1.0%) patient, 2-7 years in 18 patients (14.5%), 7-12 years in 23 (22%) patients and older 12 years in 17 (16.5%) patients. II degree of process activity in children aged 0-2 years was observed in 1 (1.0%) patient, 2-7 years in 4 patients (3.9%), 7-12 years in 17 (16.5%) patients and older than 12 years in 17 (16.5%) patients. III degree of process activity in children aged 0-2 years was observed at 2-7 years in 2 patients (1.9%), 7-12 years in 2 (1.9%) patients and older than 12 years in 1 (1.0%) of the patient.

The disease began after suffering a sore throat (39.4%) or acute respiratory disease (23.6%), the presence of dental caries (43.8%). Patients were dominated by complaints of fever (58.7%), pain in the joints, mainly knee and ankle (79.5%). The main complaints in most children are manifestations of asthenic syndrome - lethargy, malaise, increased fatigue, irritability, emotional lability, and only 4-6% of children had subjective symptoms at the onset - pain in the heart, palpitations. When analyzing the anamnestic data, it was revealed that in children with ARF, ante and perinatal pathology and aggravated anamnese were significantly more common than in healthy children. Often there was a combined pathology during pregnancy and childbirth (45.3% versus 16.9% in healthy people).

According to our studies, the condition of all patients in the acute period was mostly of moderate severity, in 28.9% of cases there were clinical signs of circulatory failure, pallor, shortness of breath, severe tachycardia, enlarged borders of the heart, liver, etc.

When studying the functional state of the cardiovascular system in ARF, we took into account clinical and electrocardiographic data. In all cases, varying degrees of damage were identified of cardio-vascular system. So, in 3 (2.9%) sick children at the height of the disease, the skin was sharply pale, in 11 (10.7%) the color was pale pink.

During percussion and X-ray examination in the acute period of the disease, the size of the heart in half of the children in this group was within the age norm. In 24 (23.3%) patients, some expansion of the boundaries of the heart (mainly due to the left sections) by 1.0-1.5 cm was noted, and this affected the severity of the disease. On auscultation, heart sounds were muffled in 9 (8.7%) patients, muffled in 36 (34.9%) patients.

The clinical picture of ARF in children was dominated by symptoms such as fatigue, arthralgia, subfebrile body temperature, carditis, emotional lability, and irritability. On auscultation, muffled heart sounds, the appearance of noise, percussion - expansion of the boundaries of the heart. The QT interval in the examined children (103) was 330 ± 3.0 ms, when calculated by the Bazett formula 300 ± 3.0 ms, when the modified formula Bazett 407 ± 4.0 ms, when calculated by the Fridericia formula 378 ± 3.0 ms, when calculated Sagie formula 381±2.6 ms.

We can see that in sick children with ARF, the measured QT interval differs from Bazett by 30 ms; the corrected QT interval differs from the measured interval by 77 ms, from Bazett by 107 ms, from Fridericia by 29 ms, from Sagie by 26 ms; Fridericia differs from the measured interval by 48 ms, from Bazett by 78 ms; Sagie differs from the measured interval by 51 ms, from Bazett by 81 ms, from Fridericia by 3 ms.

It should be noted that the limits of fluctuations in the QT interval varied widely. When calculating the corrected QT interval, the values exceeded 440 ms by 148, when calculated by the Sagie formula by 4 ms. This indicates higher readings when calculated with the modified Bazett corrected QT interval, which indicates that the Bazett corrected QT interval measurement has a wide margin of variation, indicating pathological shortening or lengthening of the interval, but there was no clinical symptomatology.
The ratio of the duration of the electrical systole, calculated from the beginning of Q to the end of the T wave of the electrocardiogram, in sick children with ARF with the measured QT interval and according to the Bazett formula, data differ at the age from 0 to 2 years, from 2 to 7 years in sick and healthy children, having statistically reliable data (P<0.05). The corrected QT interval has differences in age and gender, with statistically significant differences, i.e. P<0.05. The formulas of Fridericia and Sagie differ at the age of 0 to 2 years, from 2 to 7 years and from 7 to 12 years, and over the age of 12 years, the data of healthy and sick children are almost identical.

Examination of 103 patients with ARF revealed prolongation of the QT interval according to the Bazett formula in 16 (15.5%) sick children, when calculated according to the modified Bazett formula for the corrected QT interval, prolongation in 18 (17.5%) sick children, according to the Fridericia formula in 10 (9.7%) sick children and according to the Sagie formula in 9 (8.7%) sick children. The revealed prolongation of the QT interval according to the Bazett formula is 15.7%, but not all identified patients have clinical and instrumental signs.

In a detailed clinical and instrumental examination of children, prolongation of the QT interval was found in 6 (5.8%) patients, and the diagnosis of QT SUI was detected in 3 (2.9%) children. The diagnosis was established according to P. Schwartz clinical and electrocardiographic criteria, according to which all three children received more than 4 points, i.e. the diagnosis of QT SUI is highly likely. We also worked with the QT SUI diagnostic table, according to which these children received a score of more than +18, which indicates the presence of this syndrome. All three children were diagnosed with SUI QT - Romano-Ward form. In the remaining 3 (2.9%) children, the lengthening is secondary, due to hypomagnesemia and hypokalemia (magnesium less than 0.08 mmol/l and potassium less than 2.5 mmol/l).

CONCLUSIONS

Therefore, in rheumatic fever, we found prolongation of the QT interval according to the Bazett formula in 16 (15.5%) sick children; 10 (9.7%) sick children and according to the Sagie formula in 9 (8.7%) sick children. When calculating the QTc interval, values exceeded 440 ms by 148, by the Sagie formula by 4 ms. This indicates higher readings calculated by the modified Bazett formula for the corrected QT interval than those calculated by the Fridericia and Sagie formulas. What can I say about the fact that the Fridericia formula gives the most reliable results than others.

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REVIEW ON FAULT DETECTION USING ANN AND WAVELET TRANSFORM FOR POWER TRANSFORMER

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ABSTRACT

The need for a reliable supply of electrical energy for the requirements of the modern world in all fields has increased significantly, requiring the fault less operation of electrical systems. The overarching objective is to minimize the frequency and duration of unexpected failures associated with power transformers with peak demand, including reliability requirements related to zero bias and operating speed with the ability to detect and eliminate errors in a short time. The second harmonic restrain principle has been used in industrial applications for many years using the Discrete Fourier Transform (DFT) and often encounters the problems unable to identify magnetizing inrush state internal fault and longer restrain time. Therefore, artificial neural network (ANN), a powerful tool of artificial intelligence (AI), capable of mimicking and automating knowledge, has been proposed to detect and analyze types of defects under normal and fault conditions.

KEYWORDS- Power Transformer, Artificial Neural Network, Wavelet Transform, Differential Protection.

INTRODUCTION

The safety of large power transformers is very tough task in electrical power system. The peak demand includes the necessities of reliability related to no false tripping, and working speed with short fault detection and clearing time. The protective machine includes instruments that recognize the fault, identifies its position, sense some additional abnormal fault like running conditions, and initiate the inceptive steps of the opening circuit breakers to detach the defective device of the power system. The vital purpose to reduce the frequency and length of undesirable outages associated with power transformers places additional burden on protecting relays to perform impeccably and seamlessly. The real magnitude of fault based on resistance to flow as well as assorted impedance amid the fault and the source of power supply. Total impedance contains fault resistance, line conductor resistance and reactance, transformer impedance, the circuit reactance, and generating station impedance. The standard distance relay settings are totally basis on a determined network outline with the worst fault consequences.

For transformer which are above 10MVA capacity, the differential protection system is used to protect the transformer in power system. Whereas, the overcurrent protection is used for transformers below 10MVA. Still, when transformer operates at No-Load condition it creates a large inrush current. This inrush current contains a continuous large DC component, rich in harmonics and takes a large peak value around 6-30 times its rated value. Because of this condition, there is current loop unbalancing of differential relay which cause false tripping. To avoid unnecessary tripping due to inrush current, a method using the second harmonic component of the current waveform is commonly used. However, this method cannot provide a complete solution to the inrush current.

LITERATURE REVIEW

Differential protection has long been used as the principal protection for power transformers, which are critical components in the operation and management of power systems. As a result, precise event detection and rapid fault clearing are critical. Traditional differential protection, while capable of accurately distinguishing external from internal faults to the protection zone delineated by current transformers (CT), may be unable to detect internal faults from inrush currents that develop as a result of power transformer energizations.[1]

Since its introduction [2], the digital differential relay has been greatly developed, and it was first presented for industrial use in 1988 [3]. Since 1958, the phenomenon of inrush current has been studied [4-9]. In the event of a magnetizing inrush, the second harmonic component of the transformer is utilized to prevent the differential relay from malfunctioning. The ratio of the second harmonic power spectrum to the fundamental power spectrum, based on an autoregressive algorithm, was utilized to determine the magnetizing inrush current [10-11].

The employment of a harmonic restraint technique to safeguard a power transformer has resulted in a wavelet-based algorithm for numerical differential protection. This programmed distinguishes internal defects utilizing magnetizing inrush and overexcited inrush in a precise and computationally efficient manner. This algorithm is essentially a numerical filter that reproduced the fundamental
frequency component, as well as the second and fifth harmonic components for the differential current, in order to provide operating and restraining signals. This method creates its coefficient only using addition and subtraction procedures, avoiding the time-consuming calculations of multiplication and division. When compared to a DFT-based technique, the computing complexity of the algorithm provided here is additions and subtractions [12]. The vector difference is shown as a differential quantity in differential relay, whereas the vector sum is shown as a restrain quantity [13].

**WAVELET TRANSFORM**

The Fourier transform can be used to examine the signal's frequency components. The Fourier transform, on the other hand, is mute about when a specific frequency arises. The short-time Fourier transform (STFT) finds a spectrum, which contains both time and frequency information, using a sliding window. The length of the window in the STFT, on the other hand, is constant for all frequencies. Wavelet transform (WT) facilitates the analysis of signals with localized impulses and oscillations by focusing on short time intervals for high-frequency components and lengthy intervals for low-frequency components. As a result, wavelet decomposition is perfect for analyzing transitory signals and providing a much better current characterization and discrimination.

The signal to be analyzed is multiplied with a wavelet function termed mother wavelet in wavelet analysis, similar to how it is multiplied with a window function in STFT. With each spectral component, the width of the wavelet function changes in WT. During the analysis, higher frequencies are given less time and lower frequencies are given more time. The WT provides good time resolution for high frequencies and good frequency resolution for low frequencies.

Because it is based on sub-band coding, the Discrete Wavelet Transform (DWT) provides faster analysis than the continuous wavelet transform. In DWT, digital filtering techniques allow the digital signal to be represented on a time scale. The signal analysis method consists of passing a signal through filters with various cutoff frequencies at various scales.

The signal resolution, which is a measure of the amount of detail information in the signal, is determined by filtering operations, whereas the scale is determined by up and down sampling processes. When a signal is down sampled, the sampling rate is reduced, and when a signal is up sampled, the sampling rate is increased. In one algorithm called the Mallat algorithm or Mallat-tree decomposition, the DWT is computed by consecutive low pass and high pass filtering of the time-domain signal in one algorithm called the Mallat algorithm or Mallat-tree decomposition, as shown in Fig 1. High pass (H0) and low pass (G0) filters are used to separate an original signal into two halves of the frequency spectrum.

**Fig 1: DWT implementation**

**ARTIFICIAL NEURAL NETWORK**

A neural network is a massively parallel distributed processor made up of simple processing units, which has a natural propensity for storing experimental knowledge and making it available for use. It resembles the brain in two aspects: First is knowledge required by the network from its environment through a learning process. And second is connection strengths, known as synaptic weights, are used to store the acquired knowledge.

**Features of Neural Networks:**

a) Robustness and fault tolerance
b) Flexibility
c) Ability to deal with a variety of data situations
d) Collective computation

The model of an artificial neuron on computer that closely matches a biological neuron is given by an op-amp summer-like configuration. The artificial neuron is also called a processing element, a neuron, a node, or a cell. The input signals are normally continuous variables instead of discrete pulses that occur in a natural neuron. Each of the input signals flows through a gain or weight, called synaptic weight or connection strength whose function is analogous to that of the synaptic junction in a natural neuron. The weights can be positive (excitory) or negative (inhibitory) corresponding to acceleration or inhibition respectively. The summing node accumulates all the input-weighted signals and then passes to the output through the transfer function, which is usually nonlinear.

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The process of modifying the weights in the connections with the objective of achieving the expected output is called training a network. The internal process carried out during training is called learning. Training is grouped into three categories.

**A) Supervised Training:** Training by a teacher.
**B) Unsupervised Training:** There is no external teacher or critic to oversee the training process.
**C) Reinforced Training or Neuro dynamic Programming:** The
training of an input-output mapping is performed through continued interaction with the environment in order to minimize a scalar index of performance.

A. Multi-layer Feed Forward NN
MLF neural networks, trained with a back-propagation learning algorithm, are the most popular neural networks. The basic multilayer feed forward network contains three layers: input, output and hidden. This type of neural network has one input layer, one output layer and any number of hidden layers in between the former two layers. Each network layer contains processing units called nodes or neurons. Each node in a network layer will send its output to all the nodes of the next layer.

In the input layer the nodes receive signals from the outside world. The input layer of the neural network serves as an interface that takes information from the outside world and transmits that to the internal processing units of the network, analogous to a human’s interface parts such as our eyes’ retina and our fingers’ sensing cells. Similarly, the output layer of the neural network serves as an interface that sends information from the neural network’s internal processing units to the external world. The nodes in the hidden layer are the neural network’s processing units. The number of hidden layers and the numbers of neurons in each hidden layer depend on the network design considerations. The input layer transmits the signal to the hidden layer, and the hidden layer in turn transmits the signals to the output layer. There is no self, lateral or feedback conversion of neurons.

B. Back Propagation Training Algorithm
Back Propagation (BP) learning algorithm is used to train the multi-layer feed-forward neural network. Signals are received at the input layer, pass through the hidden layer, and reach to the output layer, and then fed to the input layer again for learning. The learning process primarily involves determination of connection weights and patterns of connections. The BP neural network approximates the non-linear relationship between the input and the output by adjusting the weight values internally instead of giving the function expression explicitly. Further, the BP neural network can be generalized for the input that is not included in the training patterns. The BP algorithm looks for minimum of error function in weight space using the method of gradient descent. The combination of weights that minimizes the error function is considered to be a solution to the learning problem. The training algorithm of back propagation involves four stages. i.e.

i. Initialization of weights
ii. Feed forward
iii. Back propagation of errors
iv. Updation of the weights and biases

CONCLUSION
The performance of neural networks has been found to outperform traditional approaches, which need precise sensing devices, expensive equipment, and an expert operator or engineer, according to the research and analysis presented in this paper. The ANN’S classification ability, together with advanced signal processing techniques, paves the way for smart relays for power transformer protection that operate in a fraction of the time and with high accuracy.

REFERENCES
REVIEW ON DISPOSITION EFFECT IN STOCK MARKET

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ABSTRACT
Bias is a human tendency that affects behavior and perspective based on predetermined mental notions and beliefs. Biases appear across many areas of life and are extremely present in investing. Investor behavior deviates from logic and they display many behavior biases that influence their decision-making process. When investors act on a bias they don’t explore full issue and can be ignorant to evidence that contradicts their initial opinions. This prevent investors from taking rational decisions. Studies have proven the fact that psychological factors have relationships and impacts on the decision making of investors in stock market.

One such bias is Disposition effect. It is a kind of anomaly found in Behavioural Finance. It refers to the tendency of investors to keep assets that have decreased value and to sell assets that have increased value. The effect was identified by Hersh Shefrin and Meir Statman in 1985. Investors sell stocks that have risen value and keep the stocks that have decreased value. This study aims to find the extent to which the behavioral biases affect individual investor’s investment decisions, the various factors that affects and also to find whether the behavioral biases decrease when investor sophistication increases from individual investors to institutional investors.

KEYWORDS: Disposition, behavioural biases, investor sophistication

INTRODUCTION
Traditional finance models assume that investors are rational. The Efficient Market Hypothesis states that the capital market is efficient in processing information. In the words of Elton and Gruber, “when someone refers to efficient capital markets, they mean that security prices fully reflect all available information.” A market is said to be efficient, with respect to information, if the price fully reflects that information. (Fama, 1970). Studies that challenge the rationale came up from Behavioural Finance thinkers. Amos Tversky, Daniel Kahneman and Richard Thaler are considered to be the founding fathers of the concept of Behavioural Finance. According to Shefrin, “Behavioural Finance is the application of Psychology to financial behavior- the behavior of investment practitioners.” (Shefrin, 2001).

It deals with the influence of psychology on the behaviour of individuals and it’s subsequent impact on stock markets. It attempts to explain how psychology and emotions affect investment decisions. It’s focus is on investor- his behavior and his decisions. It also explains about the abnormalities or market anomalies which Neo classical theories failed to explain. It studies the influence of psychology in investor’s behaviour and which makes them to take irrational decisions based on various emotions and errors in thinking process. Past experiences, overconfidence, market trends, familiarity etc will affect the decisions taken by the investors and hence behavioural biases has a major role in investor’s decision-making process.

TRADITIONAL FINANCE THEORIES
Expected Utility Theory published by Von Neumann and Morgenstern in the year 1944 states how to be rational when the outcome is unknown i.e. it is an uncertain situation. When faced with different choices one should choose an option that maximizes the expected value of utility which is the sum of products of probability and utility over all possible outcomes.

Modern Portfolio Theory: A rational investor aims at choosing a portfolio which maximizes return at minimum risk. Harry Markowitz in his article titled Portfolio selection, which was published in Journal of Finance in the year 1952, which later won Nobel Prize, provides tools for determining optimum portfolio. In his model he explains about efficient set of portfolios. Efficient portfolio is chosen based on comparisons between risk and return. If two portfolios have same level of risk, then investor should choose one with more return on comparison. These are based on the assumption that the investor is rational and are risk averse and hence will prefer investments in efficient portfolios. To identify efficient portfolios Harry Markowitz used quadratic programming. Using expected return from a security, its risk and covariance estimated for pair of securities, he calculated risk and return for every portfolio. With the help of quadratic programming, he identified the least risk portfolio. Markowitz model has got limitations too. According to this model an investor should collect estimates of return, risk etc to identify the efficient sets and the complexities involved.

Capital Asset Pricing model: Capital Asset Pricing Model is an extension of Portfolio theory of Harry Markowitz. CAPM explains relationship between expected return and systematic
risk of a security. Even a well diversified portfolio is subject to variability and this variability which is undiversifiable is called as market risk or systematic risk. Capital asset Pricing Model gives a way to measure this systematic risk. CAPM also helps in identifying whether securities are underpriced, overpriced or correctly priced. Major limitations with Capital Asset Pricing Model is it’s unrealistic assumptions.

**Random Walk Theory-Efficient Market Hypothesis :** A theory came out that questions the assumptions of technical analysis. Technical analysis assumes that stock prices are orderly and not random. Random walk theory questions this assumption of orderly movement of stock prices. As its name says this theory states that stock price movements are random and not orderly. It is based on the assumption that stock markets are efficient. Hence, also called as Efficient Market Hypothesis [EMH].

EMH assumes that capital market is efficient and the securities are correctly priced. In the words of Elton and Gruber, “when someone refers to efficient capital markets, they mean that security prices fully reflect all available information.” According to this theory, there is no opportunity for the investors to earn excess returns through fundamental or technical analysis since when a new piece of information is received, prices gets adjusted to new levels. There are three forms of market efficiency: Weak form, semi strong form and strong form. Weak form provides information related to past movements of security. New price movements are random which is not affected by historical information. Semi strong form deals with publicly available information and hence when new information about the company is received, stock prices get adjusted to new levels. Strong form deals both public and private information wherein investors are not given any opportunity to earn super profits since current security price reflects both public and private information.

**HISTORY OF BEHAVIOURAL FINANCE**

Traditional finance models assume that investors are rational. Psychologists Daniel Kahneman and Economist Vernon Smith were first considered the term Behavioural Finance. It attempts to explain how psychology and emotional affects investments decisions. It’s focus is on investor: his behavior and his decisions. It tries to explain about the abnormalities also called as the market anomalies which Neo classical theories failed to explain. Amos Tversky and Daniel Kahneman studied three major areas: Risk attitudes, mental accounting, and overconfidence (Litner, 1998). Results of the study shows that male predominantly involve in financial markets and there exists relationship between personality traits and psychological biases and the personality traits have an effect on financial risk tolerances. (Bayrakdaroglu et al., 2016)

**Traditional Finance vs. Behavioural Finance**

Traditional finance people consider as rational who aims to maximize their return, acts on logic and takes decision rationally. It presupposes that people view and takes decisions on the basis of risk and return. Traditional finance also assumes that the markets are efficient and follows random walk i.e. prices comes back to equilibrium level though it fluctuates.

Behavioural finance assumes people as irrational who are affected by cognitive and emotional errors while making investment decisions. Their perceptions of risk and return are influenced by various biases and the way information/ decision is framed. There can be differences in market value and fundamental value.

**Disposition Effect : Literature Review**

It is a kind of anomaly found in Behavioural Finance. It refers to the tendency of investors to keep assets that have decreased value and to sell assets that have increased value. The effect was identified by Hersh Shefrin and Meir Statman in 1985. Investors sell stocks that have risen value and keep the stocks that have decreased value. It is a behavioural tendency that predicts that investors will sell winning stocks too soon and hold losing stocks too long to optimize profits (Garvey & Seasholes, 2005). Disposition effect is defined as difference between investor’s propensity to realize winner and loser stocks in their portfolio. (Odean et al., 1998). The presence of disposition effect is confirmed at individual investor level. (Odean et al., 1998). Disposition effect is defined as difference in each investor’s paper gains realized and paper loss realized. (Dhar & Zhu, 2006). Disposition effect is evident across many investor groups. It affects individual investors, home buyers, futures traders, professional account managers, experimental laboratory subjects, proprietary stock traders, and financial institutions. (Feng & Seasholes, 2005). Disposition effect is found more prevalent in household and retail investors (Kaufsta, 2010). People are risk averse when facing gains and are risk seeking when facing losses. And hence, they keep losers too long and sell winners too fast. Various Disposition patterns like Disposition Effect, reverse disposition effect and the pattern of symmetry in terms of price changes were spotted. (Kuo & Chen, 2012). The maximum loss an investor tolerates intrigues him to realize a losing stock and the minimum value desired by an investor keeps them from selling the winners with the net profits. (Kuo & Chen, 2012).

**Investor Sophistication & Disposition Effect**

Investor sophistication is correlated with disposition effect in an unpredictable manner. And investor sophistication reduces but do not end eliminate the disposition effect. (Feng & Seasholes, 2005). Less sophisticated investors makes poorer choices than institutional investors and the extend of biases differ between them. If left unchecked, behavioural biases can damage the performance levels of Financial analysts and portfolio managers. (Baker & Ricciardi, 2014). Disposition effect is found in stocks and reverse disposition effect is significantly found in funds and the difference in disposition effect is driven by difference in investor propensity to sell losses. (Chang et al., 2016). The two sides of Disposition effect i.e. holding losing stocks and selling winning stocks are not driven by same biases. (Weber and Welfens, 2008). ‘Self regard’ and ‘investing confidence’ have opposing influence on
Disposition effect. Investors with lower self regard hold losing investments longer than investors with higher self regard and those with higher confidence hold losing investments longer than low confidence investors. (Kados et al., 2014). Investors delay recognition of losses to defend against the threat to their self image. They trade off financial gain for loss. (Kados et al., 2014). More sophisticated investors diversify their portfolio right from the start of trading career. (Feng & Seasholes, 2005). Sophistication & trading experience eliminate investor's reluctance to realise losses and it reduces the propensity to realise gains by 37%. Trading experience can reduce the magnitude of Disposition effect. (Feng & Seasholes, 2005). It is based on the reference point that investor calculates gains and losses. Reference point need not be a fixed point. (Garvey & Murphy, 2004). True reference point is difficult to establish for investors with longer holding periods. (Garvey & Murphy, 2004). At the market level were purchase price are unknown, historical prices can be adapted as reference point. (Kliger & Kudryavtsev, 2008) At the market level were purchase price are unknown, historical prices can be adapted as reference point. (Kliger & Kudryavtsev, 2008).

Reasons for disposition effect

Some of the reasons behind selling winning stocks and keeping losing stocks are:

- Mean Reversion: Expecting a rebound on poor performing stocks. Investors keep losing stocks with the expectation that prices will rise in future (Da Costa Jr et al., 2008).
- Another cause of Disposition effect is the misestimation of chances of future price change i.e they may think erroneously that losing stocks may bounce back and there can be a fall in winning stocks. This can be another reason for Disposition effect. (Odean et al., 1998), Weber and Camerer, 1998).
- Rebalancing Portfolios/Avoid higher transaction cost on low priced assets
- Avoiding regret and seeking pride
- Tax Advantage

Reasons for disposition effect can be explained in two ways. First, Usage of purchase price as reference point and are reluctant to realize losses. Thus they keep stocks that have lost its value and sell stocks that has gained value. And the subjects misperceive probabilities of future price changes. They might think winning stocks will fail and losing stocks will bounce back. The link between Prospect theory and Disposition effect remains unsolved. (Kuo & Chen, 2012). Evidence of disposition effect is uniform across many investor groups (Feng & Seasholes, 2005). Disposition effect is economically and statistically significant in each group tested i.e more sophisticated investors are less prone to Disposition effect than the average investor. Combination of trading experience and sophistication eliminates investor's reluctance to realize losses while these won't eliminate investor's propensity to realize gains. (Feng & Seasholes, 2005). The convexity of the value function implies that when investors will not realize losses expecting rise in price of losing stock. And the concavity implies that they would realize gains immediately when asset prices appreciate over cost. (Kuo & Chen, 2012). Trading experience reduces but does not eliminate Disposition effect. Sophistication and trading experience (Feng & Seasholes, 2005).

What happens to disposed investors?

Studies have proven that inexperienced investors are more prone to Disposition effect. They end up accumulating losses (Odean et al., 1998). Selling winners results in tax cost and holding losers implies forgoing tax benefits. (Prosad et al., 2018). Fewer studies have done in Indian context.

CONCLUSION

What prevents investors from taking rational decisions? Here comes the relevance of Behavioural Finance which proposes psychology based theories that explains about the anomalies in stock market. Behavioural finance is the study of how psychology affects financial decisions making and financial markets (Shefrin, 2001). It explains about the reasons behind the market anomalies. One such anomaly called as bubble and the famous Tulipmania which crashed stock market is an incident which questions rationality of investors. Better awareness of disposition effect can motivate investors to sell their losers earlier, deduct trading loss in tax filing and improve after tax portfolio performance. Trading frequency helps investors become more willing to sell losers thereby reducing Disposition effect. (Dhar & Zhu, 2006). More studies in Indian context are to be done in this area.

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Individual Characteristics and the Disposition Effect: The Opposing Effects of Confidence and Self-Regard.


A STUDY ON IMPACT OF SOCIAL MEDIA ON WOMEN EMPOWERMENT IN INDIA

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ABSTRACT

The development of technology and therefore the increasing dependence on that over the years, has had an on the spot impact on women empowerment. Social media has become a robust tool of digital media and has worked towards increasing the communication network across the planet. within the inside of the continued pandemic, the importance of those digital platforms has doubled. Social media and social policy become extremely reticulate over the past few years. Social media has given a platform to women to debate their problems, opinions, views through blogs, discussion forums, on-line campaigns, chats etc. This paper highlights however social media are often constructively want to achieve women empowerment within the society. It conjointly discusses the execs and cons of the excessive dependence on the social media platforms within the path of women empowerment. This paper is split into five sections. The importance of social media deals with the first part and how different social media platforms have become so prominent over the last few years. The second sections deals with the which means and idea of women empowerment. The third section analyses however social media has compact the lives of the women and how it has become a tool of women empowerment. The fourth section covers the disadvantage faced by these social media and platforms and what steps needed to be taken to block these Issues. The last section concludes the theoretical findings of this paper.

INDEX TERMS— media platforms, women empowerment, Social change, digital gender stereotypes.

I. INTRODUCTION

Our fundamental rights were granted to us under Part III of the Constitution in mid-20th century i.e., within the age of print and tv media however now days each single individual has access to the news with the assistance of digital and social media platforms. Article 19 of the Indian Constitution entitles each Indian citizen to the freedom of speech and expression. The world has become a global village and the social media networking websites are playing a crucial role in connecting people across the globe. Media is now emerging as an important fourth pillar of democracy along with legislature, executive and judiciary. In the present day world, social media has become a medium of social modification. The mix of social media and net has developed a brand new kind of media that has considerably boomed during a last decade or two. Not only does the social media platforms help in connecting the individuals, but it also acts as a powerful agent to bring about women empowerment in the society by mobilizing the attention of the masses towards the long prevailing stereotypes. The development of social media platforms has opened a plethora of opportunities for the women. Social media platforms like Facebook, Twitter, Instagram, Snapchat, YouTube etc. have emerged as important networks that are being widely used to raise awareness amongst the masses. Social media has given women and activists a platform to openly express their opinions and thoughts when their views are mostly restricted by the societal norms. It acts as an alternative medium to raise important issues of concern for the women. Just being able to raise their views at a finger tap, gives women a certain amount of sense of freedom, something that they had not experienced over the centuries.

G. Padmaja in the article ‘Media’s Role in the Empowerment of Women in India’ (2017) analyses how women empowerment helps in the overall development of the lives of the women and how the media helps in breaking the stereotypes and sex barriers.

II. WOMEN EMPOWERMENT

Women represent or so 50% of the Indian population of one hundred fifty crores. In terms of rights, they need become nearly adequate to their male counterparts over the previous few years. however has legal equality caused empowerment of women within the real sense? The term empowerment can be associated to the concept of power. Empowerment is necessary
for the development of any nation. Empowerment is mostly about taking control of one’s own life, setting their own agenda and taking their own decisions (Thanavanthi, 2018). Empowerment is building confidence of the women in their own capacities. It’s a multi-dimensional human process that may either be political, whereby women have complete freedom to participate within the political field, contest elections or hold any workplace of power, or it are often economic, wherein women have financial independence and access and control of financial resources or it can be social, wherein, there is an overall transformation in the society and women have full freedom in all aspects of life. An empowered women is the backbone of the country.

III. THE IMPACT OF SOCIAL MEDIA ON WOMEN EMPOWERMENT

Why social media has become so important is mainly because of the ease of opening an account and its reach to the millions of people at a click of a button at almost no or negligible cost. It has become a medium for self-expression for the women. It has empowered women socially, psychologically and financially. It has enhanced the participation of women in the social, political and cultural fields. It has helped in the capacity-building of the women, which has in-turn encouraged their participation in the decision-making processes. The social media has given a new platform to the female ideologies. Due to the technological innovations, women issues have gained a Centre stage. It has become an information guide for the women that helps them connect to the outside world. The hashtag activism has helped women spread awareness regarding issues faced by them. One prominent example is of Manal-al-Sharif, who posted a video of herself driving in 2011. Through this video on YouTube and Facebook, she highlighted how a basic right like driving was denied to millions of girls in Saudi Arabia and across the globe. This led to a viral #Women2Drive Movement across the world and eventually due to its influence, women were given the driving rights in Saudi in 2018. Another landmark example is of 2012 Delhi gangrape, wherein the agitation by different activists on several social media platforms compelled the authorities to take stringent actions and amend the laws at the earliest. In 2014, United Nations promoted #HeForShe Movement by inviting men and members other genders to support women to ensure gender equality and end all forms of gender discrimination. #knowyourLemons Campaign was also introduced in 2014 to spread awareness amongst women regarding breast cancer. In 2017, #LahuKaLagna Campaign was started by Mumbai based NGO, She Says India, to abolish the Goods and Services Tax on the sanitary pads and they even achieved success in 2018 when government made the sanitary napkins became tax free. In 2017-18, #MeToo Movement gained worldwide momentum when prominent figures were accused of sexual assault and harassment. Many women have now started their own businesses through the medium of social networking sites as the investment required is very less. Many such ventures boomed during the lockdown. Thus, the social media has been actively involved in encouraging the entrepreneurial skills of the women. It makes easy for the women to start new businesses, to market their products and to reach out a number of customers easily. There are several prominent women who have gained recognition because of their online businesses that were started or promoted on the social media platforms. Few examples being Aditi Gupta (Menstrupedia), Richa Singh (YourDost), Richa Kar (Zivame), Shradha Sharma (Yoursstory.com), Sabina Chopra (Yatra.com) and Chhavi Mittal (Shitty Ideas Trending).

IV. SHORTCOMINGS & WHAT MUST BE DONE?

We live in a very free and fair world where everyone has access to all the information, whether true or false. This age of social media has made the spread of information even easier. But the question remains that is this easy flow of information advantageous to all or is it having a negative impact. Social media on one hand is an important medium to empower women but on the flip side, is proving dangerous in certain aspects too. It has helped in democratizing the access to information but has also highlighted the major fault lines that are still prevalent. This has become an issue of major concern at the global, national and regional levels. The hash-tag culture might be a powerful tool to empower women but at the same time it has been observed that it is being widely used to threaten women. Slut shaming and threatening of rape and murder by unknown accounts has become extremely common.

At times, excess transparency on social media can actually infringe upon the right to privacy of an individual. Also, the prevalence of so many hashtag movements cause a certain kind of activism fatigue and prevents the major movements from getting the required attention. Internet and social media platforms, that were earlier praised for creating an unbiased platform for marginalized narratives is now being misused by certain sections for promoting their motives of self-interest based on who pays the most. The recent technological innovations have enabled an unrestricted access to data and most of the citizens lack the ability to differentiate between correct information and fake news. In this power contest, the genuine voices get lost at times. While some groups tend to spread propaganda to manipulate public opinion through these tools, it is the real voices of real women which are ignored. Also, the increasing percentage of cyber-crimes are not unknown to anyone now.

These crimes pose a major threat to the security of the person and the victim becomes extremely vulnerable to the offences like hacking, morphing, online trolling, harassment, cyber-defamation, dark net, obscene websites, fake profiles, cyber bullying etc. The presence of a large amount of sexually-exploitative content on the internet, poses further threat to the safety of women. Thus, it is the need of the hour to ensure that strict laws need to be made. IT Act 2000 needs to made stronger to tackle the increasing cases of cyber-crime.
Lastly, digital divide is kind of evident in Bharat. Women within the rural areas don’t have any access to net and so, cannot use any of the digital platforms. This issue has to be self-addressed at the earliest. Google India and Tata Trusts in 2015 came along to begin an initiative to enhance digital literacy amongst women in rural areas. The net connectivity in the suburbs and rural areas got to be improved and women ought to be trained to use these facilities effectively.

V. CONCLUSION

Empowerment of the women is a basic human right that they have to be entitled to. Social media helps them tackle the new challenges display to them within the contemporary world. The use of these social media platforms should be encouraged to ensure that women rights can be advocated to the maximum extent. By facilitating the women’s access to all these platforms and websites, it would ensure that all opportunities are available for all. So, despite all the backlash that social media receives, it can be said that a regulated media will really be a lot of useful than dangerous within the longer run.

REFERENCES


STRATEGIES FOR ENHANCING TIMELY PAYMENT OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN THE CONSTRUCTION INDUSTRY OF ZAMFARA STATE, NIGERIA

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Bldr Shehu Ibrahim Abubakar (Phd)³

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³Federal Polytechnic Bida, Niger State, Nigeria.

ABSTRACT

Late payment of commercial debt to contractors is significantly being discussed in the construction industry; this is because it has become a serious challenge in both developed and developing countries. Many researches have indicated that delayed or late payment of certified works is a major factor leading to late completion of construction works or even abandonment. This research investigated effective strategies for implementing a proposed framework in minimising late payment of commercial debt to Small and Medium Enterprises (SMEs) in the construction industry of Zamfara State, Nigeria. The research was carried out through the use of structured quantitative questionnaire survey administered within the stakeholders in the construction industry of the study area. The data obtained was analysed using SPSS software through the frequency, percentage, mean, standard deviation and ranking tools. It was discovered that majority of the contractors doesn’t charge interest because they are not aware of any enabling legislation enforcing interest charging mechanism in use in the Nigerian construction industry. The contractors are neither utilizing the provisions of section 37(3) and (4) of the Nigerian procurement act 2007 nor the provisions of most standard forms of contract. Even with the delay in the payment 90.2% of the contractors don’t take any legal action against the clients.

It was recommended that contractors should resort to charging interest on their unpaid monies. This will make the clients pay progress/interim certificates and retention funds as at when due in accordance with the contract agreement. This will also reduce the need for the contractors to offer unofficial payment and pursuing contract administrators and clients for payments.

KEYWORDS: Commercial Debt, Construction Industry, Implementing Strategies, Late Payment, Small and Medium Enterprises (SMEs).

INTRODUCTION

Recently, researchers have shown an increased interest in the problems of late debt payment and its effects on the stakeholders in the construction industry (Ramachandra and Rotimi, 2011). However, De carvalho (2015) says delay of payment in commercial debt between companies is not a new phenomenon. The effects of such late payment have also been widely acknowledged. For instance Ramachandra and Rotimi, (2011) noted that these problems affect the cash flow of many contractors thereby preventing them from meeting up with their financial obligations. Abdul-rahman et al. (2009) are of the opinion that late payment is one of the factors that leads to delay in completing construction projects in Malaysia where the construction industry is one of the important sectors that contributes to the economic growth.

Johnston (1999) observed that the UK Government was particularly concerned about late payment of debt which was having serious adverse effects on small scale businesses that have direct fundamental role in the UK economy.

Based on these observed effects of late payment of commercial debt in the construction industry worldwide, this research sought to investigate mitigating strategies to these challenges through a proposed framework given particular attention to small and medium enterprises (SMEs) in Zamfara State, Nigerian.

RESEARCH METHODOLOGY

The major sources of data are the stakeholders in the construction industry, these include the clients/clients’ representatives, contractors, subcontractors and consultants. A sample size between 100 and 140 participants was selected using random sampling method, so that every member of the population will have equal opportunity of being selected (Creswell, 2013). This randomly selected sample shall be used to generalise to the population within Zamfara state in Nigeria.
The data was analysed and presented in tabular form using SPSS computer software through descriptive frequency, percentage, mean, standard deviation and ranking tools.

### RESULTS AND DISCUSSIONS

A total of 100 structured questionnaires were distributed to the stakeholders including clients/representatives, contractors, consultants and subcontractors within the survey area. However, 82% were returned as valid responses and this is above average signifying a reliable and confident number of samples that can be used to generalise.

<table>
<thead>
<tr>
<th>Table 1 - Stakeholder’s awareness of Legislation enforcing penalties for late payment of commercial debt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you aware of any Legislation enforcing penalties on the clients for late payment of commercial debt in the Nigerian construction industry?</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Total No. of Respondents</td>
</tr>
</tbody>
</table>

Source: Field survey (2018)

The result in Table 1 shows that greater frequency (67) 81.7% of the total respondents said they are not aware of any legislation enforcing penalties on the clients for late payment of commercial debt in the Nigerian construction industry. With this result it could be deduced that lack of knowledge of legislation to enforce penalty on clients for late payment of commercial debt may be responsible for substantial number of clients not paying progress/interim certificates in accordance with the contract agreement giving rise to late payment of commercial debt. This result is also contrary to the assertion of El-adaway et al. (2016) that says different countries and continents are taking measures to reduce the effects of late payment in their construction industries. For example, prompt payment legislation is applicable to both private and public construction works in the UK, Australia, New Zealand and Ireland. It is even worst and severe in countries where these legislations and Acts does not exist or not enforced.

<table>
<thead>
<tr>
<th>Table 2 - Suspension of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension of work</td>
</tr>
<tr>
<td>Always</td>
</tr>
<tr>
<td>Often</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Total No. of Respondents</td>
</tr>
</tbody>
</table>

Source: Field survey (2018)

This result in Table 2 is similar to the position of Baird (2013) who observed that businesses across the UK are trying to find a credit management system that can minimize the effects of late payment and bad debt. The result is also similar to the observation of El-adaway et al. (2016), that most standard construction contracts, such as AIA (A201), EJCDC (C700), FIDIC (4TH) and ICT (2011) have provided for contractors to suspend work in the event of delayed payment of commercial debt by the clients.

<table>
<thead>
<tr>
<th>Table 3 - Termination of contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination of contract</td>
</tr>
<tr>
<td>Always</td>
</tr>
<tr>
<td>Often</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Total No. of Respondents</td>
</tr>
</tbody>
</table>

Source: Field survey (2018)
Similarly, Table 3 shows that a smaller percentage (2.4%) of the contractors always terminates their contracts in the event of delayed payment and 17.1% often terminate the contracts. Respondents who states that contractors sometimes terminate contracts in the event of delayed payment have the highest percentage of 62.2% and those who rarely and never terminate contracts have 14.6% and 3.7% respectively. The last three categories of contractors who sometimes, rarely and never terminate contracts have a cumulative per cent of 80.5% indicating that most contractors are not keen about terminating contracts in the event of late payment of commercial debt by the clients. This could be as a result of most of them opting for suspension of the work as they await payment from the clients.

**Table 4 Interest/financial charges.**

<table>
<thead>
<tr>
<th>Interest/financial charges</th>
<th>Frequency</th>
<th>Per cent</th>
<th>Valid Per cent</th>
<th>Cumulative Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
<td>4.9</td>
<td>4.9</td>
<td>6.1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>14</td>
<td>17.1</td>
<td>17.1</td>
<td>23.2</td>
</tr>
<tr>
<td>Rarely</td>
<td>63</td>
<td>76.8</td>
<td>76.8</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total No. of Respondents</strong></td>
<td><strong>82</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey (2018)

Furthermore, Table 4 sought to find out how frequent contractors charge interest on the delayed payment by the clients. It was observed that contractors who rarely charge interest on unpaid money have the highest frequencies of 63 (76.8%). From this result it could be deduced that majority of the contractors doesn’t charge interest because they are not aware of any enabling legislation enforcing interest charging mechanism in use in the Nigerian construction industry as observed above. The contractors are not utilizing the provision of Nigerian procurement act 2007, section 37(3&4). Similarly, the contractors are not utilizing the provisions of most standard forms of contract as asserted by El-adaway et al. (2016).

**Table 5 unofficial payment or P.R. to fast-track release of payment.**

<table>
<thead>
<tr>
<th>Unofficial payment or P.R. to fast-track release of payment</th>
<th>Frequency</th>
<th>Per cent</th>
<th>Valid Per cent</th>
<th>Cumulative Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>5</td>
<td>6.1</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Often</td>
<td>30</td>
<td>36.6</td>
<td>36.6</td>
<td>42.7</td>
</tr>
<tr>
<td>Sometimes</td>
<td>31</td>
<td>37.8</td>
<td>37.8</td>
<td>80.5</td>
</tr>
<tr>
<td>Rarely</td>
<td>10</td>
<td>12.2</td>
<td>12.2</td>
<td>92.7</td>
</tr>
<tr>
<td>Never</td>
<td>6</td>
<td>7.3</td>
<td>7.3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total No. of Respondents</strong></td>
<td><strong>82</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey (2018)

This section requires the respondents to state how frequent the contractors have to make unofficial payment or P.R. in order to fast-tract release of payment from the clients. The cumulative per cent of the respondents that always, often and sometimes have to give unofficial payment to fast-tract their payment is very high (80.5%) as indicated in Table 5. It could therefore be deduced that the contractors in the Nigerian SMEs construction industry opt for offering unofficial payment to fast-tract payment due to them.

**Table 6 Pursuing legal remedies**

<table>
<thead>
<tr>
<th>Pursuing legal remedies</th>
<th>Frequency</th>
<th>Per cent</th>
<th>Valid Per cent</th>
<th>Cumulative Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Often</td>
<td>7</td>
<td>8.5</td>
<td>8.5</td>
<td>9.8</td>
</tr>
<tr>
<td>Sometimes</td>
<td>27</td>
<td>32.9</td>
<td>32.9</td>
<td>42.7</td>
</tr>
<tr>
<td>Rarely</td>
<td>38</td>
<td>46.3</td>
<td>46.3</td>
<td>89.0</td>
</tr>
<tr>
<td>Never</td>
<td>9</td>
<td>11.0</td>
<td>11.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total No. of Respondents</strong></td>
<td><strong>82</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey (2018)
This section requires the respondents to state the frequency of contractors opting to pursue legal remedies as an action against delayed payments by the clients. From Table 6, only a frequency of 1 (1.2%) out of 82 total valid response said they always take the option of pursuing legal remedies. The cumulative per cent of contractors who sometimes, rarely and never take legal remedies is high (90.2%), it can therefore be deduced that majority of the contractors in the Nigerian SMEs construction industry doesn’t take legal remedies as an option for late payment of commercial debt against their clients. This result is similar and supported by the position of Hugo (2010) who is of the opinion that recovering commercial debt should not bring tussle between the creditor and the debtor, instead an incentive could be offered to the debtor in form of discount to speed up payment.

<table>
<thead>
<tr>
<th>Remedial measures for minimizing causes and effects of late payment of commercial debt in the Nigerian construction industry.</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction or enforcement of late payment Acts and regulations.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>4.6341</td>
<td>.71167</td>
<td>1</td>
</tr>
<tr>
<td>Agree on modalities of payments and interests at the beginning of the contract.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>4.3293</td>
<td>.94353</td>
<td>2</td>
</tr>
<tr>
<td>Pursue invoice payment more promptly.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>4.2073</td>
<td>.85689</td>
<td>3</td>
</tr>
<tr>
<td>Ascertain debt management potentials of the client.</td>
<td>82</td>
<td>2.00</td>
<td>5.00</td>
<td>4.0610</td>
<td>.90741</td>
<td>4</td>
</tr>
<tr>
<td>Credit insurance.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.8659</td>
<td>1.01546</td>
<td>5</td>
</tr>
<tr>
<td>Use of standard information management template to promote prompt preparation of valuation and certificates.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.8659</td>
<td>1.16282</td>
<td>6</td>
</tr>
<tr>
<td>Arbitration</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.6707</td>
<td>1.31520</td>
<td>7</td>
</tr>
<tr>
<td>Offer discount to clients (debtors).</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.6220</td>
<td>1.01398</td>
<td>8</td>
</tr>
<tr>
<td>Suspension of work by the contractor.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.4756</td>
<td>1.21945</td>
<td>9</td>
</tr>
<tr>
<td>Adjudication</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.4512</td>
<td>1.23880</td>
<td>10</td>
</tr>
<tr>
<td>Suspension of client credit facilities by the contractor.</td>
<td>82</td>
<td>1.00</td>
<td>5.00</td>
<td>3.3293</td>
<td>1.33384</td>
<td>11</td>
</tr>
<tr>
<td>Total No. of Respondents</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey (2018)

This result in Table 8 indicates that enforcing late payment act and regulations is the most effective remedial measures to minimize late payment of commercial debt in the Nigerian SMEs construction industry. Followed by agreeing on modalities of payments at the beginning of the contract that has a mean score of 4.33 and raked 2. This result is similar and supported by the positions of Taylor (2014), Northern Echo (2012), Hugo (2010), Modiri (2011), Baird (2013) being the remedial measures for minimizing the causes and effects of late payment of commercial debt in the UK construction industry.

**CONCLUSION**

Even with the delay in the payment of certified works, contractors don’t take any legal action against the clients. Majority of the Contractors in the Nigerian SMEs construction industry doesn’t charge interest on the unpaid monies because they are not aware of any enabling legislation enforcing interest charging mechanism in use in the Nigerian construction industry. It was found that different remedial measures could be used to mitigate the causes and effects of late payment in Nigeria SMEs construction industry.

A framework was developed and strategies for implementation of the framework was outlined in the three areas of the framework; statutory legislation, acts, regulations and standard forms, adjudication and legal proceedings of improving SMEs trade credit management strategies. If these strategies are followed the causes and effects of late payment of commercial debt in the SMEs in Nigerian construction industry will be minimized.

**RECOMMENDATIONS**

1.0 All the stakeholders in the Nigerian construction industry should acquaint themselves with the provisions of the standard form of contract in use and the Nigeria procurement act, 2007 to enable them understand and utilize the provisions therein for improved relationship and development of the industry.

2.0 Contractors should resort to charging interest on their unpaid monies. This will make the clients pay progress/interim certificates and retention funds as at when due in accordance with the contract agreement.

3.0 The federal government of Nigeria should enforce the provisions of the Nigeria procurement act, 2007,
particularly section 37 (3&4) that deals with payment of interest on unpaid monies.

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**REFERENCES**


PAREMILOGICAL FIELD OF PROVERBS AND SAYINGS

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ANNOTATION
Today, the customs of the peoples of the world are rooted in a long history. These customs are reflected in proverbs and sayings that are folklore and spiritual heritage of peoples. Proverbs and sayings reflecting the wisdom of the people began to be studied in paremiology, a branch of linguistics, in the late XX and early XXI centuries. This article also analyzes paremiologically some proverbs and sayings about the spiritual wealth of the French people. Their lexical, morphological and syntactic changes were studied from a paremiological point of view.

KEY WORDS: parema, paremiological field, mnemonics, anaphora, natural language metric, reasonable forms, folk expressions, lexical variations.

ПАРЕМИОЛОГИЧЕСКОЕ ПОЛЕ ПОСЛОВИЦ И ПОГОВОРОК

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Аннотация
Ценности народов мира уходят корнями в долгую историю. Эти ценности отражены в пословицах и изречениях которые являются фольклором и духовным наследием народов. Пословицы и изречения отражающие мудрость народа начали изучать в паремиологии, в конце ХХ го и в начале XXI го веков. В этой статье тоже паремиологически анализируются некоторые пословицы и поговорки из духовного богатство французкого народа. Их лексические, морфологические и синтаксические изменения были изучены с паремиологической точки зрения.

Ключевые слова: парема, паремиологическое поле, мнемотехника, анафора, естественная метрика языка, разумные
А.Мусакулов, М.Джураев узбекские фольклористы, В. Даль, Л.Толстой, И.Сингерёв, А.Афанасьев, А.Коринфский, М.Рыбникова, В.Пеньех, В.Зимин, А.Спири, Ю.Прохоров как русские, П.Кадио, И.Визетти, SG-J.Ferari, JF.C.Zaogho, M.Kitu, Ф. Французские и испанские фольклористы, такие как Seward и C. Buridan, изучали теоретические вопросы области пословиц и их особенности в своих языках.

В последнее время интерес к гномическим явлениям сделал изучение пословиц более актуальным, и в этом исследовании ставится вопрос: действительно ли пословицы приемлемы с лингвистической точки зрения? Или требуется изучения на уровне синтаксиса, семантики, лексики, прагматики? Или это просто эпифеномен, сравнимый с фольклорными выражениями, встречающимися во всех культурах? Действительно, грамматическая традиция очень древних и подчас весьма нормативных взглядов на язык и «красивую речь» показательна тем, что наши проповеднические явления не укладываются в определенные «нормальные» схемы (по крайней мере, по форме), что делает ее непонятной вторичной категорией. Таким образом, они были исключены из грамматики как звукоподражание как фольклорное явление и почти не изучались с лингвистической точки зрения во французском языкоznании. Мы хотели бы отметить несколько аспектов этого подхода. Основная часть лива мудрости на русском языке также входит в паремиологические сборники с точки зрения характера застоя, а иногда мы видим, что они трактуются как пословицы: Добро не остается на земле. - Нет весны с ласточкой и т.д.

Продолжим так: Паремиология (греч. paroimia - слово мудрости, удачного) это возникновение определенного языка как словесного, сжатого и простого, сжатого и осмысленного, логического обобщения, переходящего из поколения в поколение. Наука, изучающая мудрые изречения, такие как пословицы, притчи, афоризмы. Пословицы являются объектом изучения литературы, поскольку являются продуктом фольклора, так как в большинстве своем часто напоминают стихотворную форму, и в них много описательных признаков, таких как аналогия, антитеза, анафора, поэтическая игра, которых используются средства. В то же время пословицы являются объектом изучения языковознания, так как состоят из слов и предложений, выражаемых определенной мысли. Пословица сочетает в себе два аспекта. Он также тесно связан с фразеологией. Разница между ними в том, что пословица изучает все выражения, существующие в языке, а фразеология изучает только устойчивые соединения с переносным значением, что показывает, что: 1. Бережного - бог берегает. (Asraganni-xudo asraydi) Сколько ни говори халва, во рту сладче не станет (Qancha xolva degani bilan og'iz chuchimaydi) 2. Счастье не в деньгах, (Baxt pulda emas). 3. Внешность обманчива - (Tashqi ko'rinish aldovchi). У стен тое есть уши. (Devorning ham qulog'i bot). Деньги есть деньги - (Pul bu puldir). На одногоадор по дороге две ленты.(Бир ko'zli odam, ko'rlar olamida shohdir).


Вот так мы видим проблему. Наименования в языке, такие как пословицы, притчи и мудрые изречения, не являются оперативно понимаемыми понятиями, а именно, которые необходимо исследовать снова и снова, ибо мы оцениваем изложение слов мудрости как интуитивное понятие, а описываем другие непонятные понятия, -интуитивные разумные формы в противоположность ему. Наши мудрые изречения автономны и могут быть беспристрастно включены в речь, в которой принадлежат. В этом смысле можно использовать цитату В. Гришина вместо «Познай себя» (O’zingni angla) или в другом примере «Сколько воды утекло» (Qancha suvlar qo'k ketdi). В этих двух случаях, хотя они и имеют разные формы, у них, кажется, есть что-то общее с точки зрения значения.

А вот мудрые слова типа Деньги есть деньги и Внешность обманчива можно увидеть в обратном. То есть у них нет общего знаменателя, при этом первый отвергает приведенное утверждение и второй отвергает приведенное выше представление о том, что все не так, как кажется.

Тавтология пословица, которая многократно выражает мысль другим словом или сочетанием слов, например, Отличия пословиц, мудрых изречений, наставлений, лозунгов, афоризмов можно увидеть в следующем: а) пословицы отражают мудрость народа, основанную на жизненном опыте предков; б) они кратки и часто метафоричны; в) они вербально спонтанно создаются и передаются из поколения в поколение как священное, духовное наследие наших предков (иногда мы видим ту деформацию, которая встречается среди наших узбекских пословиц в русских пословицах. Узбекский эквивалент этих четырех русских пословиц: «Не оставляйте сегодняшнюю работу на завтра. (Bugungi ishini ertaga qo'yma); д) каждая пословица имеет устойчивую форму и должна запоминаться со своей лексикой; е) они часто состоят из двух частей; г) часто принадлежат мнемоническим метрическим свойствам (рифмовке, повтору, тону и т.). Есть пословицы, говорящие на латыни.
в европейских языках, особенно в индоевропейских языках.
Однако, исходя из вышезложенных аргументов, мы хотели бы еще раз подчеркнуть, что стагнация не является их единственной неизменной чертой. Но с другой стороны, если структура пословиц в других языках обнаруживает известную степень негибкости, то есть гибкости, то они не вполне свободны, то есть есть и другие явления, которые необходимо учитывать. В частности, природа языка: ритмический рисунок, являющийся основным принципом в выражении пословиц на том или ином языке, имеет свои нормы и ограничения. Пословицы, состоящие из стихов, также применяют искусство рифмовки, и рифмующиеся слова, составляющие рифму пословицы на одном языке, могут вообще не рифмоваться на другом языке. Именно эти аспекты, редко соответствующие другим языкам, играют важную роль в поэтическом содержании, воздействии, форме, композиции, интонации пословицы, и именно пословицы являются устным творчеством того или иного народа. на шаблонах. Например: Если ты потрешь голову плохому человеку, он причинит тебе вред(Yomonning boshini silasang, senga yomonlik qilar)
Эта пословица как раз о том, что если ты потрешь голову плохому человеку, он причинит тебе вред. Только когда вы причиняете ему вред, мы можем перевести его как послушного вам, а если у нас есть способность писать стихи, мы можем добавить еще и поэтический вес. Но в приведенном выше узбекском переводе мы не можем сохранить рифму и ритм на языке оригинала.

Вывод: в основе пословиц лежит определенный ритмический рисунок языка, отражающий их «природную метрику». Эти закономерности меняются по диагонали с состоянием языка, и к таким изменениям относятся лексические вариации, и они не являются единственным случаем закономерностей в этих языках. сохранить свой жанровый статус.
Паремы: Есть два типа. Во-первых, это еще малоизученная категория с лингвистической точки зрения, и в то же время она имеет много интересных особенностей. Литературная критика приговорила его к статусу архаико-фольклорного выражения. Во-вторых, пословицы являются формами слов и значений.
Мы можем сделать еще одно предположение о пословицах: значение слов в пословицах понимается из примера, который они образуют. Потому что, исходя из этого предположения, если мы скажем что-то одним словом, он тут же приводит нам пример пословицы «Внешний вид амбивальный». Потому что, его первое умение вокруг этого слова сформировалось на основе логической реальности, которую он несколько раз в жизни слышал, но и был свидетелем.
Подводя итог этой статье, можно сказать, что такие же исследователи, как и мы, приверженцы изучению сущности русской и узбекской паремиологии, и теоретически, и практически понимают, что паремы являются необходимыми элементами человеческих отношений, отражающими связь между обыденной жизнью и психическими Мы внесем свой вклад в эту область, которая еще ждет своего изучения с точки зрения лингвистики.

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PROJECT METHODOLOGY IN RUSSIAN LANGUAGE LESSONS IN NON-LINGUISTIC UNIVERSITIES

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ANNOTATION
Currently, there are many methods for learning the Russian language in educational institutions. Each of the methods has certain features, some are more popular and in demand, others are less. This article will cover

KEY WORDS: Russian language, method, the main methods for studying the Russian language by students., practice, classical methods, linguo-socioculturology.

В современном мире русский язык пользуется огромной популярностью, более того, этот язык является языком международного общения, его знают во всем мире. На сегодняшний день существует огромное множество методик для преподавания русского языка. Кроме того, регулярно разрабатываются новые, поэтому теперь каждый преподаватель может выбрать для себя оптимально подходящую методику работы.

Одной из старейших методик является классическая, или фундаментальная. Цель классической методики – не столько изучение, сколько понимание тонкостей и деталей принципов работы русского языка. Главная задача, которую преследует классическая методика, – это формирование грамматической базы изучаемого языка. Стоит отметить, что именно ей отдают предпочтение многие образовательные учреждения. Упрощенная схема такова – изучение грамматики, основных правил, которые впоследствии применяются в конкретных примерах и закрепляются с помощью упражнений. Единственным минусом, точнее даже, недостатком классической методики является скудный опыт разговорной речи. Восполнить этот недостаток можно, присоединив к классической методике другие методы коммуникативного обучения.

Один из таких методов – так называемый лингвосоциокультурный метод. Сторонниками вышеуказанного метода являются те, кто считает, что современный русский язык не должен быть набором лексико-грамматических правил. Напротив, отсутствие внеязыковых факторов приводит к тому, что изучение русского языка становится скучным и бесцельным. Приверженцы лингвосоциокультурного метода возводят русский язык в ранг коммуникативного средства, который помогает человеку не просто говорить, но и дает возможность самовыражения. Следуя принципам лингвосоциокультурного метода можно смело заявить, что русский язык – это своеобразное зеркало, в котором
нашли отражение уклад жизни, традиции и обычаи, культура и история языка.

Однако последние годы в топе самых популярных методик преподавания русского языка находятся коммуникативная методика, занимающая первую строчку в рейтингах и подсчетах статистов.

В настоящий момент коммуникативный подход является наиболее актуальным методом, ориентированным на то, чем совсем не интересуется фундаменталисты – практикой общения и развитием языковых навыков. Этот подход широко распространена в Узбекистане, и сейчас она же занимает главное место в программе обучения русскому языку во многих школах.

В программе, построенной по коммуникативному подходу, не подразумевается особо сложной или специфической лексики, сложных теоретизирований о грамматике и скучных, трудоемких упражнений. Занятия строятся на имитации реальных ситуаций, живого, открытого общения, построенного на необходимости достичь успеха в коммуникации с другим человеком – как это происходит естественным образом у ребенка в раннем детстве.

Коммуникативная методика выстраивается на четырех из основных навыков общения: чтение, письмо, устная речь и понимание на слух. На самом первом уровне наиболее важным является понимание и говорении. Перевод, как вы могли заметить, в этой методике вообще не затрагивается, все пособия изначально на английском. О том, что в коммуникативной методике особое место занимает практика общения, говорит и само название. Коммуникативная методика направлена на развитие умений и навыков говорения на иностранном языке. Стоит также отметить, что применение методики влияет непосредственно на структуру занятия. Очень часто на занятиях необходимо использовать игровые ситуации, проводить групповую работу, разрабатывать задания на поиск ошибок, на умение сопоставлять и сравнивать. Как правило, такие занятия заставляют активно работать не только память, но и логику, что позволяет развить умение мыслить аналитически и образно и, в свою очередь, побуждает выражать мысли.

Обучение – это активное взаимодействие учителя и учащихся, и оно не может носить односторонний характер. Именно от учителя зависит то, насколько успешным будет процесс обучения. Очевидно, что каждый учитель ориентируется в соответствии со своим личным опытом в выборе методов и приемов работы. Но, основываясь на результатах проведенной опытно-практической работы, можно утверждать, что использование разнообразных приемов в рамках коммуникативного, индуктивного, дедуктивного методов дает положительный результат и, несомненно, способствует повышению эффективности обучения грамматике. Автор старается придерживаться так называемой «смешанной» методики преподавания. Это позволяет достичь поставленных целей и дает высокий результат.

Воспользованные литературы
FAULT DETECTION USING ANN AND WAVELET TRANSFORM FOR POWER TRANSFORMER

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ABSTRACT

The requirement for a stable supply of electrical energy to meet the needs of the modern world has expanded dramatically, necessitating near-faultless power system functioning. The main goal is to reduce the frequency and duration of undesired power transformer outages by imposing a high point demand that includes criteria for dependability (no false tripping) and operating speed (quick fault detection and clearance time). For many years, the second harmonic restraint concept has been widely applied in industrial applications. It employs the discrete Fourier transform (DFT) and frequently confronts issues like lengthy restrain times and the inability to distinguish internal defects from magnetizing inrush circumstances. As a result, artificial neural networks (ANNs), a strong tool for artificial intelligence (AI) that can imitate and automate information, have been suggested for defect identification and tracking in normal and inrush conditions. For the investigation of power transformer transient conditions under diverse settings, the wavelet transform (WT) is utilized, which has the capacity to extract information from transient signals in both the time and frequency domains at the same time. In the MATLAB/SIMULINK environment, all of the above-mentioned conditions of a power transformer to be investigated in a power system are modelled.

KEYWORDS- Artificial Neural Network, Power Transformer, Differential Protection, Wavelet Transform.

INTRODUCTION

Transformers are necessary and vital components of power systems. Power transformer protection measures vary based on the situation due to their sizes and variety. High rupturing capacity (HRC) fuses will serve for small distribution transformers with less than 1.5 MVA. Overcurrent relays are used by others. Deferential protection based on the circulating current theory is frequently used for bigger power transformers. Differential protection compares primary and secondary currents by converting them to a common base. During normal operation, the difference between these currents is negligible. For external defects, the difference is also minimal, but it is bigger than for normal operating conditions. However, when a transformer experiences an internal fault, the difference becomes significant. For optimal operation, differential protection is predicated on matching the transformer's primary and secondary currents. When a transformer is turned off, it usually leaves some residual flux in its core. The core is likely to saturate when the transformer is re-energized later. The primary windings of a saturated transformer draw significant magnetizing currents from the power system. The differential protection relay is activated as a result of the significant differential current.

Significant efforts have been made to develop digital relaying algorithms due to the multiple benefits of digital relaying in terms of costs, performance, dependability, and flexibility. There have been a number of algorithms proposed for the deferential protection of power transformers [1], [2], and [3]. In general, an acceptable protection scheme has the following characteristics: dependability, cost, ease of use, and high speed of operation.

Traditional digital protective relays have a number of flaws. For example, they are typically based on algorithms that estimate the basic component of current and voltage signals while ignoring higher frequency transient components. Furthermore, phasor estimate necessitates a cycle's sliding window, which might result in a large delay. Furthermore, precision cannot be guaranteed. For examining the frequency content of stationary processes, the Fourier transform is quite useful. Other approaches for estimating the frequency content must be used when working with non-stationary systems[4].

As a result, wavelet decomposition is suitable for analyzing transitory signals and achieving significantly better current characterization and discrimination. Wavelets allow a signal to be decomposed into several levels of resolution (frequency octaves). Large windows are utilized to...
acquire the low frequency components of the signal, whereas tiny windows reflect discontinuities, because the basis function (Mother Wavelet) is dilated at low frequencies and compressed at high frequencies. [5]

**MATHEMATICAL MODEL OF PROPOSED MODEL**

Starting with the DT signal \( x[n] \) of length \( N \), the first level \( m = 1 \) decomposition produces two sub band DT signals as

\[
a^1[n] = \sum_{k=0}^{N-1} g[k] x[n-k]
\]

\[
d^1[n] = \sum_{k=0}^{N-1} h[k] x[n-k]
\]

(1)

(2)

where \( a1[n] \) and \( d1[n] \) are the first-level approximations and the first level details respectively. \( k \) is a constant, and \( g[n] \) and \( h[n] \) are the low-pass filter and the high-pass filter respectively, which are associated with the used wavelet function. To increase the frequency resolution and ensuring the time localization of each frequency sub band, the outputs of both the filters i.e., Low Pass Filter (LPF) and High Pass Filter (HPF) are down sampled by two at the end of each stage of filtering. The second-level decomposition (\( m = 2 \)) produces following four sub bands.

\[
aa^2[n] = \sum_{k=0}^{N-1} g[k] a^2 \left[ \frac{N}{2} - 1 \right]
\]

\[
ad^2[n] = \sum_{k=0}^{N-1} h[k] a^2 \left[ \frac{N}{2} - 1 \right]
\]

\[
da^2[n] = \sum_{k=0}^{N-1} g[k] d^1 \left[ \frac{N}{2} - 1 \right]
\]

\[
 dd^2[n] = \sum_{k=0}^{N-1} h[k] d^1 \left[ \frac{N}{2} - 1 \right]
\]

(3)

(4)

(5)

(6)

Where, \( dd2[n] \) represents the highest frequency sub band of the second level of the WT decomposition equation 2 and 4. Fig. 1 shows Decomposing of a discrete signal \( x[n] \) using a two-level WT. The successive Low pass filtering (LPF) and High pass filtering (HPF) stages that implement the WPT decomposition.

Wavelet Transform (WT) is generated by analyzing the input current signal to a tree of low pass and high pass filtering operations as shown in figure 1. Down-sampling by 2 is taking place between any two successive levels. It is clear from the figure 1 that the frequency bandwidth of the levels band decreases with the growing of the level number, which means that the frequency resolution becomes higher by the increase of the level number. However, the higher the number of the levels the higher the processing time of the signal. The increase of the processing time is a problem when the number of the levels needed is high.

![Figure 1: Decomposing of a discrete signal \( x[n] \) using a two-level WPT](image)

It is obvious from the figure that by decomposing the signal \( f(n) \) the low and high frequencies, the low frequency of the first level is the approximation \( a1[n] \) of the signal and the high frequency is the details \( d1[n] \) of the input signal. Where the super fix 1 and 2 refers to the 1st and 2nd level of the wavelet decomposition respectively. Each part in the first level is also decomposed in the same manner into two parts of approximations and details. Therefore, it will produce four sub-bands by using the same filters used in the first level of decomposition. These basis functions are generated from one base function called the mother wavelet. The first and second level sub-bands are obtained using two filters (low and high).

In transmission lines, there are four basic types of faults that can develop.

- **SLG** (single line to ground): This is an asymmetrical fault characterized by a sharp increase in phase current and a sharp decrease in the faulted phase voltage. When compared to other forms of defects, it is the most common in transmission lines.
- **LLG** (double line to ground): This is another unsymmetrical fault that has the same tendency as the LG fault in that it involves two faulted phases.
• LL (Line to Line Fault): Unsymmetrical fault with a downward trend in phase voltage and a sudden rise in currents on all three phase voltages and currents that does not include a zero-sequence component.
• LLL (Triple Line Fault): This is a symmetrical defect that causes all three phase voltages to collapse and all three phase currents to surge suddenly.

Wavelet transform is used to recognize inrush current and separate it from internal transformer faults utilizing an Artificial Neural Network (ANN) as a classifier, keeping the above points in mind. Figure 2 depicts a schematic representation of the planned work. Wavelet transform is used to extract valuable information from both defective and inrush generated transient current signals in the proposed technique. This data is subsequently utilized to train the ANN to distinguish between transients and relay malfunctions.

RESULT

In the MATLAB environment, a power system network is simulated, as shown in Figure 3. Table 1 lists the power transformer's parameters. Current transformers are used to measure primary and secondary currents, and wavelet analysis is applied to signals collected under three different conditions: normal operation, magnetizing inrush, and internal fault. The simulation lasts 0.5 seconds, and the data is collected in two cycles with 130 samples each.

In this proposed method, wavelet transform is first applied to decompose the differential current signals of power transformer system into a series of wavelet components each of which covers a specific frequency band. Thus, the time and frequency domain features of the transients' signals are extracted for normal current, magnetizing inrush current, over excitation current, internal fault current. The sample of the differential current for 0.5 sec. is taken and is proceed in MATLAB Wavelet Tool box. One of the most popular mother wavelets suitable for a wide range of applications used is Daubechies’s wavelet. In this work Db6 wavelet is used. The implementation procedure of Wavelet Transform, in which x[n] is the original signal obtain from workspace Current1, Current2 and Current3. At the first stage, an original signal Current1, Current2 and Current3 is divided into two halves of the frequency bandwidth, and sent to both high-pass filter and low-pass filter. Then the output of low pass filter is further cut in half of the frequency bandwidth, and sent to the second stage; this procedure is repeated until the signal is decomposed to a pre-defined certain level 6.

Table 1: Power transformer specification

<table>
<thead>
<tr>
<th>Transformer Rating</th>
<th>250 MVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer frequency</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Transformer Winding Parameters</td>
<td>R = 0.002 pu, L = 0.08 pu</td>
</tr>
<tr>
<td>Magnetizing Resistance (Rm)</td>
<td>500 pu</td>
</tr>
<tr>
<td>Magnetizing Reactance (Rm)</td>
<td>500 pu</td>
</tr>
</tbody>
</table>

The set of signals thus represent the same original signal, but all corresponding to different frequency bands. It is pointing out that the frequency band of each detail of the wavelet transform is directly related to the sampling rate of the original signal. If the original signal is being sampled Fs Hz, the highest frequency that the signal could contain, from Nyquist’s theorem, would be Fs/2 Hz. This frequency would be seen at the output of the high frequency filter, which is the first detail. Thus, the band of frequencies between and would be captured in detail 1; similarly, the band of frequencies between and would be captured in detail 2, and so on. The WT is applied with four types of waveforms. These are normal condition, magnetizing inrush condition, over excitation condition and internal fault condition. WT coefficients for each condition obtained, for instance the average value, maximum value and normalization value can be calculated for these wavelets transform coefficients. The total number of the wavelet transform coefficients stays the same due to the nature of the discrete transform process. The mean values of d1 (first level), a1 (first
level), the average value of $d_1$ (first level), $a_1$ (first level), and the normalization of $d_1$ (first level), $a_1$ (first level) are calculated and stored. Each of the value of every single coefficient is also a feature of the data. The signal data generated by Simulink in MATLAB. Signals are sampled at the sampling rate of 40 samples per cycle (over a data window of half cycle).

Different types of faults have been considered for the purpose of analysis these faults are detected based on recognizing their wave shapes, more precisely, by differentiating their wave shapes from the fault current waveform using wavelet transform. These are as follows:

**Normal operating condition**

The normal operating current waveform for phase R, Y and B is shown in Figure 4. For the simulated transformer, the rated current is 50 A. Figure 5 depicts the wavelet decomposition of a normal condition with five levels of approximation and detailed coefficients. It is simulated using 1000 samples across two cycles (0.5 sec).

![Fig 4: Normal operating current waveforms of phase RYB respectively.](image)

**Line to ground (LG) fault condition**

The Line to Ground Fault Condition waveforms is shown in Fig 6. Fig 7 shows the wavelet decomposition of LG fault condition. Figure 6 illustrates a 0.2-second simulation of the LG fault waveform for phase A. Inrush current is 300 A, which is approximately three times the rated current. As a result, the differential relay perceives the excessive current as a fault and trips. In a transformer, flux is determined by residual flux, switching instant, and core magnetic characteristics.

![Fig 6: Line to Ground (LG) Fault Condition waveforms.](image)

**Double Line to ground (LLG) fault condition**

Fig 8 shows Double Line to Ground (LLG) Fault Condition waveforms as well as Fig 9 the wavelet decomposition of (LLG) fault condition. Wavelet analysis is performed using db6 level 5 in this work. Figure 9 depicts the wavelet decomposition of the magnetizing inrush current in phase A, with approximate and detailed coefficients at five levels. It is simulated with 1000 samples for two cycles (0.2 sec).

![Fig 8: Double Line to Ground (LLG) Fault Condition waveforms.](image)
Fig 9: The wavelet decomposition of (LLG) fault condition.

Triple Line (LLL) fault condition

Fig 10 shows Triple Line (LLL) Fault Condition waveforms as well as Fig 11 The wavelet decomposition of (LLL) fault condition. Wavelet analysis is performed using dB6 level 5 in this work. Figure 11 depicts the wavelet decomposition of the magnetizing inrush current in phase A, with approximate and detailed coefficients at five levels. It is simulated with 1000 samples for two cycles (0.2 sec).

Fig 10: Triple Line (LLL) Fault Condition waveforms.

Fig 11: The wavelet decomposition of (LLL) fault condition.

Neural Network analysis

The neural network is two-layered, with 4 neurons in the output layer; nevertheless, there are 10 hidden neurons and 4 inputs (detail and estimated coefficients) in the network. The Fig 12 shows Neural Network Architecture.

Fig 12: Neural Network Architecture

The Simulink generated 126 training sets of samples (100 sets for training and 26 sets for testing) in MATLAB. At a sampling rate of 40 samples per cycle, signals are captured (over a data window of half cycle). The transients in power transformers were analyzed using the Wavelet transform. The MATLAB (Wavelet Analysis) software is used to calculate the DWT coefficients of the signals using the data obtained from the simulations. This 100-coefficient training set has four different power transformer circumstances (normal, magnetizing inrush, overexcitation, and internal fault). Normal has 12 sets of coefficients, Line to Ground (LG) fault has 33 sets of coefficients, Double line to ground fault has 33 sets of coefficients, and Triple Line fault (LLL) as well as Triple line to ground fault (LLLG) has 11 sets each of coefficients.

After extensive testing, a hidden layer network with 10 neurons, 4 inputs, and 4 outputs was proven to be suitable for monitoring the various conditions of a power transformer. The network's outputs have a distinct set of values (for example, 0000 = normal, 1001/0101/0011 = Line to Ground fault, 1101/0111/1011 = Double line to ground fault, 1110 = Triple Line fault, 1111 = Triple line to ground fault). This network, which has four outputs, monitors all situations in the power transformer and only sends out a trip signal if there is an internal fault, which occurs when output is 0101. The training data of neural network is shown in table 2.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of Fault</th>
<th>Maximum Coefficient of Phase current</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phase A</td>
<td>Phase B</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>1</td>
<td>No Fault</td>
<td>0.2165</td>
</tr>
<tr>
<td>2</td>
<td>A-G Fault</td>
<td>3.7083</td>
</tr>
<tr>
<td>3</td>
<td>B-G Fault</td>
<td>0.2165</td>
</tr>
<tr>
<td>4</td>
<td>C-G Fault</td>
<td>0.2165</td>
</tr>
<tr>
<td>5</td>
<td>AB-G Fault</td>
<td>3.2446</td>
</tr>
<tr>
<td>6</td>
<td>BC-G Fault</td>
<td>0.2165</td>
</tr>
<tr>
<td>7</td>
<td>AC-G Fault</td>
<td>3.2443</td>
</tr>
<tr>
<td>8</td>
<td>ABC Fault</td>
<td>5.6040</td>
</tr>
<tr>
<td>9</td>
<td>ABC-G Fault</td>
<td>2.7761</td>
</tr>
</tbody>
</table>

Table 2: Training data for neural network.
CONCLUSION

In this study, the Wavelet and Neural Network models for power transformer protection are discussed. The 4 input, 10 hidden layer, 4 output layer and 4 output architecture was capable of correctly distinguishing between various power transformer situations such as normal, magnetizing inrush over-excitation, and internal fault. The FFBP is effective at addressing classification problems, and a differential relay can be thought of as a classifier that determines what type of network event occurs. Neural Network training performance After 5 epochs, the suggested network's training error was 0.015646, which was within acceptable bounds. Also, Neural Network training Regression the training R = 0.99195. The WNN was trained for all possible sets of simulated data under various transformer operating conditions. For power transformer differential relaying, WNN-based differential relaying shows promise in terms of security, accuracy, and speed. Within half of a cycle, the WNN effectively identifies and provides a trip signal, which is considered to be very quick.

REFERENCES

COVID-19, MIGRATION AND ITS IMPACT ON DEPRESSED CLASS GROWTH IN THE INDIAN ECONOMY
(IN THE INDIAN CONTEXT)

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ABSTRACT
The Indian political economy and administration has been hit hard by the ongoing COVID-19 pandemic due to global crisis. A health crisis worldwide has generated a global economy standstill, and tertiary sector which provides a GDP contribution nearly 60 percent for the Indian economic growth. Indian economy is facing three major challenges. First is to save the country from the spread of Coronavirus, which is a health emergency. Second is to save the economy from the unfolding economic crisis due to the dual effects of the Coronavirus pandemic. Third is to provide a relief package to migrant workers, who are vulnerable in this crisis in different states in India & the world in this global and national lockdown. If we observe the world scenario, countries around the globe are facing serious consequences and damages to economies. According to the International Monetary Fund (IMF), many economies may face negative per capita income and political growth in 2020 and may continue still further in 2021 annual year, due to the Corona virus pandemic & unavailability of labour. In its recent forecast the World Trade Organisation (WTO) indicated a clear fall in world trade between 13 per cent and 32 per cent in 2020, perhaps the highest fall since the “Great Depression of 1930’s”. In its recent world economic Outlook, IMF does project a rebound in the growth of the Indian economy in 2021, at a rate of 7.4 per cent. But India is one of the fastest developing country in the world depending on migrant and unorganised sector workers for construction works, service-related jobs, due to Coronavirus pandemic most of the migrant workers are finding hard to live in the cities else move to their natives.

KEY WORDS: Migrant workers / depressed labour, Covid 19 pandemic, Economic and political growth.

I. INTRODUCTION
WTO is an international organisation created in 1995; it supervises International trade rules and regulations among the member countries. Presently there are 164 member countries under control of WTO; it superseded the 1947 General Agreement on tariffs and trade (GATT). India is one of the fastest developing countries in Asia and the world with average GDP growth around 7% from four years 2015-2019, where the service sector contributes a lion share in growth of GDP, due to availability of surplus labour force and manpower. But in the year 2020 India’s Economic and Political growth rate is decreased due to the effect of covid-19. Most of the growth contributing sectors are unable to contribute, due to lack of demand in the economy, as India is one of the major affected country in the world due to covid-19, ADB(Asian Development Bank) has predicted Indian growth rate is to be 4% in the fiscal year 2020-21 due to lockdown implemented by the government. According to data released by centre for monitoring Indian economy (CMIE), India’s unemployment rate in May 2020 was around 23.5 percent, due to unavailability of labour and government restrictions. But second wave of pandemic in India from February 2021 has made Indian Unemployment to reach double figures due to lockdown situation in several states in India, with political crisis in many states. India needs to find solution to overcome this unemployment, which impacts more on poor or depressed class.

II. REVIEW OF LITERATURE
WHO
“A pandemic is a worldwide spread of new disease. An influenza pandemic occurs when a new influenza virus emerges and spread around the world and most of the people do not have immunity”.

GK TODAY
Internal Migration refers to inter-state or inter-district migration within the territories of India. Internal migrants constitute roughly about one third of India’s population.

III. NEED OF THE STUDY
1. To overcome the problems faced by the poor migrant labourers as they are worst affected due to the pandemic.
2. To understand Government’s policies like fiscal policy and monetary policy of the RBI (Reserve Bank of India), and governments relief packages to overcome the problem of health crises.
3. India has to implement properly government schemes like “Make in India and Digital India”, because India
still use most of the foreign developed technology in some sensitive fields.

4. To know the importance of national income and its income generating sectors and its contribution and growth in the labour force in India and the world economy.

IV. STATEMENT OF PROBLEM

Covid-19 pandemic has brought uncertainty in resuming demand and supply factors of labourers, investment, and rise in unemployment and resulted in economic crisis like inflationary pressure in some countries and no demand in some countries in the world. From March 2020, these may increase in inflationary pressure in Indian economy till pandemic continues in long in India. Most of the developed economies use online transaction or e-transactions in all economic and business activities, But India is slowly gaining the importance of e-commerce, but unorganised sectors like construction workers and public sector institutions are unable to find work, this may affect the Indian economy in longer run. From March 2020, there is political and economic crisis, the government of India has to offer more sops and opportunities for the manufacturers to innovate, produce globally efficient products of global standard, as most of the working population in India is working in unorganised sector, e-commerce can be a cause for raise in employment opportunities and national income in Indian economy.

V. OBJECTIVES

1. To enable substantial growth of labour participation in production, labour and service sector in national and international trade.
2. To understand covid-19 impact on Indian economies national income, flexible trade and balance of payment.
3. It understands the sustainable growth of the economy, by increase in HDI (Human Development Index), raise in PCI (Per Capita Income).

VI. RESEARCH METHODOLOGY

This research output is the outcome of an overview conducted on covid-19 and its impact on India in the present context, opportunities to promote employment opportunities and making India self reliant Economy, with strong labour force in the Indian context experimental approach, during pandemic situation, it uses secondary data for analysis, discussion with expert part of research work.

DATA AND STATISTICS

1. THE UNEMPLOYMENT RATE IN INDIA

The above graph explains increase in the unemployment percentage in April 2020 to June 2020, India has large section of working population working in unorganised sector, the graph shows sudden increase in the unemployment rate due to the pandemic situation

VIII. RESULT AND DISCUSSION

Global pandemic Covid-19 which initially made China to suffer health and economic losses, now it has its impact on India and most parts of the world, from March 2020 India and world GDP has been hit hard, resulted in increase health emergency, unemployment, decrease in demand in India and globally for many sectors. Government and international agencies has to take care to resuming economic and business activities, otherwise it may impact severely in a long run crisis in labour or migrant workers demand and supply in the country.
VIII. FINDINGS

1. Most of the national, international movement of labour has led to increase in unemployment ratio of India, around 11 percent in June 2020 with less labour participation rate, data published by (CMIE).
2. The unemployment rate in India has reached its peak in “March to May 2020” after Government lockdown of 40 days, after 1930 depression.
3. The Indian government announced a variety of measures to tackle the pandemic situation, from healthcare to food security and extra funds for the states and union territories, to sector related incentives and tax deadline extensions, but it is constraints for economic growth for Indian economy.
4. Covid-19 has made some organised sectors to work in home, but India has most of the working population working in unorganised sector, it is a tuff asks for government to provide enormous digital facilities for unorganised sector in short span of time, these factors leading to economic crisis in Indian economy.

IX. RECOMMENDATIONS

1. The three principal driving factors for this growth in ecommerce sector of India, Participation of niche companies in online trading unmatched FDI (Foreign Direct Investment), Indian economy has to increase the investment and tax concisions to face challenges like Covid-19 or post covid-19 imbalances
2. Uniform GST (Goods and Services Tax) is a positive factor to growth of e-commerce, but India has to invest largely in infrastructure, declines for online trading to reach facilities to the last person in the country, villages, and rural remote areas, like in online education, sales promotion, and commercial companies, to increase in efficiency.
3. Relief packages to promotion of MSME (Micro, Small and Medium Enterprises), which contributes around 30 percent of Indian GDP (Gross Domestic Product) and start ups to overcome e=Economic crisis in Indian Economy, which is caused due to epidemic disease.

X. CONCLUSION

Every country has limited resources, therefore a country cannot produce all the goods and services that it requires, due to some trade benefit factors like comparative advantage availability of labour, technology, land, capital resource and required goods which cannot be produced or the amount is insufficient as require, needed to be provided from other countries similarly, countries sell their products to others also when the production of goods comes in surplus quantities than demanded in the country. International trade has led to growth of various sectors in India and the world, especially after 1991 LPG, various industries likes automobiles and increase in inflow of FDI (Foreign Direct Investment) and services, this growth led to increase in competition of world market, but due to effect of covid-19, most of the countries international trades exports and imports has been decreased, due to unavailability of labour and border restrictions by the specific governments. Covid-19 has resulted globe crisis, from past three months it has negative impact on Indian economic growth, increase in unemployment, decrease in standard of living and problem of essential migrant workers. The economic impact of the 2020 Covid-19 pandemic in India has been largely disruptive. India's growth in the fourth quarter of the fiscal 2020 went down to 3.1% according to the Ministry of statistics.

Prime Minister Narendra Modi has launched Make in India initiative on September 25, 2014, with the primary goal of making India a global manufacturing hub by encouraging both multinational as well as domestic companies to manufacture their product in the country. Trade is central idea to ending global poverty, unemployment; International trade aim is to increase employment ratio and global inclusion. International business encompasses all commercial and economic activities that take place to promote the transfer of goods and services, ideas resources across technologies national borders. International trade includes new economic foreign policies implemented by the government, EXIM policy, and it creates employment to large section of population in domestic country. Indian foreign trade which has come to stand still due to unavailability of workers at airports, seaports as many trade sectors are facing constraints to export and import goods and services due to covid-19 pandemic. Indian workers who migrated to foreign countries for better job facilities and to increase in standard of living, most of them have returned to India due to covid-19, India has a huge task to invest in job providing sectors like MSME (Micro Small Medium Enterprise), which contributes around 29% of GDP of the country, which contributes employment to crores of individuals in India.

XI. LIMITATION

1. Covid-19 has led to global economic crisis and can create imbalance in demand and supply of labour, capital, profit or returns and supply chains in the economy.
2. India’s national income (GDP) has been estimated low, compared to last decade, because of pandemic situation in India and the world.
3. It has resulted in country dual economics in underdevelopment countries, as a result of inflexible trade and labour policies by the government, where migrant labourers or casual workers are vulnerable due to lack of job opportunities.
4. Indian economy packages for poor or migrant labourers and tax relaxations is creating huge burden for Indian government without returns, may result in decrease in inflow of FDI and FPI (Foreign Portfolio Investment).

XII. SCOPE OF THE STUDY

India’s major export items are related to agricultural and informal sector activities, whose export demand also has come
down. But this depressing situation is not expected to continue for long period of time, though it is not certain how long this pandemic will force the countries to keep all such activities under lock. Items of daily need have to be either produced or imported by all countries once the stock is over. In this respect India can go for diversification of some products depending on its expertise, especially in medical, academic online or technological applications and pharmaceutical items, whose demand has got a sudden peak up in international market after the emergence of Covid-19. India can try to depend more on domestic production, increase exports may lead to create employment to large unorganised migrants or domestic labourers of the country, flexible fiscal and monetary policies may try to narrow the trade imbalance, increase in GDP growth, development of all the sectors of the economy providing job security.

XIII. REFERENCE

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3. https://crisil.com
5. https://www.gktoday.in/
CLASSROOM MANAGEMENT, ACADEMIC LOCUS OF CONTROL, AND COMMUNICATION COMPETENCE:
A STRUCTURAL EQUATION MODEL ON LANGUAGE LEARNING ATTITUDES

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²Doctor of Education, University of Mindanao, Davao City, Philippines

ABSTRACT
This research aimed to establish the best-fit structural model for learning the Filipino language. Specifically, the study intended to determine the relationship between the exogenous variables: classroom management, academic locus of control, communication competence, and the endogenous variable: language learning attitudes. Four hundred respondents, chosen through stratified random sampling, took the survey. The mean, Pearson r, regression analysis, and structural equation modeling (SEM) analyzed the data. These are the results: both exogenous and endogenous variables have high levels, the relationship between classroom management, academic locus of control, and language learning attitudes are moderate, positive, and significant. However, communication competence did not substantially affect language learning attitudes. Of the three exogenous variables, the academic locus of control has the most influence on language learning attitudes. The structural equation modeling (SEM) result showed all three exogenous variables as predictors of language learning attitudes, with their manifest variables. For example, classroom management manifested by specific teaching strategy and planning and support; academic locus of control demonstrated by being hopeful, being positive, and better planning; communication competence exemplified by communicating with acquaintances and friends. The findings of this study have insinuations for the overall teaching and learning environment.

KEYWORDS: structural equation modeling, classroom management, academic locus of control, communication competence, language learning attitudes

INTRODUCTION
Research has shown that language learning attitudes are essential elements in attaining success in the field of academics and in learning a language [1]; [2]; [3]; [4]; [5]. However, nowadays, students lack positive attitudes towards language learning [6]; [7]. For example, in the Philippines, students’ interest in learning the Filipino language is diminishing [8]. Researchers of second language learning have observed the same scenario resulting in a continuing discussion of the issue in different seminars and conferences [9].

For decades, researchers have focused on attitudes as the first element in language learning [10]; [11]; [12]; [13]; [14]; [15]. Some second language learning researchers investigate this topic using models [16]; [17]. While language learning attitudes are the core of the investigation, other researchers also investigated other language-learning correlations [18]; [19]; [20]; [21]. For example, [22] found a significant relationship between classroom management and attitudes in learning a topic. The [23] also acknowledged the same and insisted that classroom management could change the way students view learning. [24] also found that learning attitudes have a more significant impact on second language learning.

Long before, [25] already discovered a significant relationship between academic locus of control and language learning attitudes. Trice observed that learning could come easy when students find their source of motivation, especially with their teachers’ close guidance and monitoring. [26] confirmed Trice’s findings, pounding on the essentiality of locus of control not only in language learning but in all aspects of life, even in health [27] and work [28]. According to [29], a person with a high-level locus of control is happier than those with low ones.

On the other hand, research also showed a significant correlation between communication competence and language learning attitudes. For instance, researchers have reported the vital role of communication competence in shaping positive attitudes towards second language learning [30]; [31]; [32]; [33]. Likewise, [34] claimed that connecting with friends and acquaintances motivates learning a foreign language and culture.
Moreover, despite all these researches on classroom management, academic locus of control, communication competence, and language learning attitudes, the researcher has not come across a study that delves into structural equation modeling using these variables in the local setting. Thus, acknowledging a research gap on this approach. This study would benefit the teachers and students and the entire field of education, especially in language learning.

OBJECTIVES

This study pursued to create the best fit model for language learning attitudes using classroom management, academic locus of control, and communication competence as exogenous variables, and language learning attitudes as the endogenous variable.

METHODS

This study is a quantitative research that used Structural Equation Modeling (SEM) to establish the best fit model for language learning attitudes. SEM is a multivariate statistic used to estimate a complex relationship between the latent and manifest variables [35]; [36]. This study also used a Pearson's r in determining the linear correlation between the variables through numerical data [37]. The regression analysis helped establish the predictors of language learning attitudes [38]. Moreover, this research used stratified random sampling to select enough representation for specific population characteristics [39]. For example, since four colleges were offering a degree in education major in the Filipino language, each school had 100 representatives, making 400 respondents in all.

RESULTS AND DISCUSSION

Table 1

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing Attitudes inside the Classroom</td>
<td>0.83</td>
<td>3.92</td>
<td>High</td>
</tr>
<tr>
<td>Specific Teaching Strategy</td>
<td>0.40</td>
<td>3.82</td>
<td>High</td>
</tr>
<tr>
<td>Cooperating with Parents</td>
<td>0.53</td>
<td>3.94</td>
<td>High</td>
</tr>
<tr>
<td>Planning and Support</td>
<td>0.63</td>
<td>3.67</td>
<td>High</td>
</tr>
<tr>
<td>Overall</td>
<td>0.43</td>
<td>3.84</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 1 shows the data on classroom management. The overall mean score is 3.84, with a standard deviation of 0.43. The result means that the respondents agreed to have observed all these indicators inside the classroom often and decided that classroom management is necessary for learning a language. The standard deviation also suggested that the respondents have more or less the same answer to each item in the survey.

Classroom management is vital in shaping the students’ attitudes in learning whatever language. Foremost, managing a classroom is essential in setting the learning atmosphere and the condition of the learners in the school [40], [41] observed how the teacher manages the classroom affects the whole learning environment. Necessarily, the students' attitudes result from what is happening inside the classroom. The better the classroom management, the better the outcome [42]; [43]; [44]; [45].
Table 2  
**Level of Academic Locus of Control**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being Hopeful</td>
<td>0.60</td>
<td>4.07</td>
<td>High</td>
</tr>
<tr>
<td>Having Focus</td>
<td>0.70</td>
<td>3.93</td>
<td>High</td>
</tr>
<tr>
<td>Being Optimistic/Positive</td>
<td>0.50</td>
<td>4.00</td>
<td>High</td>
</tr>
<tr>
<td>Better Planning</td>
<td>0.57</td>
<td>4.04</td>
<td>High</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>0.52</strong></td>
<td><strong>4.01</strong></td>
<td><strong>High</strong></td>
</tr>
</tbody>
</table>

Table 2 shows the overall high-level rating for the academic locus of control (M=4.01, SD=0.52). Again, the result means that the students have high hopes, focus, optimism, and better planning. Research has proven that having a high locus of control has to do with academic success [46]; [47]; [48]; [49]. Foremost, hope is a dynamo that drives a person towards his dreams, and having high hopes makes him wade his way through amidst obstacles[50]; [51]. Moreover, no distraction and negative influences can sway a student whose eyes are focused on learning and his ambition [52]. But first, that student must have a solid academic locus of control to sharpen his positive thinking and wield his planning skills [53]; [54]. A strong locus of control is needed not only in the field of education but in all aspects of human life because it is where a person draws his inner strength [55]; [56]; [57].

Table 3  
**Level of Communication Competence**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating with Strangers</td>
<td>0.62</td>
<td>4.10</td>
<td>High</td>
</tr>
<tr>
<td>Communicating with Acquaintances</td>
<td>0.67</td>
<td>4.13</td>
<td>High</td>
</tr>
<tr>
<td>Communicating with Friends</td>
<td>0.62</td>
<td>4.15</td>
<td>High</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>0.47</strong></td>
<td><strong>4.13</strong></td>
<td><strong>High</strong></td>
</tr>
</tbody>
</table>

Table 3 displays the mean results of the level of communication competence. Overall, the communication competence is high (M=4.13; SD=0.47), with all indicators having equally high-level mean ratings. These ratings mean that the respondents were amenable to the necessity of often communicating with strangers, acquaintances, and friends in learning a language. The result herein conforms to the ideas of some authors that these communication avenues could add to competence in communication [58]; [59]; [60].

Nowadays, communication between people is more accessible because of communication technology infrastructures. For example, people use text messaging, online chat, video calls, blogs, vlogs, at social networking [61] to communicate with friends, acquaintances, or strangers. In addition, these communication infrastructures help language students learn other languages quickly [62]; [63].

Apart from technology, the teachers also influence how students learn a language in the classroom setting [64]. For example, communication competence has four aspects: reading, writing, listening, and speaking. The teacher can facilitate these by managing communication inside the classroom [65]. [66] claimed that how the teacher works on communication in the class determines the transfer of language learning among students.

Table 4  
**Level of Language Learning Attitudes**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards Learning the Filipino Language</td>
<td>0.73</td>
<td>3.79</td>
<td>High</td>
</tr>
<tr>
<td>Integrative Orientation</td>
<td>0.67</td>
<td>3.86</td>
<td>High</td>
</tr>
<tr>
<td>Strength of Motivation</td>
<td>0.58</td>
<td>4.03</td>
<td>High</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>0.50</strong></td>
<td><strong>3.90</strong></td>
<td><strong>High</strong></td>
</tr>
</tbody>
</table>
Table 4 displays the language learning attitudes of students manifested by attitudes towards learning the Filipino language, integrative orientation, and strength of motivation. Again, all mean scores are high, which means respondents often observed these indicators among language students.

The review of related literature stressed that having higher attitudes towards language learning is crucial as it increases students' interest in learning the language [67]. However, [68] discovered that men and women learn differently. Women have a higher level of positive attitudes towards language learning than their male counterparts, implying that women quickly learn a new language.

There are some advantages to learning a new language. For example, [69] explained that a person knowledgeable of another language is more tolerant and understanding of other people. In addition, he can have an opportunity to find work abroad. The [70] echoed the same idea, saying that in the 21st century, where globalization connects communities and culture, positive attitudes towards learning a language are requisite. Teachers can help students in this aspect [71; 72; 73].

Table 5

<table>
<thead>
<tr>
<th>Exogenous Variables</th>
<th>Attitudes towards learning the Filipino Language</th>
<th>Intergrative Orientation</th>
<th>Strength of Motivation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Management</td>
<td>.119*</td>
<td>.114*</td>
<td>.511**</td>
<td>.307**</td>
</tr>
<tr>
<td></td>
<td>.018</td>
<td>.023</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Academic Locus of Control</td>
<td>.028</td>
<td>.129*</td>
<td>.747**</td>
<td>.361**</td>
</tr>
<tr>
<td></td>
<td>.579</td>
<td>.010</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Communication Competence</td>
<td>.126*</td>
<td>.033</td>
<td>.021</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>.012</td>
<td>.516</td>
<td>.683</td>
<td>.170</td>
</tr>
</tbody>
</table>

Sig. at the p< 0.01**& p<0.05* level (2-tailed)

The correlation test displayed in Table 5 revealed a not significant relationship between communication competence (CC) and language learning attitudes, which means that the increase in the level of CC will not increase the LLA. However, the correlation test with the other variables was significant at p<0.5. Therefore, classroom management (CM) and language learning attitudes (LLA) have a significant relationship, and academic locus of control (ALC) and language learning attitudes (LLA) also. Supplementarily, the association of the variables is linear, which means that as the CM and ALC increase, LLA also tends to increase.

The result is harmonious with [74] research finding that classroom management and language learning attitudes are correlated. They added that language learning anxiety decreased by how well the teacher managed the classroom. This requires the management expertise of teachers for the entire learning environment. [75] noticed that students display different interest levels; thus, demanding various strategies in dealing with the problem. Some authors have suggested that teachers do action research regarding the issue of learning interest among students to appropriately respond to it and achieve a worthwhile learning environment [76; 77; 78].

Likewise, researchers have reported a significant relationship between academic locus of control and language learning attitudes regardless of culture and position in life [50; 79; 80].
Table 7

<table>
<thead>
<tr>
<th>Exogenous Variables</th>
<th>Language Learning Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>2.643</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>.167</td>
</tr>
<tr>
<td>Academic Locus of Control</td>
<td>.272</td>
</tr>
<tr>
<td>Communication Competence</td>
<td>.116</td>
</tr>
<tr>
<td><strong>R</strong></td>
<td>.393</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>.154</td>
</tr>
<tr>
<td><strong>ΔR</strong></td>
<td>.148</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>24.111</td>
</tr>
<tr>
<td><strong>ρ</strong></td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 7 displays the result of the regression analysis of data. Table 7 revealed a combined influence of the exogenous variables on language learning attitudes at 15.4 percent. Although the impact is small, it is significant, which means that classroom management, academic locus of control, and communication competence affect students' attitudes in learning the Filipino language. Furthermore, each exogenous variable showed its predictive capability even in their singular capacities, as evidenced by their significant p-values. Additionally, the F-value of 24.111 with a p-value of .000 revealed the predictive power of the exogenous variables on language learning attitudes.

These results are similar to some investigations on the same topics crediting classroom management as having a significant impact on language learning attitudes. For example, a better classroom could make students more comfortable, essential to learning [75]; [74]; [41]. In addition, academic locus of control impacts language learning attitudes owing to its positive driving force towards goal achievement [52]; [53]; [81]. Finally, communication competence makes learning a new language easier [59]; [66]; [82]. The results support the anchor theories in this study: operant conditioning by B.F. Skinner [83]; [84], locus of control [85]; [86], communication competence by [87].

Table 8

<table>
<thead>
<tr>
<th>The Goodness of Fit with the Comparative Criterion Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-value (&gt;0.05)</td>
</tr>
<tr>
<td>Best-Fit Model of Language Learning Attitudes</td>
</tr>
</tbody>
</table>

**Legend:**
- CMIN/DF – Chi-Square/Degrees of Freedom
- GFI – Goodness of Fit Index
- RMSEA – Root Mean Square of Error Approximation
- NFI – Normed Fit Index
- TLI – Tucker-Lewis Index
- CFI – Comparative Fit Index

Figure 1 presents the best-fit structural model for language learning attitudes based on the goodness of fit measures displayed in Table 8. The model shows that all three exogenous variables predict language learning attitudes with some manifest variables. For example, classroom management with its manifest variables, such as specific teaching strategy (tiyak na pamamaraan sa pagtuturo-TPP), and planning and support (pagpaplanato at suporta-PAS); academic locus of control with manifest variables, namely being hopeful (paggakaroon ng pag-usapan-PAG), being positive (pagiging positibo-POS), and better planning (pinabuting pagpaplan-PIN); communication competence with its manifest indicators, viz. communicating with an acquaintance (pakikipagkomunikasyon sa kakilala-KAK) and communicating with friends (pakikipagkomunikasyon sa kaibigan-KAI).

Similar studies have found that classroom management helped students participate in language learning activities [22]; [42]. In addition, academic locus of control helped students find their source of motivation in learning a language [46]; [47]. Finally, communication competence helped students read, write, listen, and speak a new language with their friends and acquaintances [58]; [62]; [63]; [60].
Figure 1

**Best-Fit Structural Model on Language learning attitudes**

<table>
<thead>
<tr>
<th>Legend</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan_kla</td>
<td>Classroom Management (Pangangasiwang Pangkalsrum)</td>
</tr>
<tr>
<td>TPP</td>
<td>Specific Teaching Strategy (Tiyak na Pamamaraan sa Pagtuturo)</td>
</tr>
<tr>
<td>PAS</td>
<td>Planning and Support (Pagpaplan at Suporta)</td>
</tr>
<tr>
<td>Pan_Lok</td>
<td>Academinc Locus of Control (Pang-akademikong Lokus ng Kontrol)</td>
</tr>
<tr>
<td>PAG</td>
<td>Being Hopeful (Pagkakaroon ng Pag-asa)</td>
</tr>
<tr>
<td>POS</td>
<td>Being Positive (Pagiging Positibo)</td>
</tr>
<tr>
<td>PIN</td>
<td>Better Planning (Pinabuting Pagplano)</td>
</tr>
<tr>
<td>Kak_Kom</td>
<td>Communication Competence (Kakayahan sa Komunikasyon)</td>
</tr>
<tr>
<td>KAK</td>
<td>Communicating with an Acquaintance (Pakikipagkomunikasyon sa Kakilala)</td>
</tr>
<tr>
<td>KAI</td>
<td>Communicating with Friends (Pakikipagkomunikasyon sa Kaibigan)</td>
</tr>
<tr>
<td>Pag_Pag</td>
<td>Language Learning Attitudes (Pag-uugali sa Pag-aaral ng Wika)</td>
</tr>
<tr>
<td>SPF</td>
<td>Attitudes towards Learning the Filipino Language (Saloobin Tungo sa Pag-aaral ng Filipino)</td>
</tr>
<tr>
<td>PNO</td>
<td>Integrative Orientation (Painagsanib na Oryentasyon)</td>
</tr>
<tr>
<td>KPN</td>
<td>Strength of Motivation (Kalasan sa Pagganyak)</td>
</tr>
</tbody>
</table>
CONCLUSION

The study showed that Structural Equation Modeling (SEM) is an appropriate method for this study as it successfully identified the predictors of language learning attitudes. Also, this study concluded a positive and significant relationship between classroom management and language learning attitudes and academic locus of control and language learning attitudes. Additionally, Skinner’s operant conditioning theory found support from this study. The operant conditioning theory advocates that students’ response (e.g., language learning attitudes) depends on the presented stimulus (e.g., classroom management). Likewise, this study supported Rotter’s locus of control theory, which claims that individuals have the sole capacity to decide on their fate based on where they locate their motivation to act. Finally, this study supported Habern’s communication competence theory, which advances communication skills underlie logical thoughts that usher understanding between individuals. Finally, this study concluded a predictive capacity of the exogenous variables to influence students’ language learning attitudes.

REFERENCES


DIET AND NUTRITION FOR THE WELLBEING OF THE HUMAN BODY

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ABSTRACT

The definition of what constitutes a healthy diet is continually shifting to reflect the evolving understanding of the roles that different foods, essential nutrients, and other food components play in health and disease. A large and growing body of evidence supports that intake of certain types of nutrients, specific food groups, or overarching dietary patterns positively influences health and promotes the prevention of common non-communicable diseases (NCDs). Greater consumption of health-promoting foods and limited intake of unhealthier options are intrinsic to the eating habits of certain regional diets such as the Mediterranean diet or have been constructed as part of dietary patterns designed to reduce disease risk, such as the Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets. In comparison with a more traditional Western diet, these healthier alternatives are higher in plant-based foods, including fresh fruits and vegetables, whole grains, legumes, seeds, and nuts and lower in animal-based foods, particularly fatty and processed meats. To better understand the current concept of a “healthy diet,” this review describes the features and supporting clinical and epidemiologic data for diets that have been shown to prevent disease and/or positively influence health. In total, evidence from epidemiological studies and clinical trials indicates that these types of dietary patterns reduce risks of NCDs including cardiovascular disease and cancer.

KEY WORDS: Health and Nutrition, Diet during pandemic, Mental health of Human Body.

INTRODUCTION

Non-communicable diseases (NCDs) such as cardiovascular disease, cancer, chronic respiratory diseases, diabetes, obesity, and cognitive impairment are among the leading causes of death and disability throughout the world, affecting populations in developed as well as developing countries. Although there are established genetic and environmental contributors to NCD risk, modifiable lifestyle-related factors play a large role at the individual level. Dietary choices, for example, contribute to the risk for developing hypertension, hypercholesterolemia, overweight/obesity, and inflammation, which in turn increase the risk for diseases that are associated with significant morbidity and mortality, including cardiovascular disease, diabetes, and cancer. Indeed, the marked rise in chronic NCDs has a causal link to global dietary patterns that are becoming increasingly Westernized being characterized by high levels of fatty and processed meats, saturated fats, refined grains, salt, and sugars but lacking in fresh fruits and vegetables. In recognition of the importance of the diet as a determinant of disease risk, the World Health Organization (WHO) Global Action Plan for the Prevention and Control of Noncommunicable Diseases includes strategies for addressing unhealthy diet patterns among its initiatives directed at reducing behavioral risk factors; the other components comprise physical inactivity, tobacco use, and harmful alcohol use. Dietary changes recommended by WHO include balancing energy intake, limiting saturated and trans fats and shifting toward consumption of unsaturated fats, increasing intake of fruits and vegetables, and limiting the intake of sugar and salt. Many of these dietary targets naturally occur in regional diets such as the Mediterranean diet or are included as part of evidence-based diets designed to reduce disease risk, such as the Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets. To better understand the current concept of a “healthy diet”, this narrative review describes the features and supporting clinical.
ADVANTAGES OF A HEALTHY DIET: A NEED OF AN HOUR DURING COVID 19

1. Heart health: According to the Centers for Disease Control and Prevention (CDC) trusted source, heart disease is the leading cause of death for adults in the United States. The American Heart Association (AHA) trusted source states that almost half of U.S. adults live with some form of cardiovascular disease. High blood pressure, or hypertension, is a growing concern in the U.S. The condition can lead to heart attack, heart failure, and stroke. Some sources report that it is possible to prevent up to 80% of premature heart disease and stroke diagnoses with lifestyle changes, such as increasing physical activity and healthful eating.

The foods people eat can reduce their blood pressure and help keep their heart healthy. The dietary approaches to stop hypertension diet, known as the DASH diet trusted source, includes plenty of healthful foods for the heart. The program recommends the following:

- eating plenty of vegetables, fruits, and whole grains
- choosing fat-free or low fat dairy products, fish, poultry, beans, nuts, and vegetable oils
- limiting saturated and trans fat intake, such as fatty meats and full-fat dairy products
- limiting drinks and foods that contain added sugars
- restricting sodium intake to less than 2,300 milligrams per day — ideally 1,500 mg daily — and increasing consumption of potassium, magnesium, and calcium

2. Reduced cancer risk

Eating foods that contain antioxidants can reduce a person’s risk of developing cancer by protecting cells from damage. The presences of free radicals in the body increases the risk of cancer, but antioxidants help remove them to lower the likelihood of this disease. Many phytochemicals found in fruits, vegetables, nuts, and legumes act as antioxidants, including beta-carotene, lycopene, and vitamins A, C, and E. According to the National Cancer Institute Trusted Source, though human’s trials are inconclusive, there are laboratory and animal studies that link certain antioxidants to a reduced incidence of free radical damage due to cancer. Foods high in antioxidants include:

- berries such as blueberries and raspberries
- dark leafy greens
- pumpkin and carrots
- nuts and seeds

Having obesity may increase cancer risk. Maintaining a moderate weight may reduce these risks. In a 2014 study trusted source, researchers found that a diet rich in fruits reduced the risk of upper gastrointestinal tract cancers. They also found that...
a diet rich in vegetables, fruits, and fiber lowered the risk of colorectal cancer, while a diet rich in fiber reduces the risk of liver cancer.

3. Better mood
Some evidence suggests a close relationship between diet and mood. In 2016, researchers found that diets with a high glycemic load may trigger increased symptoms of depression and fatigue. A diet with a high glycemic load includes many refined carbohydrates, such as those found in soft drinks, cakes, white bread, and biscuits. Vegetables, whole fruit, and whole grains have a lower glycemic load. If a person suspects they have symptoms of depression, talking to a doctor or mental health professional can help.

4. Improved gut health
The colon is full of naturally occurring bacteria, which play important roles in metabolism and digestion. Certain strains of bacteria also produce vitamins K and B, which benefit the colon. These strains also help fight harmful bacteria and viruses. A diet low in fiber and high in sugar and fat alters the gut micro biome, increasing inflammation in the area. However, a diet rich in vegetables, fruits, legumes, and whole grains provides a combination of prebiotics and probiotics that help good bacteria thrive in the colon. These fermented foods are rich in probiotics:

- yogurt
- kimchi
- sauerkraut
- miso
- kefir

Fiber is an easily accessible prebiotic and is abundant in legumes, grains, fruits, and vegetables. It also promotes regular bowel movements, which can help prevent bowel cancer and diverticulitis.

5. Improved memory
A healthful diet may help maintain cognition and brain health. A 2015 study identified nutrients and foods that protect against cognitive decline and dementia. The researchers found the following to be beneficial:

- vitamin D, vitamin C, and vitamin E
- omega-3 fatty acids
- flavonoids and polyphenols
- fish

Among other diets, the Mediterranean diet incorporates many of these nutrients.

SOME OF THE HEALTHY FOODS TO EAT
There are many delicious foods and beverages to choose from when following a lacto-vegetarian diet for weight loss.
What to Eat
Try incorporating the following ingredients into your daily meal plan:

- **Vegetables**: Tomatoes, spinach, eggplant, mustard greens, okra, onions, bitter melon, cauliflower, mushrooms, cabbage and more
- **Fruits**: Including mango, papaya, pomegranate, guava, oranges, tamarind, lychee, apples, melon, pears, plums, bananas
- **Nuts and seeds**: Cashews, almonds, peanuts, pistachios, pumpkin seeds, sesame seeds, watermelon seeds and more
- **Legumes**: Mung beans, black-eyed peas, kidney beans, lentils, pulses and chickpeas
- **Roots and tubers**: Potatoes, carrots, sweet potatoes, turnips, yams
- **Whole grains**: Brown rice, basmati rice, millet, buckwheat, quinoa, barley, corn, whole-grain bread, amaranth, sorghum
- **Dairy**: Cheese, yogurt, milk, kefir, ghee
- **Herbs and spices**: Garlic, ginger, cardamom, cumin, coriander, garam masala, paprika, turmeric, black pepper, fenugreek, basil and more
- **Healthy fats**: Coconut milk, full-fat dairy, avocado, coconut oil, mustard oil, olive oil, peanut oil, sesame oil, ghee
- **Protein sources**: Tofu, legumes, dairy, nuts and seeds

Meals and snacks should focus on fresh, whole foods flavored with spices. Additionally, adding non-starchy vegetables like greens, eggplants or tomatoes to your meals will provide a boost of fiber that can help you feel satisfied for a longer period of time after eating.

Nutrition and immunity
The researcher wrote in his study that the immune system functions at all times, but specific cells become activated by the presence of pathogens. The activation leads to a marked increase in the immune system's demand for energy-yielding substrates, including fatty acids, glucose, and amino acids.

Calder believes that some nutrients, including vitamin A and D, are direct regulators of gene expression in immune cells. They play important roles in the maturation, differentiation, and responsiveness of immune cells. He mentioned that antioxidants also play critical roles in protecting the body against oxidative stress. Classic antioxidant vitamins include vitamin C and E, including antioxidant enzymes such as catalase, glutathione peroxidase, and superoxide dismutase. Vitamin A, B6, folate, C, D, and E, including trace elements such as zinc, copper, iron, and selenium, have been demonstrated to play key roles in supporting the immune system and reducing the risk of infections, he said.

“It would seem prudent for individuals to consume sufficient amounts of essential nutrients to support their immune system to help them to deal with pathogens should they become infected,” Calder explained.

“Consumption of a diet of diverse and varied plant-based and animal-based foods that are consistent with current healthy eating guidelines would be best to support the immune system,” he encouraged.

**HOW TO CHOOSE A RIGHT DIET AND NUTRITION**
Having a balanced diet means trusted Source eating foods from all main food groups in the right quantities. These food groups are:

- whole grains
- fruits
- vegetables
- protein
- dairy
- fats

The following sections discuss healthful choices from these food groups.

**Whole grains**
Whole grains are products made from the entire grain, which includes the germ and bran. In contrast, refined grains contain only part of the grain.

Whole grain foods have excellent health benefits. A meta-analysis from 2016 Trusted Source looked at 45 different studies, concluding that a high intake of whole grains helps protect against many health conditions, with benefits that include the following:

- a lower risk of heart disease
- a lower risk of cardiovascular disease
- a lower total cancer risk
- reduced all-cause mortality

Whole grain foods are high in fiber and are good sources of B vitamins and trace minerals, including iron, zinc and magnesium. Grains lose much of their healthful properties if they have gone through a refining process.

Examples of whole grains are:

- whole meal bread
- whole wheat pasta
- whole grain cereals, such as oatmeal
- corn

To make sure the grains are whole, look for the word “whole” or “whole grain” as the first ingredient that a manufacturer has listed on the package under nutritional information.

**Fruits and vegetables**
Fruits and vegetables are rich in vitamins, minerals, and fiber. According to the American Heart Association (AHA) Trusted Source, choosing a variety of colorful fruits and vegetables is the best way to get all the vitamins and minerals the body needs. The AHA recommends filling half of the plate Trusted Source with fruit or vegetables for each meal, making up 4.5
cups Trusted Source of each per day. This quantity can include fresh, frozen, and canned varieties. For the most health benefits, people can check product labels and avoid canned, frozen, or dried products with high sodium or added sugars. Juices labeled “100%” are part of this food group, but eating whole fruits or vegetables is better, as they will provide more fiber. The Centers for Disease Control and Prevention (CDC) Trusted Source report that a diet high in fruits and vegetables can help with weight management programs. The CDC also links this type of diet with a lower risk of many conditions, including:

- heart disease
- stroke
- diabetes
- high blood pressure
- some cancers

All fruits and vegetables have health benefits, and healthcare professionals recommend that people consume a wide variety. Read about the top healthful fruits and most healthful vegetables here.

**Protein**

Protein is an important macronutrient that every cell in the body needs. It helps build and repair cells and body tissues, including the skin, hair, muscle, and bone. Protein is also important for blood clotting, immune system responses, hormones, and enzymes. Many protein-rich foods also contain high levels of minerals, including iron, magnesium, and zinc. Protein occurs in both animal and plant foods. Animal sources include meat, fish, and eggs. Beans, nuts, and soya are protein options for those following a vegan or vegetarian diet. A general guideline from the Food and Drug Administration (FDA) recommends that people get 50 grams (g) of protein per day on a 2,000 calorie diet. Individual protein needs will vary, however, depending on a person’s activity levels and weight. A healthful diet should include a range of protein foods. Read more about high protein diets and plant-based sources of protein.

**Dairy**

Dairy products can be excellent sources of calcium. A calcium-rich diet promotes healthy bones and teeth. According to the U.S. Department of Agriculture (USDA), the dairy food group contains:

- fluid milk products
- foods made from milk that retain their calcium content, such as yogurt and cheese
- calcium-fortified soymilk, or soy beverage

Milk-based foods that do not retain calcium, such as cream, cream cheese, and butter, are not part of this food group. The USDA suggests that people may need 2–3 cups of dairy products per day. There is some controversy over whether dairy is good or bad for you. Choose low fat or fat-free versions of dairy products, such as milks and yogurts, to benefit trusted Source heart health. However, consuming dairy is not necessary to be healthy, as long as people get essential nutrients, such as calcium, from nondairy sources. Dairy alternatives can be part of a healthful diet.

**CONCLUSION**

“Lower the activation energy for habits you want to adopt, and raise it for habits you want to avoid. The more we can lower or even eliminate the activation energy for our desired actions, the more we enhance our ability to jump-start positive change. “We shouldn’t need to be told something so obvious, but cranky toddlers aren’t the only ones who resist much needed naps. Adults routinely shortchange themselves on sleep, and the result is less self-control.” Psychology also tells us that if you don’t categorically forbid yourself something, but just say that you’ll do it later – most often later you’ll simply lose the desire. This is also the case with diets. “…people who had told themselves “Not now, but later” were less troubled with visions of chocolate cake than the other two groups... Those in the postponement condition actually ate significantly less than those in the self-denial condition...No change will be a success if you don’t begin by accepting yourself already before introducing changes – this helps at times when you lack the strength to work on your changes.

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THE PUNONG BARANGAY IN SOUTHERN NUEVA VIZCAYA:
THEIR LEADERSHIP BEHAVIOR AND COMPETENCIES

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ABSTRACT
The Punong Barangay are agents of development in the national government and they play a vital role in the development and progress of our country through a strong barangay local government. The study conducted used the descriptive approach and utilized a validated survey instrument on leadership behavior and competencies. The cluster random sampling using the proportional allocation was utilized to gather data from 234 samples. The data analysis showed that the respondents were predominantly male, married, about 45 years old, high school graduates, with low annual income and with 5-9 dependents. Their leadership behavior and competencies were found as very satisfactory. There was no significant relationship between leadership behavior and profile variables. The study will serve as benchmarking reference to further improve punong barangays’ leadership behavior and competencies for good local governance.

KEYWORDS: Punong Barangay, leadership behavior, and competencies

INTRODUCTION
Presidential Decree Number 86 issued on December 31, 1972 and the 1973 Constitution of the Republic of the Philippines, revived the barangay as the primate political units in the Philippine society. The Old Barangay system was revived in order to broaden the base of citizen participation in the democratic process and to afford ample opportunities for the citizenry to express their views on important local and national issues. The barangay which is a small, closely and interpersonally related groups, is hoped to draw out more responsive opinions and ideas from its members. The revival of the barangay may also awaken the interest of the people in the affairs of the government and in the conduct of their officials while the nation is re-directed towards consciousness, unity and involvement.

Orendain (1996) cited that every local government unit created or recognized under the Local Government Code is politic and corporate, endowed with powers to be exercised by it in conformity with laws. As such, it exercises powers as a political subdivision of the national government and as a corporate entity or corporation representing the inhabitants of its territory.

The approval of the Local Government Code of 1991 provided the barangays other powers which may be greater than what they already have. The Punong Barangay has more powers, relatively speaking, than the Mayor or Governor. The Punong Barangay is the chief executive exercising the basic duty of executing laws and ordinances applicable in the barangay. He exercises some legislative powers by being the presiding officer of the sangguniang barangay, thus participating in the consideration and passage of barangay ordinances. He participates in settling disputes by being the chairman of the “lupong tagapayapa”. Although there are many limitations on barangay powers, the above observation is a consolation to the legal status of the barangay in the hierarchy of local government units.

Under the regime of President Aquino, the government is bent on changing the profile of the barangays as basic political units into agencies for economic growth and development in the countryside. Today, the barangay is not only an institution of “participatory democracy” but more significantly the eventual realization of real people’s power. It is an evolving dynamic mechanism for democratic action in the attainment and promotion of community interest and goals.

Barangay Captains are also known as Punong Barangay or Barangay Administrators, and administrators are confronted by four major tasks. These tasks vary in a little way from organization to organization. These tasks are:
1. The Punong Barangay must fulfill the goals of the organization.
2. The Punong Barangay must make use of other people in fulfilling these goals, not as if they were machines but rather in such a way as to release their initiative and creativity.

3. The Punong Barangay must also face the humanitarian aspect of his job. He wants people who work for him to be happy. This is morale – the idea that under suitable conditions people will do better work than they will under unsuitable conditions.

4. The Punong Barangay must try to build into his organization provisions for innovation for change and for development. In a changing world, people and organization must adjust to changing conditions. The conditions for change must be incorporated into organization so that these may become a steady process of development rather than a series of sudden disruptive innovations.

In this study, these tasks are used as vantage points and backdrop in viewing the leadership behavior of Punong Barangay in Nueva Vizcaya. According to House and Mitchell (1974: 65) there are four leadership behaviors. These leadership behaviors are:

1. Supportive Leadership is giving consideration to the needs of subordinates, displaying concern for their welfare, and creating a friendly climate in the work unit.

2. Directive Leadership is letting subordinates know what they are expected to do, giving specific guidance, asking subordinates to follow rules and procedures, scheduling and coordinating the work.

3. Participative Leadership is consulting with subordinates and taking their opinions and suggestions into account.

4. Achievement-Oriented Leadership is setting challenging goals, seeking performance improvements, emphasizing excellence in performance, and showing confidence that subordinates will attain high standards.

Santos (2007) and Aldaba (1997) as cited by Principe (2011) mentioned that the role of a leader is indispensable in an organization. Accordingly, the success or failure of an institution largely depends on the kind of administrator appointed to lead the institution. He is the very person who is expected to provide the members of the organization the vision and direction for the institution.

Similarly, Dumangeng (2002) as cited by Gamilde’s (1996) disclosure that the leader sees things through the eyes of his followers, putting himself in their shoes and helping them make their drama come true and assumes that his followers are working with him, not for him, considers them partners in the work, sees to it that they share in the rewards and glories the team spirit.

Likewise, Sajo and Tabaldo (1993) conducted an empirical study among local chief executives in the province of Iloilo. They disclosed that an overwhelming majority of local executives have emphasized and practiced participatory management and teamwork in managing local government.

Tendero, (1993) takes into account the use of behavioral style and traits theory to fit the political culture of the society. Ferdinand E. Marcos adopted an autocratic style as a response to the deteriorating socio-economic and political condition in the country. Corazon Aquino, in her desire to restore democracy opted for participative leadership. The path President Fidel V. Ramos is pursuing is not very definite. While making an open pronouncement of “people empowerment”, critics perceive signs of a veering toward authoritarian power exercise to accelerate the pace of development. Where to set the parameters of discretion and flexibility of the leader and the extent of the participatory role of the people are questions.

Leveriza (1986) also cited that leadership is the key to effective management of organizations. It establishes the dynamics between the leaders and his followers. It provides and sets the pace of performance of the organization. It further provides the direction as well as the inspiration that make people work willingly, enthusiastically, efficiently, and effectively.

Leadership is a subject that has aroused the interest of scholars and laymen as well. (Stogdill 1987), in his researches on leadership theories, points out that there can be as many definitions as there are people wanting to define the concept. Leadership can be regarded as an influence process, since a leader may be called upon to live a life demonstrating fullness of what he believes in, thus making him a good example for followers. Leadership occurs when one person influences another and convinces him to do a thing to achieve something. Influence may range from persuasion to the use of coercion to get things done. The ability to structure social interaction systems and accomplish what is proposed to be achieved, creates personality dynamics needed by one seeking leadership responsibilities.

As the barangay gains its new found social and political prominence, its rate of progress in general and the capacity of its people for growth in particular will find reflection in the leadership provided to them by its recognized leader – the Punong Barangay. The barangay, based on tradition, is an extended family where the leaders are on the a first-name basis with the community members whom they serve their constituency. Their role is mediator, conciliator, and adjudicator. The Punong Barangay are agents of development in the national government and they play a vital role in the development and progress of our country through a strong barangay local government.

It is along the foregoing perspective that the researcher is motivated to undertake further study on the leadership and competencies of punong barangay of the province of Nueva Vizcaya to validate the result of the previous study.

This will also serve as an aid of legislation of national policies relevant to the competencies, skills and abilities of the punong barangays , of their roles as element of change in the society and the efficient delivery of basic services to the public.

This research is an attempt to establish the profile, leadership behavior and competencies of Punong Barangays in the province of Nueva Vizcaya and its implications to the changing concept of local governance. Their being a service provider to that of a facilitator in order to provide better performance in performing their duties and functions as Punong Barangays.
The research will provide first – hand information on the leadership behavior and competencies among Punong Barangay in the province of Nueva Vizcaya. The findings will serve as an eye opener to the people of Nueva Vizcaya to be a wise voter. Likewise, these findings will provide information on what technical assistance the local executives and the Department of Interior and Local Government could initiate in order to upgrade the profile of barangay captains in the province of Nueva Vizcaya.

Constituents expect to have good leaders, consequently, the immediate constituents’ needs and aspirations would be identified and their frustrations could be known if they will be assessed on how they perceive. This will lead to a satisfying and harmonious relationship between the immediate constituents and the barangay captains. This will enhance participation in the barangay affairs.

**OBJECTIVES**

Specifically, this research is grounded on the following objectives which are aimed:

1. to identify the profile of the punong barangay in terms of age, sex, civil status, educational attainment and annual income;
2. to assess the punong barangay based on the perception of their constituents;
3. to identify the level of leadership behavior of Punong Barangay as assessed by themselves; and
4. to determine significant differences as perceived by the respondents along leadership behavior among punong barangay members when grouped according to their profile variables.

**Definition of Terms**

For a clearer understanding of the study, the following key variables are operationally defined:

- **Age** refers to the age bracket of the respondent ranging from twenty four (24) to seventy (70)

- **Achievement-Oriented Leadership Behavior** refers to the style of leadership involves setting challenging goals, seeking improvement in performance, and emphasizing excellence

- **Barangay** refers to the smallest political subdivision or unit of the government which serves as the primary planning and implementing arm of government programs, projects and activities. It also serves as the place where the collective views of the people in the community are discussed and considered.

- **Barangay Captain** refers to the head of the barangay government who is responsible in enforcing specific powers which are operative within the barangay.

- **Competencies** refer to the special abilities, motives, traits, skills and personal attributes that are casually related to effective behavior. The competencies identified in this study are organizational ability, leadership interpersonal skills, work habits and attitudes.

- **Directive Leadership Behavior** refers to the leaders behavior that provides guidance for subordinates by setting standards of performance, scheduling and coordinating work effort, and asking subordinates to follow rules and regulations

- **Educational Qualification** is the highest educational degree attained by the subject.

- **In-Service Training** refers to the trainings, seminars, workshops and programs attended by the subjects which are beneficial to them and to the organization, locally and internationally.

- **Local Government** refers to the political subdivision of a nation or state constituted by law, which has substantial control over local affairs, including the power to impose taxes, the governing body of which is elected or appointed (Local Government Code, 1991).

- **Leadership** is a process or act influencing the movements of an organized group in its efforts toward goal achievement (Hemphill and Coons, 1957: 7).

- **Leadership Behavior** is the pattern of functions the administrator does which includes events, physical action, physiological and emotional processes and implicit mental activity which expresses his ability and readiness to inspire, guide, direct, or manage others (Good, 1959: 313).

- **Participative Leadership Behavior** refers to a leader that solicits suggestions and advice from their subordinates and consider information from subordinates when making decisions.

- **Sex** refers to the personal attributes of the respondent expressed in terms of his or her gender classification as masculine or feminine.

- **Supportive Leadership** refers to a leadership behavior which is manifested by showing concern for the well being and personal needs of one’s subordinates.

- **Transformational Leadership Behavior** refers to the process of inspiring change and empowering followers to achieve greater heights, to improve themselves, and to improve organization processes, causing followers to accept responsibility and accountability for themselves.

- **Work Habits and Attitudes** refers to the positive values toward work and the strong desire to improve oneself on the job.
II. METHODOLOGY

The normative survey method was used in this study, specifically the descriptive survey method to gather information about current existing conditions. This method helped draw the profile and leadership behavior of Barangay Captains in Nueva Vizcaya. Three sets of questionnaire were used for gathering data, the personal data form, the competency scale and the leadership behavior scale was adopted from the book of Ordonez (1995).

The respondents in this research study consisted the Punong Barangay who were elected and qualified as of November, 2013 and the immediate constituents (Barangay Council). The cluster random sampling using the proportional allocation was utilized to gather data from 234 samples. The statistical procedure used were: the subject, frequency distribution, percentage and mean to describe the subject, one-way analysis of variance (ANOVA) to test the significance of the differences between two or more means obtained from the independent samples. The T-test is generally used for comparison between two means while F-test is a parametric test used for comparison among three or more means.

III. RESULTS AND DISCUSSIONS

Demographic Profile of the Punong Barangay:

1. The age range of the subject Punong Barangay is 41 – 45. It could be speculated that most of the barangay captains are of middle age taking the life span of Filipinos at 60 years. It also reveals that 90% are males and only 10% are females which proves the societal expectations that men should be given preferential opportunity to occupy such political positions. The punong barangay reveals that 93% are married and 64% reach high school and only 5% finished college, and the mean annual income seems to be rather low if they are married with 5-9 dependents to feed and support for their education.

<table>
<thead>
<tr>
<th>Competencies</th>
<th>Mean</th>
<th>Qualitative Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Ability</td>
<td>3.94</td>
<td>Often</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.94</td>
<td>Often</td>
</tr>
<tr>
<td>Personal Skills</td>
<td>3.91</td>
<td>Often</td>
</tr>
<tr>
<td>Work Habits and Attitudes</td>
<td>3.99</td>
<td>Often</td>
</tr>
<tr>
<td>Composite Mean</td>
<td>3.95</td>
<td>Often</td>
</tr>
</tbody>
</table>

The perception of the immediate constituents perceived their Punong Barangay as competent organizers of which they have the ability to discover, understand and verbalize ideas, thoughts and concepts. They also perceived that the Punong Barangay are very competent leaders because they can direct, motivate and establishes rapport among subordinates. They also take the initiatives of maintaining high standard. The Punong Barangay inter-personal skills are considerable high which implies that they maintain good relationship with peers and subordinates. They also exhibit tactfulness and diplomacy and can reconcile differences among interest groups. The punong Barangay also have strong resolve to further improve themselves on their job and have a strong tolerance for stress and can allocate time wisely.

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Mean</th>
<th>Qualitative Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>4.26</td>
<td>Often</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>4.25</td>
<td>Often</td>
</tr>
<tr>
<td>Directive</td>
<td>4.20</td>
<td>Often</td>
</tr>
<tr>
<td>Participative</td>
<td>4.19</td>
<td>Often</td>
</tr>
<tr>
<td>Composite Mean</td>
<td>4.23</td>
<td>Often</td>
</tr>
</tbody>
</table>

In general, the Punong Barangay of Southern Nueva Vizcaya often practiced supportive, achievement oriented, directive and participative leadership behavior as drawn from the composite mean of 4.23.

Of the four leadership behavior, the Punong Barangay rated themselves highest in supportive leadership behavior as evidenced by their mean response of 4.26. The friendly and approachable nature of the respondents could be attributed to the fact that most the Punong Barangay are in the middle age. They consider their members as peers and not as subordinates.

As described by Greene (1988), supportive leaders look upon their task as not consulting with followers and considering their opinions but also doing all they can to support subordinates in accomplishing their duties.
Table 3

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Computed F – ratio</th>
<th>Tabular F – ratio</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>.176</td>
<td>2.16</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>1.80</td>
<td>2.16</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Directive</td>
<td>1.60</td>
<td>2.16</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Participative</td>
<td>.87</td>
<td>2.16</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>

The Punong Barangay, whether young or old, do not differ in leadership behavior behavior. It could be inferred that both young and old Punong Barangays are supportive, achievement oriented, directive and participative. Further, they solicit opinions from their constituents, they involved everybody to a particular task, and they give support to all activities of the barangay.

Table 4

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Computed T – ratio</th>
<th>Tabular T – ratio</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>0.06</td>
<td>1.960</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>0.03</td>
<td>1.960</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Directive</td>
<td>0.09</td>
<td>1.960</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Participative</td>
<td>0.09</td>
<td>1.960</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>

The Punong Barangays whether male or female are both effective administrators and do not differ in leadership behavior. It may, thus be inferred in this findings that sex is not a factor to effectively influence and convince subordinates to do or achieve a particular endeavour. Further, it can be inferred that the male dominated political positions in the barangay can equally be executed by the female sex. Reasons among other could be, managing the affairs of the barangay does not require body strength but more on the intellectual capability of the leader.

Table 5

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Computed F – ratio</th>
<th>Tabular F – ratio</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>0.5</td>
<td>19.49</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>0</td>
<td>19.49</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Directive</td>
<td>0.2</td>
<td>19.49</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Participative</td>
<td>0.67</td>
<td>19.49</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>

The findings in this study revealed that Punong Barangays whether married, separated or widowed do not differ in leadership behavior.

Table 6

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Computed F – ratio</th>
<th>Tabular F – ratio</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>0</td>
<td>2.67</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>0.05</td>
<td>2.67</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Directive</td>
<td>0</td>
<td>2.67</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Participative</td>
<td>0.25</td>
<td>2.67</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>

The findings revealed that there are no significant differences in the leadership behavior among Punong Barangays when grouped according to educational attainment.
Table 7  
**Summary of F-test Comparing Leadership Behaviors of Barangay Captains According to Annual Income**

<table>
<thead>
<tr>
<th>Leadership Behavior</th>
<th>Computed F – ratio</th>
<th>Tabular F – ratio</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive</td>
<td>0.4</td>
<td>3.05</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Achievement Oriented</td>
<td>0.17</td>
<td>3.05</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Directive</td>
<td>0.33</td>
<td>3.05</td>
<td>Accept Ho</td>
</tr>
<tr>
<td>Participative</td>
<td>2.85</td>
<td>3.05</td>
<td>Accept Ho</td>
</tr>
</tbody>
</table>

The findings revealed that there are no significant differences in the leadership behavior among Punong Barangays when grouped according to monthly income. It could be done by people with low, average and high income and could be attributed to the fact that money is not a motivator for job performance. Leaders will work according to their duties and functions since they are expected by their constituent to take the lead for the growth and development of the organization.

**IV. CONCLUSIONS**

Based on the findings of the study the following conclusions are therefore presented.

1. The Punong Barangays in the province of Nueva Vizcaya are predominantly male, married, about 45 years old, high school graduates and the mean annual income seems to be rather low if they are married with 5-9 dependents to feed and support for their education.
2. The competencies of Punong Barangays in the province of Nueva Vizcaya is very satisfactory as perceived by their immediate constituent.
3. The leadership behavior of Punong Barangays in the province of Nueva Vizcaya is very satisfactory as perceived by themselves.
4. The leadership behavior of the Punong Barangays in the province of Nueva Vizcaya do not vary significantly when grouped according to age, sex, civil status, educational attainment and annual income.

**V. RECOMMENDATIONS**

Based on the findings and conclusions of the study conducted the following recommendations are therefore crafted and proposed.

1. Based on the findings, majority of the Punong Barangays reached or finished high school and it is therefore recommended that they may be encouraged to develop their reading habits as part of their informal education and training for personal growth and development. Government agencies like the Philippine Information Agency and the Department of Interior and Local Government should periodically publish and furnish the Punong Barangays with barangay bulletins, newsletters, magazine and other printed materials designed to keep them abreast with current issued and trends.
2. Congress may consider the legislation of new salary measure and other monetary incentives for the Punong Barangay equal to other government workers with the same nature of job. These will give more encouragement and satisfaction, ensure competencies and imbibe a sense of responsibility.
3. Additional variables in the profile may be included in order to identify other variables that influence the respondents such as ethnic affiliation, religion, seminars and trainings attended. Data coming from the constituents may be considered as part of assessing the respondents’ leadership behavior in order to acquire comparative information about the research respondents.
4. Future researchers may replicate the same study using a wider scope of respondents in order to ascertain new concepts which may help the management and processes of barangay systems.

**WORK CITED**

THE HISTORY OF THE FORMATION OF THE NATIONAL INTELLIGENTSIA IN TURKESTAN AT THE ORIGINS OF SOVIET POWER

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ABSTRACT
The article describes the process of active formation on a socialist basis of social units of the structure of a socialist society, like Soviet workers and intelligentsia. The creation of completely new social strata, characteristic only of Soviet society, is also noted - cooperative handicraftsmen, collective farmers, workers of Soviet farms. But due to the small number and economic weakness, their activities were practically not noticeable either in the city or in the village.

KEY WORDS: intelligentsia, society, education, profession, industry, citizen, party, socialism, bolshevik, panIslamism, panturkism, clergy, school, madrasah, university.

INTRODUCTION
The new socialist system badly needed its own intelligentsia - a social category of any civilized society, consisting of specialists professionally engaged in highly qualified mental work in various areas of state, industrial, scientific, cultural and social activities, and having, as a rule, an education corresponding to their profession. Since the Soviet state practically did not have its own proletarian intelligentsia, in the early years it faced two tasks - to recruit the old "bourgeois" intelligentsia and begin to form a new "worker-peasant" intelligentsia.

RESULTS AND DISCUSSIONS
Thus, in July 1918, with the reduction of staff in the cotton industry of Turkestan, its labor collectives decided to remove all managers and clerks. It was motivated by the fact that, "under Soviet rule, it is not necessary to solve the problems of commerce and competition, and every honest citizen can determine the type of goods"[1]. In the course of requisitions and confiscations of the property of large industrialists and merchants, the property of "bourgeois specialists" was often subjected to these measures, and even those who worked in Soviet institutions. Therefore, in November 1918, the chairman of the Central Council of National Economy of the TASSR demanded from the TurtsEC "to protect the property of old specialists, whom the Soviet government in invited to their service, because their work was recognized as necessary"[2].

Only by the summer of 1919 did the party come to understand the need to urgently stop the fight against these specialists. But, while inviting bourgeois specialists to work, the Bolsheviks at the same time set the task of overcoming their "bourgeois worldview" in every possible way, considering this as one of the forms of class struggle for the restructuring of the social psychology of the old intelligentsia in the spirit of socialist ideas. It was a very painful process when uneducated people, obsessed with revolutionary enthusiasm, tried to "re-educate" educated people with an established system of views and values. The main criterion for determining the political and civic positions of the "bourgeois"
intelligentsia during this period was its attitude to the political, economic, social, cultural transformations of Soviet power and the ideological doctrine of the party.

It should be noted that in the Turkish Republic at the initial stage of socialist construction, in addition to the general problem of establishing relations between the Soviet government and the “bourgeois” intelligentsia, there was a special problem of its relationship with the national Jadid intelligentsia. During the period of numerous power actions of the Bolsheviks in 1917-1918, this social stratum suffered great losses. Many of its leaders, along with the progressive Muslim clergy, were repressed, deported or forced to leave their homeland. The Bolsheviks, considering Turkestan an economically and culturally backward region with an extremely small national intelligentsia, moreover, infected with the ideas of “pan-Islamism” and “pan-Turkism”, refused to see in it an intellectual part of society capable of becoming an assistant to the new government. In their opinion, it should have been subjected to a class Bolshevist transformation, or simply destroyed as a class enemy [3].

The advanced national intelligentsia of Turkestan and, above all, its Jadid core, for the most part supported the Soviet government. She stood on the positions of the need to combine the Soviet organization of society with national traditions, to achieve a new stage of progress through the rise of all the healthy forces of society, and believed that the new society should take from the old one its productive force - artisans, as bearers of the traditions of national production and life, and create for them the necessary conditions for successful functioning, organize the right relationship with state industry and power structures, as well as accept and use the educated part of the old society, including the clergy, determine their place in the new society, find common ground, support progressive aspirations.

Patriotic national leaders who worked in the government of the republic, T. Ryskulov, K. Atabaev, S. Tursunkhodzhaev, I. Khidyraliyev, A. Rahkimbaev, N. Tyurakulov, F. Khodzhaev, A. Fitrat and others, despite the negative attitude of the Bolsheviks - Europeans, actively advocated the involvement of the national intelligentsia in the construction of a new life.

In the early 1920s, the national intelligentsia took an active part in the discussion of the issue of writing reform. During these years, interesting magazines and newspapers began to be published in the Uzbek language - “Ilm va maoiri”, “HAQIQAT”, “Ishchilar dunyosi”, “Bolalar dunyosi”, “Inqilob”, “Bilim uchogi”, “Ozgarish yoshlar”, “Ishtraqiyun”, “Ishchilar dunyosi”, “Bolalar tarihi” (“Ishchilar dunyosi”, “Bolalar tarihi”), “Bilim uchogi”, “Ozgarish yoshlar”, “Ishtraqiyun”, “Ishchilar Kalkoni”, “Ozod Bukhoro”, “Ozod Fargona”, etc. In the journalistic corps of this period, along with such well-known authors as M. Behbudi, A. Fitrat, A. Chulpov, A. Avloni, A. Kodiri, Sh. Rakhimi, H. Niyoz and others appear young journalists - Usmonkhon Eshonkhodjaev, Kosim Sorokin, Naim Soip, Mirmukhsin Shermukhamedov, Ziyo Said, Komijon Olimov, Mannon Ramzi, Rakhim Inomov, Abdulkhay Tozhiev, Ali Ismoilzoda, Khoji Muin Shukrulaev and others. On the pages of newspapers and magazines, as well as in special works, they raised such burning issues as the development and reform of the language, youth problems, prospects for the development of public education, Uzbek culture, etc [4].

In the early 1920s, the first works on the history of the region appeared, written by F. Khodzhaev, A. Fitrat, T. Ryskulov, S. Aini, P. Soliev. P. Soliev’s monographs “Bukhoro mangitlari sulolasi davrida” (“Bukhara during the reign of the Mangits”), published in 1920 and “Bukhoro tarihi” (“History of Bukhara”), published in 1923, aroused great interest. The work of talented national translators Gazi Yunus, Fatih Karimov, art historian G. Zafari.

More difficult was the position of the Muslim clergy, as an integral part of the national intelligentsia of the Central Asian society. The very first decrees of the Soviet government “On the separation of church and state”, “On civil marriage, on children, on keeping books of acts of civil status”, “On the dissolution of marriage, on the destruction of estates and civil ranks”, “On the abolition of waqf property”, “On the liquidation of the courts of qazis and biys”, “On the closure of madras and maktabs” dealt a blow to the clergy, as the integrating force of the Muslim society. In addition, the Constitution of the Turkestan Republic, adopted in 1918, deprived all the clergy of electoral and political rights, thus excluding them from social and political life. But state acts could not abolish the all-embracing influence of religion, which took shape and affirmed over the centuries. They only caused strong discontent among the bulk of the population, and the influence of the clergy in everyday life remained practically the same. Therefore, fearing an explosion of popular discontent, the Soviet government was forced to make some concessions. She allowed the teaching of the fundamentals of religion in Muslim schools, in 1922 she returned waqf property, restored the courts of qazis and biys, and restored Friday as a day of rest for Muslim believers. In February 1923, the Mahkamai Sharia society was established, which carried out work to clarify the moral foundations of Islam, the meaning of the Koran, hadiths in the spiritual development of society [5]. Thus, in the first years of Soviet power, the Muslim clergy in Turkestan continued to regulate the civil legal relations of the local population, remained to a certain extent the organizer of public education through schools and madrasas.

But this situation was clearly a temporary concession of the proletarian state due to the instability of the political situation in the country in the early years of Soviet power. Already in March 1923, the 7th Congress of the CPT firmly raised the question of the need to move on to "political disinfection and further weakening of the influence and power of the ulema over the believers." The congress stressed "that with regard to the Muslim clergy (ulema) there can be no talk of allowing them to participate in government." The task was to organize anti-religious work. And this task was carried out by the Party with particular zeal.

Given the specifics of the first years of Soviet power, we can assume that the intelligentsia at that time included qualified professionals (engineers, technicians, agronomists, doctors, teachers, lawyers, scientists, journalists, workers of cultural education institutions, artists, artists and other creative workers) and leading administrative workers of the state,
economic, party and Soviet apparatus. Although, objectively, not all of them had a sufficiently high professional education during the period under study, especially administrative workers.

The insignificance of the number of knowledgeable and educated people who were in the service of the Soviet state necessitated the need to solve the problem of forming a "worker-peasant" intelligentsia as quickly as possible. This task was solved in the first years of Soviet power in the same way as all other tasks, only on a strictly class basis. Ways to solve it were varied, but very characteristic of the policy of the Soviet state in those years.

One of them was the creation of cadres of employees of the administrative apparatus through "nominisation", when the most active and revolutionary-minded workers and peasants, who not only had no vocational education, but very often and a solid primary education. It was a peculiar, characteristic only for the state of the dictatorship of the proletariat, a typically revolutionary leftist method of forming administrative workers from workers and peasants, who formally, by the nature of their position, belonged to the intelligentsia, but in terms of their educational and professional level, as a rule, in no way corresponded to it. In their overwhelming majority, these were poorly educated non-specialist Soviet employees.

In order for semi-literate and sometimes illiterate workers and peasants to be able to fulfill their duties as leaders of the party, Soviet and economic apparatus, a system was created to train them through courses, Soviet party schools, and then special universities. By the spring of 1924, in the republic, in the system of training party and Soviet workers, there were: The Central Asian Communist University, where 434 students studied, including 39 women, 4 daytime regional Soviet party schools and 2 evening schools, in which 227 people studied. The training of these personnel required significant material resources, however, despite the difficult financial situation in the republic, this work expanded in every possible way, since without its proletarian cadres the party could not form the political apparatus of the new government. She considered the nomination of the most active workers and peasants for leading work in the state, party, Soviet and economic apparatus as the most important means of strengthening the dictatorship of the proletariat, establishing a system of effective government, and creating a state apparatus closely connected with the masses.

In Turkestan, the formation of a new Soviet intelligentsia was associated with a number of additional difficulties that caused the special specifics of this process. First of all, there were no higher educational institutions in colonial Turkestan, and the system of higher education was created from scratch. The first higher educational institution in the region was the Turkestan People's University, solemnly opened on April 21, 1918. Prominent representatives of the national intelligentsia Munavvar kori Abdurashidkhanov, Sodik Abdusattarov, Burkhan Khabib, Mukhtar Bakir, Abdullo Avloni and others stood at its origins[6]. In November 1918, the Turkestan Oriental Institute was opened by local orientalists (in 1924 it became part of the Central Asian State University as an oriental faculty).

In September 1920, the Turkestani State University was opened in Tashkent - a large multidisciplinary higher educational institution, which until the end of the 20s trained all the specialists necessary for the region (since July 1923 it received the status of the Central Asian State University (SASU)). The main task of the administration is party and Komsomol organizations of the university was to ensure its worker-peasant social composition. Therefore, when recruiting students, their social origin was at the forefront. Students who tried to hide their non-proletarian origin were immediately expelled. Work on the proletarianization of the composition of students was steadily moving towards the goal.

In addition to the general difficulties of the process of formation of the intelligentsia in the Turkish Republic, there was also its own specific direction. It consisted in the dominance of the training of humanitarian specialists - mainly school teachers due to the fact that the new government liquidated the old national system of public education in Turkestan and set the task of creating a Soviet labor school according to the European model. This task was set in the conditions of the almost complete absence of trained teachers for schools, and the possibility of developing university education depended on the availability of well-trained students in these schools.

To solve this problem in the 1920s, a wide network of national secondary specialized educational institutions was created in the republic - teacher's institutes, pedagogical technical schools, colleges, all kinds of pedagogical courses that train teachers for national schools. Through the efforts of the best representatives of the national intelligentsia in 1918-1920. The first pedagogical educational institutions were opened in Tashkent, which played an important role in the training of national teachers. On June 1, 1918, a Muslim teacher's institute was opened. Among his teachers were Ismail Khaki, Abdurafif Fitrat, Komol Shamsh, Ibragim and Abdurahman Ismagilov, Burkhan Khabib, Munavvar kori Abdurashidkhanov, Abdullo Rakhimbaev, Khaidar Shavki [7]. At the end of October 1919, a women's pedagogical school was opened "to train Turkic teachers in first-level schools"[8]. In the autumn of 1920, Uzbek, Kyrgyz, Turc-Tatar male and mixed Russian educational institutions were opened. A little later, the Uzbek women's and native-Jewish men's inquiries were opened [9]. The opening of these educational institutions was a significant contribution to the development of public education in the republic, the first steps towards the creation of its new national intelligentsia. But in the second half of the 1920s, these educational institutions were gradually absorbed by the new Soviet system of training teachers - pedagogical technical schools and universities.

Since the government of the republic did not have the opportunity to open diverse higher educational institutions, the national political leaders T. Ryskulov, A. Rakhimbaev, F. Khodzhaev, A. Fitrat in 1922 ensured that 75 young people from the TASSR, BNSR and KhNSR were sent to studying at universities in Germany. Among them were Akhmadjon Ibragimov, Sobira Ibragimova, Temurbek Kazakbaev,
Khairiniso Madzhikhanova, Sultan Matkulov, Tulyagan Muminov and others [10]. Studying at the Berlin, Heidelberg, Freiburg Universities, Berlin, Dresden, Darmstadt Higher Technical Academies, they, overcoming the language barrier, great every day and material difficulties, acquired the knowledge of highly qualified specialists through hard work. In addition, by the end of 1922, 306 people from Turkestan studied at universities and technical schools in Moscow and Petrograd, 25 people in Azerbaijan, 25 people in Turkey [11]. However, as the further development of socialist construction showed, the practice of training highly qualified specialists abroad was a specific feature only in the early 1920s. Later it was discontinued and students from the republic were taught only within the country.

All of the above forms were components of a purposeful process of the formation of a new social stratum - the Soviet intelligentsia. At the beginning of the 1920s, it was in its infancy, and it was slow and difficult in conditions of serious political and economic difficulties, the decisive role was played by the subjective factor - the class social policy of the state of the dictatorship of the proletariat. The Soviet intelligentsia was formed on a Marxist ideological, rigid class basis. The intelligentsia in the republic was small in that period, it was dominated by workers in public education and the cultural and educational sphere, technical, medical and scientific personnel were insignificant and, most importantly, there were very few representatives of indigenous nationalities among them.

Thus, in the early 1920s transformational social processes in Soviet society developed in two directions - the process of forming the social structure of the Soviet society under construction began and the painful process of destroying the social structure of the overthrown society gained momentum. At this stage, the political and economic life of the country was purposefully rebuilt on a revolutionary basis, the privileged position of the working class was established, in favor of which the structure of power changed, and the foundation was laid for a new stratification of society. The Soviet state steadily pursued a pronounced class social policy aimed at deepening the class differentiation of society and, ultimately, at destroying its old stratification. But its implementation in the Turkestan ASSR had a number of specific features.

CONCLUSION

At the beginning of the 1920s, the process of active formation on a socialist basis of such main components of the social units of the structure of socialist society as Soviet workers and intelligentsia also began in Turkestan society. But due to the political and economic state of the region, it went slowly and with little success. At the same time, completely new social strata began to create in society, characteristic only of Soviet society - cooperative handicraftsmen, collective farmers, workers of Soviet farms. But due to the small number and economic weakness, their activities were practically not noticeable either in the city or in the kishlak.

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AN EMPIRICAL STUDY OF NON-PERFORMING ASSETS WITH SPECIAL REFERENCE OF STATE BANK OF INDIA (SBI)

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ABSTRACT

The banking sector of India plays a vital role in the development of economy and the growth of banking sector majorly depends upon Non-Performing Assets (NPAs). NPAs is one of the crucial tool to evaluate the financial position of different banks. NPAs is a loan and an advance for which the principle and interest payment remain overdue for a period of 90 days. The purpose of this article is an attempt to analyse the trends of NPAs on the banking sector especially considering the State bank of India (SBI) for the period of 2012-2022. The data used for writing this article has been collected from secondary sources.

KEYWORDS: Non Performing Assets (NPA), banking sector, State Bank of India (SBI), financial position, economic development.

1. INTRODUCTION

Banking is considered as the life blood of every country’s economy. Banks are creators and provider of credit. The Indian banking system is mainly bifurcated into formal (organized) and informal (unorganized) banking system. The liabilities of banks are part of the money supply because banks plays a crucial role as it intermediates between the flow of funds belonging to those who save a part of their income and those who invest in productive assets. The objective of strengthening the real economy and its healthy and orderly growth can be fulfilled by a strong banking system.

Non-Performing Assets (NPAs)

Non-performing assets (NPAs) constitute important part of banks’ operations. A Non-Performing Asset commonly known as NPAs refers to the classification for loans on the books of financial institutions that are in default or are in arrears on scheduled payments of principal or interest. It is those assets of the banks which do not bring any return. In most of the cases, debt is classified as non-performing when an individual does not pay loan which he/she has taken for more than 90 days. 90 days of non-payment is the standard period of debt to be categorized as non-performing asset.

Types of Non-Performing Assets

1. Standard Assets: Standard Asset is one which does not disclose any problems and which does not carry more than normal risk attached to the business.

2. Sub-Standard Assets: A Sub-Standard asset is one which has been NPA for a period not exceeding 12 months.

3. Doubtful Assets: A Doubtful asset is one which has been NPA for more than 12 months.

4. Loss Assets: A Loss asset is one where the loss has been identified by the bank, through the internal or external auditor or by the central bank inspectors. The amount has not been written off, wholly or partly even after 3 years.

Types of NPA

* Gross NPA
* Net NPA

- **Gross NPA**: are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on Balance Sheet date. Gross NPA reflects the quality of the loans made by banks. It consists of all the nonstandard assets like as sub-standard, doubtful, and loss assets. It can be calculated with the help of following ratio:

\[
\text{Gross NPAs Ratio} = \frac{\text{Gross NPAs}}{\text{Gross Advances}}
\]

- **Net NPA**: are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA shows the actual burden of banks. In India, bank's balance sheets contain a huge amount of NPAs and the process of recovery and write off of loans is very time consuming, the provisions the banks have to make against the NPAs according to the central bank guidelines, are quite significant. That is why the
difference between gross and net NPA is quite high. It can be calculated by following:
\[ \text{Net NPAs Ratio} = \frac{\text{Net NPAs}}{\text{Gross Advances} - \text{Provisions}} \]

2. **SCOPE OF THE STUDY**
The present study analyses the non-performing assets in public banking sector with special reference to State Bank of India.

3. **OBJECTIVES OF STUDY**
1. To analyse the trends of NPAs from 2011-2021 of SBI.
2. To find out the reason behind the highest amount of NPA in SBI.
3. To make comments relating to the growth of NPAs.

4. **LITERATURE REVIEW**
Sagarika Mohanty (June 2021) in her paper titled as “Comparative study of NPAs in selected public sector banks and private sector banks in India”, mentioned the relationship between NPA with the key parameters of selected banks and finds out the impact of NPA on Net profit and Return on assets (ROA) of the selected banks.

Girnara Mona Rameshbhai (JULY 2020), research paper titled as “Comparative analysis of NPAs in public sector banks and private sector banks” has taken five public banks and five private banks to study NPAs. This paper evaluated various ratios of NPAs on the basis of secondary data. It is found that NPAs is high in public sector banks as compare to private sector banks. Amount of gross NPAs and Net NPAs are high in public sector bank with respect to private sector banks.

Rishabh Adey, Deevanshu Yash Goyal, MD. Nizam Siddiqui, Lata dhruw (2020) They found that NPAs drain the banks’ capital and weaken its financial power. There are more NPA in public sector banks in comparison to private sector banks. There should be more productive and efficient strategy to manage NPA by financial institution and banks.

Mr. Santosh Shah, Mr. Dhruv Sharma (2019), in their research paper titled as “Non-Performing Assets: A Comparative Study of SBI & HDFC Bank” studied the impact of non-performing assets (NPA) and the reasons due to which assets becoming NPAs and compared the NPA trends of SBI and HDFC for past years. The aim of this paper is to find the major factors which impact NPAs of banks.

HaraniB, Subramanyam Mutyala (DEC 2019), their research paper titled as “A Comparative analysis of NPAs of public and private sector banks in India – An endless battle” This study has been analysed the sector-wise classification of NPAs and loan assets of public and private sector banks. It also investigated the gross NPAs, gross advance and gross NPAs ratio of public and private sector banks in India. The non–priority sector loans have worsened NPAs which cause headache for public sector banks.

5. **METHODOLOGY**
The data collected for this paper is wholly based on secondary source which is descriptive in nature. The period of this study is of ten years from 2011-12 to 2020-21. The data were collected from Annual Reports and accounts of Public Sector Banks published Doctoral Dissertations on Banking, different journals on banking, economics and Finance; Publications and Websites; Newspaper- Financial Express, Times of India and Economic Times.

6. **DATA ANALYSIS AND INTERPRETATION**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Net NPA</th>
<th>Gross Advance</th>
<th>Trend percentage of total net NPA</th>
<th>Trend percentage of total net advance</th>
<th>Net NPA to Ratio</th>
</tr>
</thead>
<tbody>
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<td>2011-12</td>
<td>15,818.85</td>
<td>86,758.89</td>
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<td>120,808.72</td>
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<td>139.45</td>
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<td>2014-15</td>
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<td>218,887.92</td>
<td>4165.58</td>
<td>251.95</td>
<td>301</td>
</tr>
<tr>
<td>2019-20</td>
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<td>327.51</td>
<td>268.02</td>
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<td>2020-21</td>
<td>36,809.72</td>
<td>244,947.79</td>
<td>232.70</td>
<td>282.34</td>
<td>15</td>
</tr>
</tbody>
</table>
Figure 1

Analysis and Interpretation

The above table represents the trend percentage of Net NPA and Net Advance in Figure 1. From the year 2011-12 percentage of total Net NPA was continuously increased till 2013-14. Then in 2014-15 there was a decline in the percentage of total Net NPA from 196.58% to 174.42%. Again from the year 2015-16 it has started to increase and in 2018-19 it was on its peak. In next two years (2019-20 & 2020-21) it declined from 4165.58% to 327.91% and 232.70%. The trend percentage of Net advances was increasing throughout the years.

Figure 2

Analysis and Interpretation

The above Table 1 projects the total net NPA to Total Net Advance (NPA ratio) of State Bank of India. It shows that Net NPA ratio in 2011-12 was 1.82% then in 2012-13 and 2013-14 it was continues to increase to 2.1% and 2.57%, but in 2014-15 there was a slight decrease in Net NPA ratio from 2.57% to 2.12%. Then in 2015-16 it again started to increase by 1.69%, in 2016-17 there was a slight decrease of Net NPA ratio to 3.71%. In the year of 2017-18 Net NPA ratio was at its peak which was 5.73%, then from 2018 it started to fall to 3.01% in 2018-2019, 2.23% in 2019-2020, 1.5% in 2020-2021.
The above table shows the total gross NPA to total gross advances ratio of State Bank of India. It shows that Gross NPA ratio in 2011-12 was 4.75% then in 2012-13 and 2013-14 it was continues to increase to 5% and 4.95%, but in 2014-15 there was a slight decline in Gross NPA ratio from 4.95% to 4.25%. Then in 2015-16 it again started to increase by 2.25%, in 2016-17 there was an increase of Gross NPA ratio to 6.9%. In the year of 2017-18 Gross NPA ratio was at its peak which was 10.91%, then from 2018 it started to fall to 7.53% in 2018-2019, 6.15% in 2019-2020, 4.98% in 2020-2021.

### 7. DISCUSSIONS & FINDINGS

As we all know banking system is the backbone of the economy. The banking system is severely affected by NPAs, both public sector and private sector banks are trying to cope up with that. NPA (Non-Performing Assets) of Indian Banks has been increased significantly in past ten years. In India the worst affected sector from NPA (Non-Performing Assets) is Public Sector Banks as compared to private sector banks. Among the major public sector banks, State Bank of India has the highest amount of NPA at over INR 1.21 lakh crore. The ratio of Total Net NPA to Net advanced of State Bank of India recorded highest ratio 10.91 in the year 2017-18. Later it decreased continuously from 2017-18 to 2020-21.

- **Trend percentage of Total Gross NPA**
  - In 2012-13 it was 5%.
  - In 2013-14 it increased to 6.9%.
  - In 2014-15 it declined slightly to 6.15%.
  - In 2015-16 it again increased to 7.53%.
  - In 2016-17 it was 6.9%.
  - In 2017-18 it increased to 8.5%.
  - In 2018-19 it was 7.53%.
  - In 2019-20 it was 6.15%.
  - In 2020-21 it was 4.98%.

- **Trend percentage of Total Gross Advances**
  - In 2012-13 it was 5%.
  - In 2013-14 it increased to 6.9%.
  - In 2014-15 it declined slightly to 6.15%.
  - In 2015-16 it again increased to 7.53%.
  - In 2016-17 it was 6.9%.
  - In 2017-18 it increased to 8.5%.
  - In 2018-19 it was 7.53%.
  - In 2019-20 it was 6.15%.
  - In 2020-21 it was 4.98%.

Many times due to change in government, in the light of political agenda they sometimes waive the loan amount of small farmers and businessmen.

Sometimes people intentionally don’t pay the loan amounts for taking advantages of mentioned political tactics. Due to which NPA continues to increase which ultimately effecting the economy adversely.

As from the above data we found that the Net and Gross advances were continuously increasing in all the years. In every next year advances were higher than the previous year, despite of this the Net and Gross NPA ratio declined two times in last ten years. This happened mainly due to the deliberate increase of provision coverage ratio by SBI. In the year of 2019-20 the profit was up surged by three times and...
also some amount of NPAs were recovered by the SBI as it has reduced its marginal cost of lending rate.

8. SUGGESTIONS

- It is suggested that SBI need to control its provisions towards NPA by taking some precautions for the recovery of the loans
- Bank need to take precautions regarding the credit assessments and should take measures in pre and post-sanction of the loans to avoid slippages and standard assets of NPA.
- The bank should conduct proper internal audit with strict monitoring as the report of RBI (2019) showed that SBI has under reported their NPAs.
- Government should consider economic health of the country while announcing any kind of benefits in favour of common people.

9. CONCLUSION

The banking sector has the most impact on the economy of the country. Therefore maintaining the asset quality in banks is important for the development of bank. NPAs, especially in public sector banks mainly considering SBI are constantly increasing year by year. NPAs are one of the most threatening issue faced by banking sector in the economy. As NPAs are the amount which remains unrecovered and hence unproductive which ultimately affects the profitability of the bank. It is not possible for any bank to maintain zero percent NPA but through an efficient monetary mechanism and controlling measures, bank can reduce the level of NPAs. So, this study recommend to the respective bank officials to take the necessary steps to minimize the NPA and improve recovery mechanism.

10. REFERENCES

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3. https://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=5154#:~:text=A%20'non%20performing%20assets%20of%20public%20sector%20banks%20in%20India%20has%20increased%20year%20by%20year.%20NPAs%20are%20one%20of%20the%20most%20threatening%20issue%20faced%20by%20banking%20sector%20in%20the%20economy.%20As%20NPAs%20are%20the%20amount%20which%20remains%20unrecovered%20and%20hence%20unproductive%20which%20ultimately%20affects%20the%20profitability%20of%20the%20bank.%20It%20is%20not%20possible%20for%20any%20bank%20to%20maintain%20zero%20percent%20NPA%20but%20through%20an%20efficient%20monetary%20mechanism%20and%20controlling%20measures,%20bank%20can%20reduce%20the%20level%20of%20NPAs.%20So,%20this%20study%20recommend%20to%20the%20respective%20bank%20officials%20to%20take%20the%20necessary%20steps%20to%20minimize%20the%20NPA%20and%20improve%20recovery%20mechanism.
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NATURAL ACIDIFIER IMPROVES PLANT GROWTH CHARACTERISTICS AND MICROBIOLOGY IN POTTED ORNAMENTAL PLANTS

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ABSTRACT

Research goal: The aim of this research was to evaluate a natural product with acidifying activity on plant growth and the effects on rhizosphere microfauna in ornamental succulent plants.

Materials and Methods: The experiments, started in July 2021, were conducted in the greenhouses of CREA-OF in Pescia (Pt), Tuscany, Italy (43°54′ N 10°41′ E) on Tacinga imoneana, Euphorbia submammillaris, Marlothistella uniondalensis and Cotyledon ladismithiensis. The experimental groups were: i) group control in peat, irrigated with water and substrate previously fertilized; ii) group control in compost, irrigated with water and substrate previously fertilized; iii) group with organic acidifiers (organic acidifying product by Fertalis srl) in peat irrigated with water and substrate previously fertilized; iv) group with organic acidifiers in compost irrigated with water and substrate previously fertilized.

Results and Discussion: The trial showed a significant improvement in the agronomic parameters analysed on Tacinga imoneana, Euphorbia submammillaris, Marlothistella uniondalensis and Cotyledon ladismithiensis plants treated with an organic acidifier. In particular, there was an increase in plant height, vegetative and roots weight, flowers number and life. In addition, the experiment showed that in theses treated with the organic acidifier, there was a pH lowering and a significant increase in the substrate microfauna.

Conclusions: According to the results obtained in this study, the application of a natural acidifier in peat-based substrate or compost can be useful for increasing plant productivity and soil microbiology.

KEY-WORDS: sustainable agriculture, beneficial microorganisms, plant interactions, succulent plants, substrate microbiology, organic acidifier, alkaline soil

INTRODUCTION

Alkaline soils, characterised by high amounts of exchangeable sodium and a pH above 8.5, contain sodium carbonate and sodium bicarbonate to a greater or lesser extent. The formation of these salts can be explained in various ways, each of which has its own significance and importance in the different conditions encountered during cultivation: i) in the presence of moist soils with specific bacteria and alterable organic matter, sodium sulphate is reduced to sulphide, which in the presence of water and carbon dioxide, is transformed into carbonate; ii) certain plants that accumulate cations, especially sodium, can contribute to the alkalisation of the soil [1]. The formation of alkaline carbonates occurs from their residues following mineralisation. Some chemical fertilisers tend to raise the pH of the soil, but their action does not lead to decisive effects, given the relatively small quantities that are commonly used [2]. Through irrigation, large quantities of salts can reach the soil, which, depending on their composition, can contribute decisively to the alkalisation of the soil [3]. The properties of alkaline soils vary considerably depending on the environmental situation and their stage of evolution. The basic characteristics that distinguish them are: a low electrical conductivity, a high percentage of exchangeable sodium and the presence of sodium carbonate and bicarbonate [4]. One of the most important factors on which the mineral nutrition of plants in alkaline soils depends is the high percentage of exchangeable sodium, which affects the amount of other cations, both exchangeable and in solution. Calcium, because of its strong affinity for colloid surfaces and the fact that it precipitates easily as a carbonate, is sometimes present in soil solutions in such low concentrations that it cannot fully satisfy the physiological needs of plants: the uptake of magnesium and potassium is also hampered by high amounts of sodium [5]. The presence of the carbonate ion, of high concentrations of hydroxyl and sometimes borate ions, exerts a specific toxic action on crops. The most serious drawbacks for plant growth are to a large extent indirect actions: high alkalinity causes...
first of all the complete insolubilisation of iron, copper and manganese; iron deficiency is manifested by chlorosis of the leaves, a phenomenon that is also commonly observed in calcareous soils. Microbial activity is greatly depressed by high alkalinity, with adverse consequences on all the chemical, physical and nutritional characteristics of the soil [6]. The great compactness of the soil, as well as hindering the development of the root system, causes hydromorphic conditions, resulting in a lack of oxygen necessary for microbial and root respiration. Most crops show symptoms of intolerance at ESP (Degree of Sodium Saturation of the Exchange Complex) values between 10 and 15, while they stop growing completely at values above 50. Most pome and stone fruit, walnut, tobacco and beet tolerate ESP values up to 60. Spontaneous vegetation can tolerate even higher values, but is very sparse, both in number of species and in vegetative development, and in extreme cases may be absent altogether [7,8].

**Regulating Methods for the alkalinity soils**

The basic principle underlying the correction of alkaline soils is the decomposition of sodium carbonate and the removal of exchangeable sodium, through the use of correctives. A number of compounds are suitable for this purpose. The most frequently used compound is gypsum, firstly because of its relatively low cost and also because, despite its poor solubility, it has proved to be very effective [9]. The correction leads to a considerable lowering of the pH, since sodium sulphate is a practically neutral salt and the other compounds give the soil a pH similar to that of calcareous soils, i.e. no higher than 8.5. The replacement of sodium by calcium on the colloids leads to a considerable improvement in the nutrient capacity and structural condition of the soil. Sulphur compounds with a low oxidation number can also be used successfully to remove sodium and correct alkalinity [10]. The use of sulphur and other compounds that are oxidised by microorganisms to sulphuric acid. In cultivated soils undergoing alkalisation, the use of acidifying fertilisers or fertilisers with corrective action, such as superphosphate, which contains high amounts of calcium sulphate, is recommended [11]. After the addition of the corrective fertilisers, water must be added to bring the fertilisers into solution, to allow the chemical reactions to take place, and also to facilitate the leaching of the salts formed and any salts already present in the soil. The leaching of alkaline soils is a very difficult problem, due to their low permeability and the frequent presence of surface water tables, which hinder the removal of drainage water. In many areas of the earth's surface there are large expanses of saline and alkaline soils in which crops cannot grow or give low yields [12]. Until now, the use of these soils has been based on improving them by means of hydraulic and agronomic measures and the use of chemical correctives, i.e. following the concept of adapting the soil to the plants [13]. In fact, plant life is not incompatible with salinity, and this is confirmed by the observation of spontaneous plants in saline and alkaline soils, and those in the marine environment. Starting from this principle, research is directed towards the creation of new plant varieties and the search for new methods and products with a low environmental impact that can reduce the pH and improve the microbial activity of soils [14].

**OBJECTIVES**

The aim of this research was to evaluate a natural product with acidifying activity on plant growth and the effects on rhizosphere microfauna in ornamental succulent plants.

**Figure 1 - Particulars of Tacinga imoneana (A), Cotyledon ladismithiensis (B), Marlothistella uniodalensis (C) and Euphorbia submammillaris (D) flowers**

**MATERIAL AND METHODS**

The experiments, started in July 2021, were conducted in the greenhouses of CREA-OF in Pescia (Pt), Tuscany, Italy (43°54′N 10°41′E) on Tacinga imoneana (Figure 1A), Euphorbia submammillaris (Figure 1B), Marlothistella uniodalensis (Figure 1C) and Cotyledon ladismithiensis (Figure 1D). The plants were placed in ø 12 cm pots; 30 plants per thesis, divided into 3 replicates of 10 plants each. All plants were fertilized with a controlled release fertilizer (2 kg m−3 Osmocote Pro®, 9-12 months with 190 g/kg N, 39 g/kg P, 83 g/kg K) mixed with the growing medium before transplanting. The experimental groups were:

- Group control in peat (CTPE) (peat 50% + pumice 50%, pH 6.5), irrigated with water and substrate previously fertilized;
- Group control in compost (CTCO) (green compost 50% + pumice 50%, pH 8), irrigated with water and substrate previously fertilized;
- Group with organic acidifiers (Organic acidifying product by Fertalits sr) in peat (ACPE) (peat 50% + pumice 50%) irrigated with water and substrate previously fertilized, dilution product 1% in water, treatment every 15 days (20 ml per plant);
- Group with organic acidifiers in compost (ACCO) (green compost 50% + pumice 50%) irrigated with water and substrate previously fertilized, dilution 1% in water, treatment every 15 days (20 ml per plant);

The plants were watered 2 times a week and grown for 7 months. The plants were irrigated with drip irrigation. The irrigation was activated by a timer whose program was adjusted weekly according to climatic conditions and the
fraction of leaching. On February 7, 2022, plants height, vegetative and roots weight, flowers number and life, substrate microbial count, pH of substrate were analyzed.

**Analysis methods**
- pH: for the pH measurement 1 kg of substrate was taken from each thesis, 50 g of the mixture was placed inside a beaker with 100 ml of distilled water. After 2 hours the water was filtered and analysed [15];
- microbial count: direct determination of total microbial charge by microscopy of cells contained in a known volume of sample through the use of counting chambers (Thoma chamber). The surface of the slide is etched with a grid of squares of which the area of each square is known. Determination of viable microbial load following serial decimal dilutions, spatula seeding (1 ml) and plate counts after incubation [15];
- Analysis equipment: IP67 PHmeter HI999 series – Hanna instruments; Combined test kit for soil analysis - HI3896 - Hanna instruments; microbial diversity of culturable cells [15].

**Statistical Analysis**

The experiment was carried out in a randomized complete block design. Collected data were analysed by one-way ANOVA, using GLM univariate procedure, to assess significant ($P \leq 0.05$, 0.01 and 0.001) differences among treatments. Mean values were then separated by LSD multiple-range test ($P = 0.05$). Statistics and graphics were supported by the programs Costat (version 6.451) and Excel (Office 2010).

**RESULTS AND DISCUSSION**

The trial showed a significant improvement in the agronomic parameters analysed on plants of *Tacinga imoneana*, *Euphorbia submammillaris*, *Marlothiella uniondalensis*, *Cotyledon ladismithiensis* treated with an organic acidifier. In particular, there was an increase in plant height, vegetative and roots weight, flowers number and life. In addition, the experiment showed that in theses treated with the organic acidifier, there was a pH lowering and a significant increase in the substrate microfauna.

In (Table 1), in *Marlothiella uniondalensis* there was a significant increase in plant height in (ACPE) with 7.41 cm compared to 6.72 cm in (CTPE), 6.06 cm in (CTCO) and 5.79 cm in (ACCO). Regarding vegetative weight, the (ACPE) thesis was the best with 59.05 g, followed by (CTPE) with 56.73 g, (ACCO) 54.67 g and (CTCO) with 52.84 g. The same trend for roots where (ACPE) showed a weight of 48.06 g, (CTPE) 45.61 g, (ACCO) 44.09 g and (CTCO) with 43.25 g. The number of microbial colonies in the substrates treated with organic acid also increased, namely $1.40 \times 10^2$ (ACCO) and $8.85 \times 10^2$ (ACPE), compared with $3.80 \times 10^2$ (CTCO) and $3.13 \times 10^2$ (CTPE).

In (Table 2), in *Cotyledon ladismithiensis* there was a significant increase in plant height in (ACPE) with 27.65 cm compared to 24.08 cm in (CTPE) and 23.49 cm in (ACCO) and 21.24 cm in (CTCO). Regarding vegetative weight, the (ACPE) thesis was the best with 59.06 g, followed by (CTPE) with 55.93 g, (ACCO) 54.44 g and (CTCO) with 52.80 g (Figure 3A). The same trend for roots where (ACPE) showed a weight of 47.52 g, (CTPE) 43.67 g and finally (ACCO) with 42.94 g and (CTCO) with 39.86 g. In terms of flowers number, (ACPE) was the best thesis with 6.00, followed by (CTPE) with 4.60 and (ACCO) with 3.80, finally (CTCO) with 2.80 (Figure 3B). In *Cotyledon ladismithiensis*, the thesis (ACPE) was also the one where flowers lasted the longest with 5.60 days, compared to 4.80 in (CTPE) and 4.20 in (ACCO) respectively and finally (CTCO) 3.40. There was also a reduction in pH in the organic acid treated theses, 5.88 (ACPE) and 7.04 (ACCO), compared to 6.54 (CTPE) and 8.04 (CTCO). The number of microbial colonies in the substrates treated with organic acid also increased, namely $1.40 \times 10^2$ (ACCO) and $8.85 \times 10^2$ (ACPE), compared with $3.80 \times 10^2$ (CTCO) and $3.13 \times 10^2$ (CTPE).

In (Table 3), in *Tacinga imoneana* there was a significant increase in plant height in (ACPE) with 36.98 cm compared to 32.88 cm in (CTPE) and 32.35 cm in (ACCO) and 30.48 cm (CTCO). Regarding vegetative weight, the (ACPE) thesis was the best with 48.86 g, followed by (CTPE) with 45.61 g, (ACCO) 44.09 g and (CTCO) with 43.25 g. The same trend for roots where (ACPE) showed a weight of 39.86 g, (CTPE) 38.81 g and finally (ACCO) with 37.58 g and (CTCO) with 35.77 g (Figure 4). In terms of flowers number, (ACPE) was the best thesis with 12.60, followed by (CTPE) with 9.40 and (ACCO) with 7.20, finally (CTCO) with 5.80. In *Tacinga imoneana*, the thesis (ACPE) was also the one in which flowers lasted the longest with 6.80 days, compared to 5.20 in (CTPE) and 5.00 in (ACCO) respectively and finally (CTCO) 4.20. As with the other plant species, *Tacinga imoneana* also showed a reduction in pH in the theses treated with organic acid, 5.76 (ACPE) and 7.06 (ACCO), compared with 6.54 (CTPE) and 8.02 (CTCO). The number of microbial colonies in the substrates treated with organic acid also increased, 1.48 $\times 10^3$ (ACCO) and 7.98 $\times 10^2$ (ACPE), compared with 5.56 $\times 10^2$ (CTCO) and 4.68 $\times 10^2$ (CTPE).

In (Table 4), in *Euphorbia submammillaris* there was a significant increase in plant height in (ACPE) with 37.06 cm compared to 34.95 cm in (CTPE) and 33.29 cm in (ACCO) and 32.73 cm in (CTCO). Regarding vegetative weight, the (ACPE) thesis was the best with 45.79 g, followed by (CTPE) with 42.14 g, (ACCO) 41.85 g and (CTCO) with 40.71 g (Figure 5). The same trend for roots where (ACPE) showed a weight of 39.27 g, (CTPE) 36.06 g and finally (ACCO) with 34.77 g and (CTCO) with 33.21 g. In terms of flowers number, (ACPE) was the best thesis with 33.60, followed by (CTPE) with 24.20 and (ACCO) with 24.20, finally (CTCO) with 24.20. In *Euphorbia submammillaris*, the thesis (ACPE) was also the one where flowers lasted the longest with 4.40 days, compared to 3.20 in (CTPE) and (ACCO) respectively.
Organisms - based substrate, on reducing pH and valuation of (P = 2).

ell known that microbial activity in the soil, as already absorbed by the roots and improve 

ACCO: 

ACPE: 

Soil Acidity and Micro-Organisms

The increase in world population has made it necessary to improve the productivity of agricultural land throughout the world. To this end, increasing, protecting and maintaining soil fertility is one of the most important management practices concerning sustainability. Alkaline soils generally tend to lack organic matter and available nitrogen, especially in arid and semi-arid areas [16]. The high pH and increased calcium content of the soil makes phosphorus insoluble, while potassium and magnesium can be antagonistic. Zinc and iron deficiency can also limit agricultural production. Worldwide, most farmers tend to use inorganic fertilisers to try to maintain or increase soil fertility. However, these production techniques are not sustainable due to the problems of groundwater pollution caused by incorrect fertilisation[17]. The uncontrolled use of fertilisers has also led to the accumulation of heavy metals in soils. It is therefore necessary to evaluate suitable strategies to improve soil fertility and reduce the use of excessive synthetic chemicals [18,19]. One of the possible solutions, for example, would be the possible use of products of organic origin capable of improving the state of the soil, reducing the pH and favouring the development of microbial consortia that can improve plant growth and defence [15]. It is well known that microbial activity in the soil, as already shown in various experiments in horticulture and floriculture, can positively influence the uptake of water and nutrients by the roots and increase resistance to various biotic and abiotic stresses [20,21,22]. In this experiment, in particular, the positive effect of an organic acidifier, used above ground on a peat and compost-based substrate, on reducing pH and increasing the presence and activity of microbes in the rhizosphere was highlighted. The trial also showed how a natural acidifying product can bring about a significant improvement in the agronomic parameters of the plants, probably linked to the microbial activity in the substrates. The plants that grew the most were those grown in substrates where the microbial presence was greatest. It was also interesting to note that plants treated with the organic acidifier had a greater number of flowers and an increase in flower life, which was undoubtedly linked to a greater availability of nutrients absorbed by the roots and linked to the activity of the microfauna. Another aspect highlighted was the reduction in compaction and increased porosity of the substrate, which increased the habitability of the roots and improved plant-soil interactions. All this generates stability in the agro-ecosystem, since a rich and structured soil biodiversity favours regular plant activity even under conditions of environmental stress [23].

Table 1 - Evaluation of organic acidifier on agronomic and substrate characters on Marlothistella uniondalensis

<table>
<thead>
<tr>
<th>Groups</th>
<th>Plant height (cm)</th>
<th>Vegetative weight (g)</th>
<th>Roots weight (g)</th>
<th>Flowers number (n°)</th>
<th>Flowers life (days)</th>
<th>pH</th>
<th>Microbial count (cfu/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTPE</td>
<td>6.72 b</td>
<td>56.73 b</td>
<td>45.01 b</td>
<td>23.20 b</td>
<td>3.20 b</td>
<td>6.52 c</td>
<td>2.62 x 10⁴ d</td>
</tr>
<tr>
<td></td>
<td>5.79 c</td>
<td>52.84 d</td>
<td>43.02 c</td>
<td>20.60 c</td>
<td>2.20 c</td>
<td>8.04 a</td>
<td>5.23 x 10⁵ c</td>
</tr>
<tr>
<td>CTCO</td>
<td>7,41 a</td>
<td>59.05 a</td>
<td>48.06 a</td>
<td>30.40 a</td>
<td>4.20 a</td>
<td>5.78 d</td>
<td>8.33 x 10² b</td>
</tr>
<tr>
<td>ACPE</td>
<td>54.67 c</td>
<td>43.95 c</td>
<td></td>
<td>23.00 b</td>
<td>2.40 c</td>
<td>7.50 b</td>
<td>1.27 x 10⁵ a</td>
</tr>
<tr>
<td>ACCO</td>
<td>6.06 c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One-way ANOVA; n.s. – non significant; ***,*** – significant at P ≤ 0.05, 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey’s (HSD) multiple-range test (P = 0.05).Legend: (CTPE): control in peat; (CTCO): control in compost; (ACPE): organic acidifiers in peat; (ACCO): organic acidifiers in green compost
### Table 2 - Evaluation of organic acidifier on agronomic and substrate characters on *Cotyledon ladismithiensis*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Plant height (cm)</th>
<th>Vegetative weight (g)</th>
<th>Roots weight (g)</th>
<th>Flowers number (n°)</th>
<th>Flowers life (days)</th>
<th>pH</th>
<th>Microbial count (cfu/g)</th>
</tr>
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<td>CTPA</td>
<td>24.08 b</td>
<td>55.93 b</td>
<td>43.67 b</td>
<td>4.60 b</td>
<td>4.80 b</td>
<td>6.54 c</td>
<td>3.13 x 10^2 d</td>
</tr>
<tr>
<td>CTCO</td>
<td>21.24 c</td>
<td>52.80 d</td>
<td>39.86 d</td>
<td>2.80 d</td>
<td>3.40 c</td>
<td>8.04 a</td>
<td>3.80 x 10^2 c</td>
</tr>
<tr>
<td>ACPE</td>
<td>27.65 a</td>
<td>54.44 c</td>
<td>42.94 c</td>
<td>3.80 c</td>
<td>4.20 b</td>
<td>7.04 b</td>
<td>1.40 x 10^3 a</td>
</tr>
<tr>
<td>ACCO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One-way ANOVA; n.s. – non significant; **,**,**,** – significant at P ≤ 0.05, 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey’s (HSD) multiple-range test (P = 0.05).

Legend: (CTPE): control in peat; (CTCO): control in compost; (ACPE): organic acidifiers in peat; (ACCO): organic acidifiers in green compost

### Table 3 - Evaluation of organic acidifier on agronomic and substrate characters on *Tacinga imoneana*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Plant height (cm)</th>
<th>Vegetative weight (g)</th>
<th>Roots weight (g)</th>
<th>Flowers number (n°)</th>
<th>Flowers life (days)</th>
<th>pH</th>
<th>Microbial count (cfu/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTPA</td>
<td>32.88 b</td>
<td>45.61 b</td>
<td>38.81 b</td>
<td>9.40 b</td>
<td>5.20 b</td>
<td>6.54 c</td>
<td>4.68 x 10^2 d</td>
</tr>
<tr>
<td>CTCO</td>
<td>30.48 c</td>
<td>43.25 c</td>
<td>35.77 d</td>
<td>5.80 d</td>
<td>4.20 c</td>
<td>8.02 a</td>
<td>5.56 x 10^2 c</td>
</tr>
<tr>
<td>ACPE</td>
<td>36.98 a</td>
<td>44.09 c</td>
<td>37.58 c</td>
<td>7.20 c</td>
<td>5.00 b</td>
<td>7.06 b</td>
<td>1.48 x 10^3 a</td>
</tr>
<tr>
<td>ACCO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One-way ANOVA; n.s. – non significant; **,**,**,** – significant at P ≤ 0.05, 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey’s (HSD) multiple-range test (P = 0.05).

Legend: (CTPE): control in peat; (CTCO): control in compost; (ACPE): organic acidifiers in peat; (ACCO): organic acidifiers in green compost

### Table 4 - Evaluation of organic acidifier on agronomic and substrate characters on *Euphorbia submammillaris*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Plant height (cm)</th>
<th>Vegetative weight (g)</th>
<th>Roots weight (g)</th>
<th>Flowers number (n°)</th>
<th>Flowers life (days)</th>
<th>pH</th>
<th>Microbial count (cfu/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTPA</td>
<td>34.95 b</td>
<td>42.14 b</td>
<td>36.06 b</td>
<td>26.60 b</td>
<td>3.20 b</td>
<td>6.58 c</td>
<td>5.20 x 10^2 d</td>
</tr>
<tr>
<td>CTCO</td>
<td>32.73 d</td>
<td>40.71 c</td>
<td>32.21 d</td>
<td>24.20 d</td>
<td>2.60 b</td>
<td>8.10 a</td>
<td>5.89 x 10^2 c</td>
</tr>
<tr>
<td>ACPE</td>
<td>37.06 a</td>
<td>41.85 b</td>
<td>34.77 c</td>
<td>25.40 c</td>
<td>3.20 b</td>
<td>7.04 b</td>
<td>1.34 x 10^3 a</td>
</tr>
<tr>
<td>ACCO</td>
<td>33.29 c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One-way ANOVA; n.s. – non significant; **,**,**,** – significant at P ≤ 0.05, 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey’s (HSD) multiple-range test (P = 0.05).

Legend: (CTPE): control in peat; (CTCO): control in compost; (ACPE): organic acidifiers in peat; (ACCO): organic acidifiers in green compost
Figure 2 - Comparison between control in peat (CTPE) and treatment with organic acidifiers in peat (ACPE) on growth and flowering of *Marlothiella uniondalensis*.

Figure 3 - Comparison between control in green compost (CTCO) and treatment with organic acidifiers in green compost (ACCO) on growth (A) and flowering (B) of *Cotyledon ladismithiensis*.

Figure 4 - Comparison between control in peat (CTPE) and treatment with organic acidifiers in peat (ACPE) on vegetative and roots growth of *Tacinga imoneana*. 
CONCLUSION

According to the results obtained in this study, the application of a natural acidifier in peat-based substrate or compost can be useful for increasing plant productivity and soil microbiology. The substrate pH decreased and promoted increased plant growth and flowering. All treatments with organic acidifier resulted in increased vegetative and root growth of the plants, probably because they influence the organic carbon content of the substrate and the development of beneficial microbial consortia. The organic acidifier can therefore be useful not only to lower the pH of soils and substrates, but can improve microbial activity with repercussions on plant quality. Micro-organisms not only regulate the uptake of nutrients and water by the roots, but are also crucial in increasing the plants’ resistance to biotic and abiotic stresses. A further trial is currently underway to evaluate the organic acidifier on the germination and cultivation of potted vegetable plants.

Acknowledgments

The research is part of the project "COVES“: “Corrective of soil matrix in alkaline organic substrates for the cultivation of cacti and ornamental succulents”. Thanks to Fertalis srl for their cooperation in the trial.

Conflicts of interest

The authors declare that they have no conflict of interest

REFERENCES


Figure 5 - Comparison between control in green compost (CTCO) and treatment with organic acidifiers in green compost (ACCO) on vegetative and roots growth of Euphorbia submammillaris


INFORMATION SEEKING BEHAVIOR OF UNIVERSITY STUDENTS: A STUDY ON SELECTED UNIVERSITIES OF ASSAM

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¹Student, Dibrugarh University, Assam
²Student, Dibrugarh university, Assam

ABSTRACT
Every person has its own information needs and their own way of finding information. Their information needs varies depending upon their age, profession, field of study, culture, geographic location. In this regards library of any types plays a vital role in giving a direction to the users to reach at their desired destination of information search. The present study mainly deals with the information seeking behaviour of user of university libraries. The study is carried out in six universities of Assam. Questioner has been distributed randomly among the users, their responses has been collected, tabulated and interpreted accordingly.

KEYWORDS: Information seeking behaviour, Information needs, University students, University library, Assam.

1. INTRODUCTION
Information is one of the most important assets in 21st century. It is a fundamental and indispensable resource which is required in every sphere of human civilization. The human need for information is unlimited and varies accordingly. People use information for understanding a phenomenon, to run a machine, to do research, developing a new technology, to understand a existing technology, for decision making etc. Information needs of people varies from person to person a student needs information to prepare his study notes, to prepare for exams, complete projects and assignments, a researcher needs information to carry out his research work, discover new things, to understand existing things, to keep himself up to date, a teacher will need information to know about different teaching techniques, to prepare his teaching plan etc. There is no one who doesn’t need information whether he is teacher, student, farmer, homemaker, scientist, or engaged in any other profession. Since there seems diversity in information need so as in information seeking behaviour. Here libraries of all types plays an important role in fulfilling the information needs of their users. It provides the right information to the right uses at the right time. Since the information seeking behaviour of people varies so libraries should always try to meet the information need of each type of individual in regards to the parent organization to whom it is attached.

2. LITERATURE REVIEW
Purnima (2005) in her work “Information Needs in Higher Education: A Study of College Faculties in Manipur” ascertained the information needs of college and university faculties. Survey revealed that majority of the college faculty members needed information for academic work, whereas university faculty members needed information to update knowledge and for research work. Padmini, K (2006) highlights information literacy competency in the present day context and its immense importance among the academic as well as non- academic users. Krishnan.G(2008) in his survey conducted to examine the information needs and information use pattern of the academicians of seven institutes of fashion technology in India. Authors suggested having functional and effective collection development programme to meet information needs of users and need to popularize the less used services to ensure their optimum utilization, conduct regular user education programmes, acquire both print and non-print material, move towards digitalization, etc. Meenakshi (2007) in the article “use and usage of information resources in government college libraries of Chandigarh: A study” discusses uses and usage of information resources in government college libraries of Chandigarh. She highlights the focal issues of the
college going students and their information seeking behaviour along with the changing perspectives among the teachers of the colleges under study.

3. **OBJECTIVE OF THE STUDY**

The main objective of the study is to examine the information seeking behaviour of user of university library. The present study is based on the following general objective:

1. To understand the information seeking behaviour of users of university libraries
2. To examine the method of information seeking by those users
3. To identify the library resources used by them
4. To identify the problem faced by them while seeking information

4. **RESEARCH METHODOLOGY**

For the present study data has been collected from the library users of 6 universities of Assam. Simple random method has been used and questioner is used as a tool for data collection. Questioner was prepared and distributed randomly among the users. After collecting the questioners from the respondents their responses were noted, their frequency calculated and tabulated accordingly.

5. **DISCUSSION**

5.1. **Universities Under Study**

For the present study 6 universities of Assam has been selected. The libraries of these universities are acquainted with libraries having good collection of printed and non printed collection with ICT infrastructure. The name of the universities, their year of establishment and name of the libraries are provided in the following table-

<table>
<thead>
<tr>
<th>S.No</th>
<th>University name (Abbreviation)</th>
<th>Establishment year</th>
<th>Name of the library</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gauhati University (GU)</td>
<td>1948</td>
<td>K.K Handiqui library</td>
</tr>
<tr>
<td>2</td>
<td>Assam Agricultural University (AAU)</td>
<td>1969</td>
<td>Rev. B.M Pugh University library</td>
</tr>
<tr>
<td>3</td>
<td>Dibrugarh University (DU)</td>
<td>1965</td>
<td>LNB library</td>
</tr>
<tr>
<td>4</td>
<td>Tezpur University (TU)</td>
<td>1994</td>
<td>Central Library, TU</td>
</tr>
<tr>
<td>5</td>
<td>Kaziranga University (KU)</td>
<td>2012</td>
<td>Central Library KU</td>
</tr>
<tr>
<td>6</td>
<td>Assam Women University (AWU)</td>
<td>2013</td>
<td>Central Library AWU</td>
</tr>
</tbody>
</table>

5.2. **Respondents Profile**

Altogether 180 questioner has been distributed among the users of library in six above mentioned universities. Out of 180, 147 responses has been received from the users. Number of responses received from users is shown in the table given below

<table>
<thead>
<tr>
<th>University</th>
<th>No. Of Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>GU</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>AAU</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>DU</td>
<td>49</td>
<td>27</td>
</tr>
<tr>
<td>TU</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>KU</td>
<td>21</td>
<td>14</td>
</tr>
<tr>
<td>AWU</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
<td>100</td>
</tr>
</tbody>
</table>

Table No.2 and Figure no 1 shows the number of responses received from the library users from the university under studied. It is apparent from the table that total 147 responses has been received. Out of the six universities highest number of responses has been received from DU which is 27% followed by TU, GU, KU, AAU and lowest response has been received from AWU i.e. 10%.
5.3. Library Visit Pattern

Table No. 3 Library Visit pattern of Users

<table>
<thead>
<tr>
<th>Library visit pattern</th>
<th>No. Of respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>63</td>
<td>42</td>
</tr>
<tr>
<td>Weekly</td>
<td>47</td>
<td>31</td>
</tr>
<tr>
<td>Monthly</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Irregular</td>
<td>25</td>
<td>17</td>
</tr>
</tbody>
</table>

Table No. 3 represents the visiting pattern of respondent to the library. It can be noted from the table that most of the respondent visits the library on daily basis. Number of respondent that visits library daily is 63 in number, i.e. 42%. Percentage of respondent who visits library weekly and monthly is 31% and 8% respectively. 17% of the respondent are irregular in visiting library.
5.4. Purpose of seeking Information by users

The users of university library visits library and seeks information for various purposes such as for preparing class notes, preparing for competitive exams, reading newspaper, research purpose etc. The following table ranks the purpose of seeking information by users according to the responses received. The respondent were asked to ranked the option into and multiple responses were allowed.

Table No. 4 Information seeking purpose

<table>
<thead>
<tr>
<th>S.No</th>
<th>Information seeking purpose</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preparing class notes</td>
<td>89</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Preparation for competitive exam</td>
<td>77</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>Reading newspaper</td>
<td>57</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Research purpose</td>
<td>42</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
<td>29</td>
<td>9</td>
</tr>
</tbody>
</table>

It is shown in the table no.4 that majority of users 89 (30%) visits library for the purpose of preparing class notes. 77 respondents (26%) visit library for the preparation of competitive exams. 57 respondents visits library for reading newspapers. Respondents who visits library for research purpose is 42 in number (14%). 29(9%) responses that came from users shows that they visits library for various other purposes. It is clear from the figure 3 that maximum respondent (30%) visits library for preparing class notes and 9% which is least among all the categories visits library for other purpose.
5.5. Information seeking methods

Library users adopt various strategies for finding desired information among them access to online materials, taking help from library staff, using OPAC, indexing and abstracting journals, library catalogues are common. The respondent are asked to ranked these methods of seeking information and the responses are tabulated accordingly.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Method of information seeking</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Online access</td>
<td>94</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>Taking help from library staff</td>
<td>77</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>OPAC</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>Indexing and abstracting journal</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Library catalogue</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>36</td>
<td>12</td>
</tr>
</tbody>
</table>

It can be noted from the table no. 5 that most of the respondents i.e 94 (33%) goes for online access while seeking information. 77 respondents(27%) takes help from library staff, 38 respondents(13%) uses OPAC, 29 respondents(10%) seeks for indexing and abstracting journals, 36 (12%) seeks information from other sources and only 2% of users uses library catalogue to seek information.
5.6. Library resources
Various resources available in library includes books, journals and periodicals, e-resources, newspaper, theses and dissertation, CD Rom, various types of online resources. The following table ranks the resources used by the library users according to the responses received.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Resources</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Book</td>
<td>89</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>Online resources</td>
<td>82</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>E- resources</td>
<td>75</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Newspaper</td>
<td>53</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>Journals</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Thesis/dissertation</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>CD Rom</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Other</td>
<td>11</td>
<td>3</td>
</tr>
</tbody>
</table>

Table No. 6 shows the preferences on resources of library users. The maximum number of users i.e. 89(23%) prefers books over all other resources followed by online resources 82(21%), E- resources 75(19%), Newspaper 53(13%), journals 39(10%), thesis and dissertation 30(7%), others sources 11(3%) and CD Rom 6(1%) which is least prefered by the users.
5.7. Problem faced while seeking information

Table No. 7 Problems faced while seeking information

<table>
<thead>
<tr>
<th>S.No</th>
<th>Problem faced</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Poor Internet facility</td>
<td>84</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>Lack of knowledge regarding search strategy</td>
<td>77</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Lack of relevant text</td>
<td>54</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Lack of scholarly journal</td>
<td>42</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>Unwillingness of library staff</td>
<td>26</td>
<td>9</td>
</tr>
</tbody>
</table>

Table No. 7 shows various types of problems faced while seeking information by users. It can be noted that most of the responses 84 (29%) that came from respondents shows poor internet facility as one of the main problem faced while seeking information. 77(27%) choose lack of knowledge regarding search strategy followed by Lack of relevant text 54(19%), 42(15%) responses came for unavailability of scholarly journals, and 26(9%) responses for unwillingness of library staff.
6. FINDINGS
From the analysed data following findings can be made-

1. Purpose of information seeking
The main purpose of information seeking by the library user is to prepare class notes which is preferred by 30% of the respondents.(table no.4)

2. Methods used for seeking information
Study shows that maximum users 94(33%) prefers online resources as a method for seeking information.(table no.5)

3. Most preferred library resource
It is found that Books stands in the number 1 rank of preference list of library resources which is preferred by 89(23%) respondents. (table no.6)

4. Problem faced while seeking information
It can be concluded from the study that poor internet facility is one of the main problem faced by most of library users 84(29%) while seeking information. (table no.7)

7. CONCLUSION
The information need of people varies from person to person according to their age, in regards of their educational background, field of study, area of interest etc. As the utmost goal of the libraries should be to provide right information to the right user at the right time so it should always try to identify the needs of users and to provide them with all the required information.

As of the present study which is mainly concerned with information seeking behaviour of the users of university library it is seen that users of university library mainly visits the library for seeking resources or information to prepare their class notes followed by preparing for competitive exams, research works, reading newspapers. So it is the responsibility of the library to provide them with all the required information without any constrains. It is can be concluded from the study that most of the users preferred online resources for seeking information so the library authority should ensure whether internet is working properly or not. Online resources has became an important and vital part of our information need so libraries should try to incorporate proper infrastructure and training to both the staff and users on using online resources so that information seeking process of the user did not get hampered due to lack of knowledge.

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A STRUCTURAL EQUATION MODEL OF COMMUNICATIVE COMPETENCE IN FILIPINO

Arcel W. Gacasan, PhD¹, Elleine Rose A. Oliva, EdD²

ABSTRACT

This study aims to determine the model more appropriate for teachers' communicative ability. This study focuses on the relationship between teachers' beliefs, instructional practices, and teachers' oral skills related to teachers' communicative ability in Filipino. The research employed quantitative design and structural equation modeling. Following an expert's validation and approval of the questionnaire, tabulation, analysis, and data translation were immediately performed. Additionally, performing data interpretation using the mean, standard deviation, Pearson product-moment correlation coefficient, multiple regression, and structural equation model. Around 400 participants were recruited using data from Region XI's ten public secondary school divisions. The study discovered that all independent and non-independent variables and their indicators achieved the highest level of descriptiveness. Thus, a significant correlation exists between teachers' beliefs, instructional practices, oral proficiency, and communicative competence. The study's findings indicate that the fifth model is more appropriate for teachers' communicative competence in the Filipino language.

KEYWORDS: education, communicative competence, instructional practices, belief, oral proficiency, regression, structural model, Philippines

INTRODUCTION

There is no denying that it is critical to have effective communication skills because they serve as a conduit for mutual understanding. However, there will always be a challenge in developing teachers' communicative competence in education. Fluency in communication refers to an understanding of the grammar of syntax, morphology, phonology, and social knowledge about how and when to use words appropriately (Yufrizal 2017). According to one study, Kenya faces a problem in which most students are unable to communicate and cannot speak English directly without using code-switching. Additionally, the study discovered differences in teachers' use of activities within the classroom, such as discussion, which was the most frequently used strategy, compared to oral tests. Code-switching frequently occurs as a result of students' inability to communicate effectively. After all, teachers do not use the actual language spoken in the classroom, contributing to the students' low communicative ability. (2014) (Gudu).

The ability to communicate implies that communication is a critical aspect of a person's life. This ability can be expressed verbally, in writing, or even non-verbally. It is an all-inclusive term that refers to language knowledge and the ability to use it in real-world situations to meet communication requirements. According to numerous researchers, language is a mode of communication that consists of four fundamental skills: listening, speaking, reading, and writing. To acquire these language skills, one must understand the grammar rules and practice them until they become second nature. When an individual acquires language skills and can apply them effectively and appropriately in the context in which he or she is working, we can say that the individual has attained the required level of communicative ability. (2018) (Ahmer and Pawar).

Teachers' beliefs are critical components of language learning. According to one study, teachers' beliefs are disregarded, their teaching methodology is frequently impacted. The teacher who adopts new reforms or instructional methods most likely simplifies teaching. Just as in Iran, where the process of developing new teaching methods has been neglected, teaching grammar has become the norm for many years. Teachers' beliefs are potentially beneficial for successful language teaching, particularly in developing a student's communicative abilities (Tootkaboni, 2019). There is no definitive structural standard model for communicative ability at the local level. The researcher has not yet come across a study examining teachers' beliefs, instructional practices, oral abilities, and model approaches to communicative ability in the Philippines' Region XI. Its content implies that teachers' beliefs, instructional practices, and oral skills can serve as a model approach to communicative competence, providing readers with the knowledge and a focus for learning and possibly facilitating the development of planned interventions to foster the ability to communicate with each individual for the benefit of society, school, teachers, and students.

In this regard, the researcher will diligently conduct research to ascertain the source of the existing problem and thus address it immediately.
RESEARCH OBJECTIVES
This study aimed to develop the most appropriate model on communicative competence in the Filipino language to beliefs, instructional practices, and oral proficiency. In this regard, the researcher wants to answer the following specific objective:

1. Determine the level of belief of Filipino teachers in secondary schools based on:
   1.1 role and contribution of students;
   1.2 accuracy to inaccuracy and analysis;
   1.3 role and importance of grammar;
   1.4 teacher role;
   1.5 perform in the native language; at
   1.6 perform in group or pair work.

2. Determine the level of instructional practices of Filipino teachers in secondary schools based on:
   2.1 teaching strategies focused on facilitating students’ comprehension;
   2.2 strategies based on group work and oracy skills; and
   2.3 teaching strategies to develop literacy skills.

3. Determine the level of oral proficiency of Filipino teachers in secondary schools based on:
   3.1 comprehension;
   3.2 fluency;
   3.3 vocabulary;
   3.4 pronunciation;
   3.5 grammar;
   3.6 classroom teaching; at
   3.7 non-verbal communication

4. Determine the level of communicative competence in the Filipino language based on:
   4.1 classroom interaction on students’ communicative competence;
   4.2 teaching methods enhance communicative competence; and
   4.3 students’ exposure to various linguistic environmental and speaking skills.

5. Determine the significant relationship between teachers’ beliefs, instructional practices, oral proficiency, and communicative competence in the Filipino language.

6. Identify the significant effect of beliefs, instructional practices and oral proficiency on communicative competence in the Filipino language.

7. Know the model best suited to communicative competence in Filipino.

HYPOTHESIS
The null hypothesis of the study was developed and tested based on a 0.05 level of significance in which:

1. There is no significant relationship between:
   1.1 teachers' beliefs;
   1.2 instructional practices and
   1.3 teachers' oral proficiency

2. No variable significantly affects communicative competence

3. There is no model best suited to the communicative competence

METHODOLOGY
The design of this study is a quantitative research method of data collection that describes the relationship between a number to anything that can be quantified across multiple times or conditions. This design deals with quantifying and analyzing variables to get results (Leedy & Ormrod, 2001). Moreover, this study will use causal research design as a methodology because of the types of variables measured. Sequentially, the causal method is used in this study to find relationships between independent and dependent variables after an action or event has already occurred (Creswell 2013). Thus, establishing a predictive relationship is a descriptive correlational research design characteristic. It uses two or more data sets to evaluate the significant correlation of each variable.

Additionally, this study focused on using the data to hit models in teachers' beliefs, instructional practices, oral proficiency, and communicative competence in the Filipino language. Consequently, a causal model was developed to describe the relationship of the overt and covert variables of the study (Hatami 2018). In addition, the Structural Equation Model (SEM) can be used to strengthen the integrity of the output obtained by emphasizing the following procedures: defining the model, collecting data, estimating what to be modeled, modeling analysis, and possibly making changes to the study’s actual development in response to the study’s overall result of the teacher’s response to objectives.

SAMPLING DESIGN
The study’s design is based on a quantitative research method of data collection that accurately describes the study's findings. A numerical relationship can be quantified through a systematic examination of various circumstances. To assess
level of communicative competence with 400 teachers teaching Filipino in secondary public schools of Davao Region from grade seven to ten of Junior High School in the academic year 2020-2021.

As a result, this study is a structural model with various fit indices that account for the effect of sample size. As with other statistical techniques, SEM requires a sufficient sample size to generate reliable estimates. Hair et al. (2008) concur, recommending a sample size of at least 200 but no more than 400. As a result, it can be concluded that SEM research studies require a minimum and maximum sample size of 200 and 400, respectively. However, (Karagoz 2016) asserted that the structural model is superior to other methods for theory testing.

Simultaneously, to ensure that the required number of participants from various divisions in Region XI is obtained, the number of participants in each division for the academic year 2020-2021 was calculated using Sloven's formula with a 0.05 level of significance, using stratified random sampling with a total of 400 respondents. Stratified random sampling is a technique that divides the population into strata (or subgroups) and draws a random sample from each subgroup. Its purpose is to ensure that each stratum is represented adequately (Johnson & Christensen, 2004).

Thus, the researcher considers the 400 study participants who responded to a survey questionnaire regarding the use of scientific processes in participant selection. Respondents were chosen using a stratified random sampling technique to ascertain the number of teachers in each public secondary school and junior high school in Region XI. This method ensures that all population members have an equal chance of being selected as the sample unit (David 2015). Additionally, Baridalyne (2012) confirmed that results from stratified random sampling are representative of the entire population. The data is drawn randomly from a number table or manually created a list of numbers.

As a result, the study's participants will range from grade seven to ten junior high school teachers in public secondary schools in Region XI who are currently teaching Filipino in the school year 2020-2021 under the Department of Education.

STATISTICAL DESIGN

For a broader and meaningful interpretation and analysis of the data, the researcher used the following statistics:

Mean. To determine the level of teachers’ belief; know the level of instructional practices, determine the level of oral proficiency to develop communicative competence in the Filipino language.

Standard Deviation. It is a tool used to measure and determine the distribution of frequency.

Pearson Product Moment Correlation. It determines the importance of the relationship between teachers ’beliefs, instructional practices, oral proficiency, and communicative competence in the Filipino language.

Multiple Regression. It cultivates significant predictors of communicative competence in the Filipino language.

Structural Equation Model. It was used to obtain the best and most appropriate model. In the analysis, the researcher suggested a boundary value of 0.05. At the same time, Ullman (2006) used 0.45 to boost the culture of construction safety. Therefore, the essence of the test, according to (Bentler and Savalei 2010), is to ensure the removal of properties with a low relationship with characteristics and other factors hidden in the last Structural Equation Model. The cut-off value affects the sample size, but the range of 0.45 to 0.50 is appropriate if considered. Additionally, this tool ascertains the best model appropriate to organizational essence.

The goodness of Fit Statistics, the Alternative Model through Analysis of Moment Structure (AMOS) was used. According to Blunch (2007), it is used to obtain the appropriate learning model; all the values given in the indices are included in each criterion.

- Chi Square/ Degree of Freedom (CMIN/DF) \(0<\text{value}<2\)
- P Value
  - > 0.05
- Normative Fit Index (NFI)
  - > 0.95
- Comparative Fit Index (CFI)
  - > 0.95
- Goodness of Fit Index (GFI)
  - > 0.95
- Tucker-Lewis Index
  - > 0.95
- Root Mean Square Error of Approximation (RMSEA)
  - <0.05
- P close
  - > 0.50

GEOGRAPHICAL AREA

Davao Region, where the public schools to be researched is located. The Davao Region is located in the Southeastern part of the island of Mindanao, surrounding the Davao Gulf. It borders the northern provinces of Surigao del Sur, Agusan del Sur and Bukidnon. To the east, it is bordered by the Philippine Sea and in the western provinces of Central Mindanao. The Davao Region area faces Micronesia in the South Pacific Ocean to the east and Eastern Indonesia by the Celebes Sea to the south within the broader geographical context.

This study aimed to improve the communicative competence of teachers in grades seven to ten of Region XI Junior High Schools in the Filipino language. To this end, in the academic year 2020-2021, to assess the level of communicative competence in the Filipino language among 400 study participants in grades seven to ten of Junior High School. On the other hand, this study is a structural equation model with multiple indices affecting sample size. However, some researchers believe that the required sample size for structural equation models should be 200 and between 200 and 500. (Celik and Yilmaz 2013). However, (Karagoz 2016) stated that the structural model is more suitable for theory testing than other methods because it correlates with the data from the theoretical model.
Simultaneously, in order to obtain an accurate count of participants from each division in Region XI, Sloven's formula is used to determine the number of participants in each division who are currently teaching Filipino in the academic year 2020-2021 using stratified random sampling of 400 participants with a 0.05 level of significance. Additionally, stratified random sampling is a technique that divides the population into strata (or subgroups) and draws a random sample from each subgroup. Its purpose is to ensure that each stratum is represented adequately (Creswell, 2002; Johnson & Christensen, 2004). Thus, the researcher considers the 400 respondents to the survey by the scientific process used to select participants. Thus, participants in the study will be grade seven to ten teachers of Junior High schools in public secondary schools in Region XI for the academic year 2020-2021, using a stratified random sampling technique. As a result, selected participants can respond to the questionnaire if they provide the necessary study data.

RESULTS
This section presents data and generated results from participants ‘responses to teachers’ beliefs, instructional practices, and oral proficiency: a structural equation model to communicative competence in the Filipino language. Thus, the collected data have been thoroughly analyzed from variables such as the belief that evaluate the level of indicators such as role and contribution of learners, error correction and assessment, role and importance of grammar, teacher role, role of the learners native language, role in group or pair work: also evaluate the level of indicators derived from variable instructional practices comprised of instructional strategies focused on teaching strategies focused on facilitating students’ comprehension, strategies based on group work and oracy skills, teaching strategies to develop literacy skills; the level of the indicator from variable oral proficiency will also assess the level of comprehension, fluency, vocabulary, correct pronunciation, grammar, classroom teaching, non-verbal communication as well as non-variable communicative competence to assess the level of following correlation indicator in the classroom interaction of students communicative competence, teaching methods enhance communicative competence, students exposure to various linguistic environmental and speech skills.

Level of Teachers’ Beliefs
Table 1 depicts the first variable, which is the level of beliefs, consisting of six indicators: and with a total of twenty-eight (28) statements, participants achieved a very high descriptive level that proved that teachers belief was always seen concerning the role and contribution of the learners, error correction and assessment, role and importance of grammar, teacher role, the role of the learner's native language and role in group or pair work indicators all achieving a total standard deviation (SD) of 0.39 and a total mean score of 4.34.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>SD</th>
<th>Mean</th>
<th>Score Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role and Contribution of the Learners</td>
<td>0.53</td>
<td>4.26</td>
<td>Very High</td>
</tr>
<tr>
<td>Error Correction and Assessment</td>
<td>0.60</td>
<td>4.06</td>
<td>High</td>
</tr>
<tr>
<td>Role and Importance of Grammar</td>
<td>0.54</td>
<td>4.21</td>
<td>Very High</td>
</tr>
<tr>
<td>Teacher Role</td>
<td>0.43</td>
<td>4.66</td>
<td>Very High</td>
</tr>
<tr>
<td>Role of the Learners Native Language</td>
<td>0.62</td>
<td>4.39</td>
<td>Very High</td>
</tr>
<tr>
<td>Role in Group/Pair Work</td>
<td>0.51</td>
<td>4.44</td>
<td>Very High</td>
</tr>
<tr>
<td>Total</td>
<td>0.39</td>
<td>4.34</td>
<td>Very High</td>
</tr>
</tbody>
</table>

It can be seen from the data that the first indicator in teachers’ belief, the role of the contribution of the learners, achieved a very high descriptive level showing that always observed and obtained a standard deviation of 0.53 with a mean score of 4.26. However, the second indicator received a high descriptive level, indicating that it was frequently detected with a standard deviation of 0.60 with a mean score of 4.06. Thus, the third indicator, role and contribution of grammar received a very high descriptive level showing a standard deviation of 0.54 with a mean score of 4.21. However, the fourth indicator, teacher role, was a very high descriptive level indicating that it was consistently recognized, with a standard deviation of 0.43 with a mean score of 4.66. On the other hand, the fifth indicator of the learner's native language role was very high descriptive, showing that it was always detected and obtained a standard deviation of 0.62 with a mean score of 4.39. However, with a standard deviation of 0.51 with a mean score of 4.44, the sixth indicator of role in group or pair work had a very descriptive level, indicating that it was always observed.

The findings of this study corroborate Zheng's (2009) observation that teachers’ beliefs are critical concepts for comprehending teachers’ thought processes, teaching methods, and teaching-learning. Teacher beliefs are critical components of teacher education because they assist teachers in developing their thought and principles. Additionally, the study supported (Li, 2012; Pajares, 1992) that their beliefs influence teachers’ classroom practices and professional development.

Level of Instructional Practices
In this part, we can see the result of the study conducted about the level of instructional practices of teachers were presented in the second table are three indicators: and eighteen (18) statements that the result of the total standard deviation (SD) is 0.33 and has a mean score of 4.76 which obtained the descriptive level very high confirming that instructional practices always observed.
Table 2

<table>
<thead>
<tr>
<th>Indicator</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching strategies focused on facilitating</td>
<td>0.39</td>
<td>4.73</td>
<td>Very High</td>
</tr>
<tr>
<td>students’ comprehension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategies Based on Group Work and Oracy Skills</td>
<td>0.36</td>
<td>4.78</td>
<td>Very High</td>
</tr>
<tr>
<td>Teaching Strategies to develop literacy skills</td>
<td>0.38</td>
<td>4.79</td>
<td>Very High</td>
</tr>
<tr>
<td>Total</td>
<td>0.33</td>
<td>4.76</td>
<td>Very High</td>
</tr>
</tbody>
</table>

Table 2 shows the result of the survey concerning the first indicator. A teaching strategy focused on facilitating students’ comprehension, with a standard deviation (SD) of 0.39 and a mean score of 4.73, the corresponding descriptive level is very high and consistently observed. Meanwhile, the second indicator related to a strategy based on group work and oracy skills shows a standard deviation (SD) of 0.36 and has a mean score of 4.78, a very high descriptive level confirming that it was consistently recognized. However, the third indicator, teaching strategies to develop literacy skills, achieved a very high descriptive level showing that it was always observed and obtained a standard deviation (SD) of 0.38 and had a mean score of 4.79.

These findings support Web et al., 2014).’s study, which found that training teachers in the use of instructional moves aimed at increasing student talk and increasing student use of reasoned argumentation. A good example is prompting students to provide reasons and evidence, asking them to clarify their ideas, focusing attention on them, and challenging them with new ideas. This increased student elaboration of their ideas and generation of evidence-based arguments.

Level of Oral Proficiency

Table 3 The level of oral proficiency of teachers consisting of seven indicators with a total of twenty-nine (29) statements. Thus, the result of this variable has obtained a very high descriptive level depicting that it was always observed. As a result, the standard deviation is 0.31 and a mean score of 4.76.

Table 3

<table>
<thead>
<tr>
<th>Indicator</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension</td>
<td>0.34</td>
<td>4.84</td>
<td>Very High</td>
</tr>
<tr>
<td>Fluency</td>
<td>0.43</td>
<td>4.71</td>
<td>Very High</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>0.41</td>
<td>4.72</td>
<td>Very High</td>
</tr>
<tr>
<td>Correct pronunciation</td>
<td>0.37</td>
<td>4.80</td>
<td>Very High</td>
</tr>
<tr>
<td>Grammar</td>
<td>0.41</td>
<td>4.75</td>
<td>Very High</td>
</tr>
<tr>
<td>Classroom Teaching</td>
<td>0.37</td>
<td>4.77</td>
<td>Very High</td>
</tr>
<tr>
<td>Non-verbal Communication</td>
<td>0.40</td>
<td>4.77</td>
<td>Very High</td>
</tr>
<tr>
<td>Total</td>
<td>0.31</td>
<td>4.76</td>
<td>Very High</td>
</tr>
</tbody>
</table>

The result of each indicator is reflected in table 3. The first indicator, related to comprehension, achieved a very high descriptive level, which showed that comprehension was always observed and obtained a standard deviation of 0.34 with a mean score of 4.84. The second indicator related to fluency had a standard deviation (SD) of 0.43 and a mean score of 4.71, with the descriptive level being the very high means that it was always detected. The third indicator related to vocabulary has a standard deviation (SD) result of 0.41 and has a mean score of 4.71, and is very high descriptive and always recognized. The third indicator, vocabulary, had a standard deviation (SD) result of 0.41 and a mean score of 4.72, which obtained the very high descriptive level showing that it was always observed. The fourth indicator, correct pronunciation, the standard deviation (SD) of 0.37, and a mean score of 4.80 can be observed and have a very high descriptive level. The fifth indicator related to grammar obtained a standard deviation (SD) of 0.41 and with a mean score of 4.75 obtained the very high descriptive level showing that it was always observed. The sixth indicator related to classroom instruction had a standard deviation (SD) of 0.37 and a mean score of 4.77, which got the very high descriptive level, and the last indicator related to non-verbal communication got the standard deviation (SD) of 0.40 and with a mean score of 4.77 obtained the very high descriptive level imposed those non-verbal communications are always observed.

The study conducted by Khan et al. (2017) also supported the notion that a teacher’s communication skills play a significant role in students’ academic success. As a result, a teacher must demonstrate effective communication skills when instructing students. Additionally, Maley (2009) asserts that teachers with strong communication skills are more likely to have students who speak, bolstering the result.

Level of Communicative Competence in the Filipino Language

The level of communicative competence in the Filipino language with six indicators consisting of eleven (11) statements achieved descriptive very high level, always showing and obtained a total standard deviation (SD) of 0.45 and has a mean of 4.5.
Table 4
Level of Communicative Competence in the Filipino Language

<table>
<thead>
<tr>
<th>Indicator</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Interaction on Students</td>
<td>0.41</td>
<td>4.73</td>
<td>Very High</td>
</tr>
<tr>
<td>Communicative Competence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching Methods Enhance</td>
<td>0.40</td>
<td>4.67</td>
<td>Very High</td>
</tr>
<tr>
<td>Communicative Competence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students Exposure to various Linguistic</td>
<td>0.92</td>
<td>4.14</td>
<td>Very High</td>
</tr>
<tr>
<td>Environmental and Speech Skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.45</td>
<td>4.51</td>
<td>Very High</td>
</tr>
</tbody>
</table>

Thus, the first indicator, classroom interaction on students' communicative competence, achieved a very high descriptive level showing that it was always visible and obtained a standard deviation (SD) of 0.41 and a mean score of 4.73. Nevertheless, the second indicator, teaching methods enhance communicative competence, achieved a very high descriptive level showing a standard deviation (SD) of 0.40 and a mean score of 4.67. However, with a standard deviation (SD) of 0.92 and a mean score of 4.14, the third indicator of students’ exposure to various linguistic environmental and speech skills had a very high descriptive level, indicating that it was always observed.

The study's findings corroborate Akinwamide and Akande’s (2019) findings that teachers are familiar with various teaching methods and agree that utilizing a variety of teaching methods can help students improve their communicative competence. Despite their awareness of the importance of utilizing various instructional methods, most teachers fail to vary their instructional methods and incorporate activities that promote classroom communication.

Table 6
Significant Influence of Teachers’ Beliefs, Instructional Practices and Oral Proficiency on Communicative Competence.

<table>
<thead>
<tr>
<th>Exogenous Variables</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.383</td>
<td></td>
<td>1.351</td>
<td>.178</td>
</tr>
<tr>
<td>Beliefs of the Teachers</td>
<td>.466</td>
<td>.409</td>
<td>9.000</td>
<td>.000</td>
</tr>
<tr>
<td>Instructional Practices</td>
<td>.223</td>
<td>.162</td>
<td>2.018</td>
<td>.044</td>
</tr>
<tr>
<td>Oral Proficiency</td>
<td>.219</td>
<td>.153</td>
<td>1.847</td>
<td>.065</td>
</tr>
</tbody>
</table>

This table emphasizes that the result of the collected data reflected those teachers' beliefs had standardized and unstandardized coefficients of .466 and .409, t-value of 9.000, and p-value of .000 (Significant). Instructional practices have standardized and unstandardized coefficients of .223 and .162, t-value of 2.018, and p-value of .044 (significant); and oral proficiency of teachers with standardized and unstandardized coefficients of .219 and .153, t-value of 1.847, and p-value of .065 (non-significant).

The overall result was that teachers' belief and instructional practices variables agreed with rejecting the null hypothesis supported the alternative hypothesis. Therefore, an exogenous variable significantly influences communicative competence, while the oral proficiency variable has no significant correlation. An R2 of .381 indicated 38.1% of differences in communicative competence attributed to teachers’ beliefs, instructional practices, and teachers’ oral proficiency. This means 61.9% of the variation of communicative competence was attributable to another variable not covered in this study. Moreover, the table presents three exogenous variables, which teachers believe had the most significant contribution to which the result was obtained (Beta =
The direct influence of the non-independent variable serves as a predictor that the variables and non-dependent variables can intervene to traverse one or more variables. Table 6 shows that the latent variable between the indicators affected the endogenous research skill (p<0.05) by causing regression in teachers' beliefs, instructional practices, and oral proficiency.

According to the study Goh and Burns (2012), such issues impede learners' progress toward improving their oral fluency and accuracy, necessitating teachers to develop teaching strategies that enable learners to demonstrate mastery of basic English skills at the elementary level. In language classrooms, teachers must explicitly teach speaking to motivate students to use the target language. The target language is used to create a dynamic skill situation. This means that simply providing learners with speaking activities is not the same as teaching them the necessary knowledge, skills, and strategies for speaking. According to Gomez (2019), this does not mean that oral proficiency cannot be acquired even when it is not used frequently, such as at home or in social situations.

Additionally, the most common speaking difficulties are with grammar, the art of questioning, redundancy, fluency, and thought organization. Speaking development requires the teacher's intervention and guidance. It provides teachers with a framework for reflecting on their current practices and expanding them for the benefit of both themselves and their students. Based on the study of Burns (2016), which entails concurrent processes that require the speaker's knowledge and abilities to be activated in real-world speaking.

However, specific findings from Farrell and Bennis (2013) support teachers' beliefs can influence their teaching practices and language instruction in the classroom. They have the potential to influence teaching processes, classroom decision-making, and the implementation of a teaching approach, all of which can affect teacher development and student learning performance.

**Most Appropriate Model of Communicative Competence in the Filipino Language**

This section reflects the final research question to determine the model most appropriate to the variables as a predictor of communicative competence in the Filipino language of teachers. Table 1 must need to be modified to comply with the needs of the goodness of fit measures. Table 7 summarizes the five models developed in this study.

**Table 7**

In determining the most appropriate model, all indexes should be within an acceptable range. The Chi-square/degrees of freedom value must be between 0 and 2, with a corresponding p-value greater than or equal to 0.05. The Root Mean square of Error Approximately value must be less than 0.05 and have a corresponding p-close value greater than or equal to 0.05. Other indexes such as the Normed Fit Index, Tucker-Lewis Index, Comparative Fit Index, and Goodness of Fit Index must be higher than 0.90.

<table>
<thead>
<tr>
<th>Model</th>
<th>P-value (&gt;0.05)</th>
<th>CMIN / DF (0&lt;value&lt;2)</th>
<th>GFI (&gt;0.95)</th>
<th>CFI (&gt;0.95)</th>
<th>NFI (&gt;0.95)</th>
<th>TITTLE (&gt;0.95)</th>
<th>RMSEA (&lt;0.05)</th>
<th>P-close (&gt;0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.000</td>
<td>8.663</td>
<td>.771</td>
<td>.744</td>
<td>.721</td>
<td>.706</td>
<td>.139</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>.000</td>
<td>4.699</td>
<td>.852</td>
<td>.878</td>
<td>.851</td>
<td>.858</td>
<td>.096</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>.000</td>
<td>4.010</td>
<td>.853</td>
<td>.900</td>
<td>.872</td>
<td>.884</td>
<td>.087</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>.000</td>
<td>4.042</td>
<td>.854</td>
<td>.900</td>
<td>.872</td>
<td>.883</td>
<td>.087</td>
<td>.000</td>
</tr>
<tr>
<td>5</td>
<td>.073</td>
<td>1.329</td>
<td>.976</td>
<td>.995</td>
<td>.978</td>
<td>.992</td>
<td>.029</td>
<td>.975</td>
</tr>
</tbody>
</table>

Legend: CMIN/DF – Chi-Square/Degrees of Freedom  GFI – Goodness of Fit Index  NFI –Normed Fit Index  RMSEA – Root Mean Square of Error Approximation  TITTLE – Tucker-Lewis Index  CFI – Comparative Fit Index

The generated Structural Model 1 shows the direct causal relationship of exogenous variables: teachers’ beliefs, instructional practices, and oral proficiency. The framework model of Table 1 needs modification to respond to the needs of the goodness of fit measures. In turn, this model is inappropriate because p-value = .000; RMSEA = .139 and with P-value = .000 all index values has not met the demands of each premise.
Finally, the generated Structural Model 5 showing the direct causal correlation of exogenous variables: teachers’ beliefs, instructional practices, and oral proficiency was identified as the most appropriate model. The most appropriate model is quite acceptable, as shown in Table 7. Chi-Square divided by degrees of freedom is 1.329 with a P-value of .073. This indicates the most appropriate model. This is supported by the Root Means Square of Error Approximation index of .029, which is less than the 0.05 significance level with a related P-close of .975. Also, other indexes such as the Normed Fit Index, Tucker-Lewis Index, and Comparative Fit are highly indicative of the most appropriate model because all measurements are derived from the criteria. In total, Table 8 shows the direct effects described by the arrows from the predictor variable presented on the left side to the right side where the non-independent variable did not pass through the other variable.

Indirect effects are the correlation of the predictor of the variable and the non-independent variable that may mediate one or more variables. Presented in Table 9 the effect of the latent variable and between the indicators, the latent variable was estimated to generate regression in teachers’ belief, instructional practices, and oral proficiency of teachers significantly affect the endogenous variable communicative competence (p <.05).

To summarize, only the fifth of the five structural models discovered contains a marker indicating exceptional fit to the data; it has been designated as the most appropriate structural model. The research is based on constructivism theory, which establishes a theoretical framework for communicative competence on the premise that learning is collaborative and that social interaction is critical for cognitive development. This conclusion is supported by Stenberg’s (2008) study, which states that learning is a collective mental construction through collaboration. Faryadi’s (2015) study also states that collaboration facilitates learning.

SUGGESTIONS

The researcher proposed the following recommendations based on study findings: teachers’ beliefs', instructional practices, oral proficiency, and communicative competence in the Filipino language.

First, focus on increasing teachers’ belief, especially in error correction and assessment, the only indicator that achieved a high descriptive level. This will be accomplished by developing teachers’ communicative skills and enhancing their use of a variety of teaching strategies. This will allow students' knowledge to be expanded and their abilities and skills shaped. Concentrate on education as a school administrator because it is the bedrock of everything. Allocate a sizable budget for sending teachers to various training sessions because they will significantly contribute to the field of education. Additionally, knowledge sharers teachers continue to improve instruction to develop the skills that students should acquire. Develop strategies, activities, and methods to develop these abilities to enhance students' communicative and learning capabilities.

Second, focus on improving teachers’ instructional practices, particularly instructional strategies that emphasize student comprehension, group work, speaking skills, and instructional strategies. According to the most appropriate model, it affected the endogenous variable. This will be accomplished by emphasizing the importance of teachers developing their capacity to develop skills that will benefit students. Teachers' interactions with their students' personas by comprehending, supporting, and monitoring their learning greatly benefit students. Strengthen classroom activities and maintain open communication with students, parents, and prospective parents to better understand students' overall needs. School administrators must enhance teachers' and student managers' professional development through attendance at seminars and training for all teachers (whether beginner or older). They are organizing a gathering or expressing distress with school personnel.

Thirdly, to enhance the oral proficiency of Filipino teachers, particularly in the areas of comprehension, fluency, vocabulary, proper pronunciation, grammar, classroom instruction, and non-verbal communication. This will be given increased importance and attention to develop further the skills that will serve as the foundation for future learning expansion. This should be continued to assist teachers in further developing their oral proficiency. Teaching will be enhanced further with teachers who share their knowledge to help students develop their acquired skills. They can develop strategies, activities, and methods to ensure that these abilities are developed to help students’ abilities and learning expand. For school administrators, intensify the development of policies, guidelines, and planning and train teachers to improve their knowledge of the Filipino language. The most appropriate model confirms that teachers’ beliefs and instructional practices are the most effective predictors of Filipino teachers' communicative ability, implying that teachers' communicative ability develops due to their beliefs and instructional skills being evaluated and valued. Activities at the level of Filipino teachers' communicative competence.

CONCLUSION

The study was conducted using a structural model, which included a thorough analysis of the results using statistical methodology. Additionally, the researcher's actions are consistent with the study's requirements. The study's findings indicated a significant relationship between teachers' beliefs, instructional practices, and oral proficiency in terms of communicative competence. The study's findings indicated that Filipino teachers have a very high belief in themselves, their instructional practices, oral proficiency, and communicative competence. This means that teachers must be aware of their own beliefs, instructional practices, and oral proficiency to develop adequate communicative competence.

However, the study discovered that only two variables significantly affect Filipino teachers' communicative competence: beliefs and instructional practices. Table 6 demonstrates that teachers' oral proficiency is non-significant, with standardized and unstandardized coefficients 2.19 and 1.53, at-value of 1.847 and a p-value of 0.065 respectively. Thus, teachers' beliefs and instructional practices variables corroborated the null hypothesis's rejection and favored the alternative. As a result, an exogenous variable significantly affects communicative competence, whereas the oral proficiency variable does not. According to Gomez...
(2019), this does not mean that oral proficiency cannot be attained even when oral communication is not used frequently, such as at home or in social situations. Additionally, the most common speaking difficulties are with grammar, the art of questioning, redundancy, fluency, and thought organization. Speaking development requires the teacher's intervention and guidance. It provides educators with a framework for reflecting on current practices and expanding them for the benefit of both themselves and their students (Burns, 2016).

Further, only the fifth of the five discovered structural models contains a marker indicating exceptional fit to the data; it has been identified as the most appropriate structural model, as presented in Table 7. The research is based on constructivism theory, which establishes a theoretical framework for communicative competence on the premise that learning is collaborative and that social interaction is critical for cognitive development. Constructivists believe that knowledge is acquired through adaptation to one's environment. One reshapes acquired knowledge and creates new knowledge in the process (Sternberg, 2008). Thus, learning is a collective mental construction. Collaboration facilitates learning in the constructivist classroom (Faryadi, 2015).

Additionally, as a proposal to the study, the researchers suggested Project-based Learning (PJBL), a constructivist teaching strategy that entails an extended period of knowledge exploration. JPL provides numerous opportunities for learners to practice constructively using the target language at numerous stages, most notably through group discussions and collaboration on a project (Papanikolaou & Boubouka, 2010).

REFERENCES

20. - Teachers' beliefs about communicative
TEACHING STYLES AND LANGUAGE ANXIETY: THE MEDIATING EFFECT OF LANGUAGE LEARNING BELIEFS

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ABSTRACT

The goal of this study was to see if language learning beliefs had a mediation influence on students' language anxiety in relation to teaching style. In this case, a descriptive correlational survey was used as part of a quantitative research project. It was conducted with 332 research participants at a private institution in Digos City. Adapted questionnaires from Grasha's Teaching Styles Inventory (2002), Horwitz's (1987) Beliefs About Language Learning Inventory (BALLI), and Foreign Language Classroom Anxiety were the three instruments used in this study. Horwitz, Horwitz, and Cope are the three levels of the FLCAS scale (1986). The Google survey form was utilized to facilitate the investigation. In the data analysis, the mean, regression analysis, Pearson r, and the Sobel z-test were used. As a result of this research, it has been determined that there is a very high level in each teaching style. Moderate level of anxiety in the Filipino language and high level of belief in language learning. In addition, the variables in this study show a significant correlation. Thus, as a result of the significant correlation of each variable, it was found that there was a full mediation of the effect on language learning beliefs in the correlation of teaching styles and students' language anxiety.

KEYWORDS: Digos City, belief in language learning, anxiety in the Filipino language, teaching style, mediating effect

INTRODUCTION

Learning the Filipino language, like learning any other language, is not easy. There appears to be apprehension about learning a new language. The sense of restlessness, stress, anxiety and pity that comes with learning or utilizing a second or foreign language is known as language anxiety (Horwitz 156). According to Wu (177), teachers should encourage students to rely on themselves rather than on the teachers. Inquisitiveness should be driven by the students themselves. Motivation and behavior are linked to language learning, according to research. It has been suggested that having a learning belief will help language learning, whereas having a different set of beliefs may hinder language learning. Language learners with a positive attitude toward the target language and realistic views are believed to have a better probability of succeeding as language learners than those with negative attitudes, behavior, and beliefs toward the target language (Al-Malki, Abdullah, and Javid 190). The next issue facing the Filipino language, according to De Juan (9) is students' loss of interest in reading Filipino literary works, their attraction to a foreign culture or colonial ideas, and the difficulties in teaching important or profound terms. According to the statements of two students from the UM Digos Senior High School's grade 11 STEM strand and grade 12 HUMSS strand, they have trouble learning the Filipino language due to the norms and meaning provided by the language teacher. Because the Philippines is a multilingual country, the researchers, who are also Filipino language teachers, thought that conducting this research would shed light on the mediating effect of language learning beliefs on the relationship between teaching style and language anxiety in Senior High School students. Filipino was formally taught in all academic institutions in the Philippines as an official language. As a result, learning Filipino was like learning a new language.
OBJECTIVES

This study aims to reveal the mediating effect of language learning beliefs on the relationship between teaching styles and language anxiety of senior high school students.

METHODS

The correlation technique was utilized in this study's quantitative non-experimental research design. This research was carried out in Digos City, Davao del Sur, at a private university. The data collection method has become more strict as a result of the pandemic's threat. In doing the study, the researcher considered her own self-interest. Furthermore, the number of students participating in this assessment is equal to the minimum number of research participants. Slovin's Formula, a Simple Random Sampling Technique, was employed by the researchers to determine the number of responders who would respond to each strand. The researchers obtained 332 responses from students with Filipino subjects. According to Köseolu (p.43), the number of participants in the study for mediation research is already sufficient at 202. Google online survey form was employed to speed up the study's completion. The researchers used three questionnaires to assess the impact of teachers' employment of various teaching approaches in the Filipino topic on students' anxiety levels and their belief in language learning. The first part includes five indicators that describe the various teaching methods of Filipino subject teachers. The questionnaire for the study was developed from Grasha's Teaching Styles Inventory (2002). Meanwhile, the second part of the questionnaire focused on the study of language anxiety, which was adapted from Horwitz, Hor-witz, and Cope's Foreign Language Classroom Anxiety Scale FLCAS study questionnaire (1986). The third questionnaire, based on Horwitz's Beliefs About Language Learning Inventory (BALLI), asks students in the Filipino subject about their language learning beliefs.

The statistics employed in this investigation were as follows in order to produce precise and reliable results. The 0.05 significance threshold was used for all interpretations. The level of anxiety in Filipino language teaching style and language learning beliefs was determined using the mean. The substantial association between Filipino language anxiety and teaching style, teaching style and language learning belief, and language learning belief and language anxiety was discovered using Pearson’s r. The researchers employed regression to figure out which domain of anxiety in the Filipino language influenced the students' teaching style and beliefs regarding language learning.

Meanwhile, the Sobel z test was utilized in this study's mediation analysis to further identify the effect of each variable. Sobel (290) proposed the Sobel z test, which can be used to see if the relationship between the independent bar-symbol (X) and the non-independent variable (Y) is mediated/affected by the third. If X and Y have an indirect link, the variable (Y) is used. In a nutshell, the Sobel test determines if including the mediator (M) in the regression analysis reduces the effect of the independent variable (X) on the non-independent variable (Y) (Preacher p. 25).

RESULTS AND DISCUSSION

Table 1 displays the statistical findings at the level of each Filipino teaching style. The study's outcome was intriguing. Rich's research (82), which found that primary teaching style knowledge, standardized personality, and formal authority were the most desired teaching styles, was similar. According to researchers, distinct teaching styles allow them to use different teaching styles depending on the teacher's preference or learning style (Grasha & Yangarber-Hicks 3; Harrelson et al. al. 37). As a result, various roles, attitudes, and behaviors emerge when a person employs a certain teaching method (Grasha 180). Specific teaching methods have been discovered to aid in the construction and promotion of a successful learning environment (Quitadamo and Brown 8). As a result, it is proof that when a teacher's teaching style is high, he or she captures more students' attention and so lowers students' anxiety in language acquisition.

Table 1

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Mean</th>
<th>SD</th>
<th>Descriptive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>4.24</td>
<td>.442</td>
<td>Very high</td>
</tr>
<tr>
<td>Formal authority</td>
<td>4.20</td>
<td>.455</td>
<td>Very high</td>
</tr>
<tr>
<td>Personal model</td>
<td>4.23</td>
<td>.469</td>
<td>Very high</td>
</tr>
<tr>
<td>Facilitator</td>
<td>4.23</td>
<td>.483</td>
<td>Very high</td>
</tr>
<tr>
<td>Delegator</td>
<td>4.10</td>
<td>.499</td>
<td>High</td>
</tr>
</tbody>
</table>

Note: Each teaching style is recognized as unique so no total mean score is calculated.

The statistical results of the language anxiety level study are shown in Table 2. It had a moderate overall mean (x = 3.21, SD = 0.367). Students were reported to be at ease and confident when speaking in a study conducted by Javid (190). They speak another language in front of their classmates and are even surrounded by native speakers of another language. The
only time they have to communicate in the target language without prior preparation is when they have to do so. Participants also stated that they did not have a lot of fear in the classroom and that they were open to taking more language programs. In contrast to Qaddomi’s (1552) study, it was discovered in his study that EFL learners from QOU experienced fear, particularly when communicating with native speakers.

According to Al Asmari (59), teachers should utilize appropriate strategies such as group or pair work in order to perform the target language more often and avoid negative anxiety while forecasting. According to the findings of Zhani-research, bek's when students are apprehensive about themselves, they are less engaged in participating in classroom activities.

### Table 2

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Mean</th>
<th>SD</th>
<th>Descriptive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>communication apprehension anxiety</td>
<td>3.04</td>
<td>.378</td>
<td>moderate</td>
</tr>
<tr>
<td>test anxiety</td>
<td>3.10</td>
<td>.423</td>
<td>moderate</td>
</tr>
<tr>
<td>negative evaluation</td>
<td>3.65</td>
<td>.560</td>
<td>high</td>
</tr>
<tr>
<td>anxiety of Filipino classroom</td>
<td>3.07</td>
<td>.379</td>
<td>moderate</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>3.21</td>
<td>.367</td>
<td>moderate</td>
</tr>
</tbody>
</table>

The five indicators are high-level, indicating that students frequently notice the impact of their language learning beliefs. The statistical results of the examination for the level of belief in language acquisition are shown in Table 3. A total mean score of (x = 3.85, SD = 0.421) was obtained, indicating a high level of achievement. Because a growing body of research shows that motivation and language acquisition is closely proportional to each other (Al-asmari and Javid 79; Dörnyei 6), this is a very positive indicator of learners' performance in foreign language learners. The highest item in this category is the notion that if they want to speak the target language, they have many opportunities to use it. This is a very positive sign that learners have this confidence and intention to take advantage of the wide range of online resources they can use to learn and get used to the target language and help them become self-sufficient and lifelong learners. The findings also reveal that students have a strong instrumental drive to achieve the desired level of second language proficiency, as seen by the very high mean value assigned by some studies conducted in the Arab world as well as non-Arab contexts in the EFL (Javid & Al-Malki 40; Al-Asmari & Javid 80; Fujiwara 89; Bernat and Lloyd 5).

### Table 3

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mean</th>
<th>SD</th>
<th>Descriptive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language Aptitude</td>
<td>3.79</td>
<td>.501</td>
<td>high</td>
</tr>
<tr>
<td>Difficulty of language learning</td>
<td>3.61</td>
<td>.416</td>
<td>high</td>
</tr>
<tr>
<td>The nature of language learning</td>
<td>3.92</td>
<td>.507</td>
<td>high</td>
</tr>
<tr>
<td>Learning and communication strategies</td>
<td>3.90</td>
<td>.479</td>
<td>high</td>
</tr>
<tr>
<td>Motivations and expectations</td>
<td>4.02</td>
<td>.543</td>
<td>high</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>3.85</td>
<td>.421</td>
<td>high</td>
</tr>
</tbody>
</table>

Based on the results of the study, students' language anxiety had a significant correlation with teachers’ teaching styles. Supported from the results of the study of Mohammadi et.al. (643) that each level of anxiety in language learning is correlated with the level of teaching style. Instructional strategies contribute to the development of the language system in which students form and are directly affected by learning. It can be concluded that the knowledge and use of language learning strategies can be improved and enhanced in language learning. If teachers adopt the right teaching strategies to the needs of their students, it will improve their learning and their level of language anxiety Mohammadi et.al. (644). According to the study of Noohormohamide (50), a student’s anxiety is affected by external variables including teaching and testing skills, peer interaction, general task requirements, and the teaching environment. Kaya's study (45) also shows that there is a relationship between anxiety, motivation, self-confidence, extroversion/introversion, and participation in foreign language classes.

Teachers' teaching style has a significant correlation with students' language learning beliefs. This is supported by the research of Al-malki & Javid 193 that each level of teaching...
style is related to the belief of language learning. The findings of this study show that it seems an international opinion that it is better to expose students to the target language from childhood to expand their ability to learn a second language. Differences can be found in their perspectives towards the belief that there are people born with special abilities for foreign language learning (Javid & Al-Malki 192; Al-Roomy 22; Fujiwara 102.)

Lastly, belief in language learning and language anxiety also showed a significant correlation thus rejecting Ho who stated that there was no significant correlation between belief in language learning and language anxiety. This was supported by the study by Azher et al. (37) that typically, high anxiety can weaken students, lose confidence in their abilities, escape from participating in classroom activities, and give up trying to learn a language when good. Therefore, students with high anxiety often get the low achievement and low learning achievement makes learning more anxious. Their belief in learning decreases. On the other hand, in the study by Aslan, Erhan, and Amy S. Thompson (189) that positive beliefs about language learning can help reduce anxiety and boost confidence in learning the language. Tuncer, Murat, and Yunus Doga (17) added that in order to facilitate the language learning process of students, the effect of anxiety should be reduced.

<table>
<thead>
<tr>
<th>Pair</th>
<th>Variables</th>
<th>Correlation Coefficient</th>
<th>p-value</th>
<th>Decision of HO</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV at DV</td>
<td>Teaching Styles and Language Anxiety</td>
<td>0.227</td>
<td>&lt;0.000</td>
<td>Reject</td>
</tr>
<tr>
<td>IV at MV</td>
<td>Teaching styles and Language Learning Beliefs</td>
<td>0.620</td>
<td>&lt;0.000</td>
<td>Reject</td>
</tr>
<tr>
<td>MV at DV</td>
<td>Language Learning Beliefs and Language Anxiety</td>
<td>0.358</td>
<td>&lt;0.000</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Table 4**

Correlation matrix of the variables

**Table 5**

Regression analysis showing the influence of each important teaching style on anxiety in the Filipino language after being mediated by belief in language learning

<table>
<thead>
<tr>
<th>Step</th>
<th>Path</th>
<th>Beta (Unstandardized)</th>
<th>Standard Error</th>
<th>Beta (Standardized)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>c</td>
<td>0.188</td>
<td>0.039</td>
<td>0.227**</td>
</tr>
<tr>
<td>Step 2</td>
<td>a</td>
<td>0.588</td>
<td>0.036</td>
<td>0.620**</td>
</tr>
<tr>
<td>Step 3</td>
<td>b</td>
<td>0.305</td>
<td>0.050</td>
<td>0.351**</td>
</tr>
<tr>
<td>Step 4</td>
<td>c’</td>
<td>0.009</td>
<td>0.048</td>
<td>0.010**</td>
</tr>
</tbody>
</table>
The first step path (c) showed a significant effect from variable teaching style towards anxiety in the Fil-refined language with \( B = 0.188, \ SE_B = 0.039 \). Then, the next step announced in the path (a), showed a direct effect of variable teaching style with still indicative expertise and variable belief in language learning gaining \( B = 0.588, \ SE_B = 0.036 \) which means that there is a significant correlation between the range of variables. A third step performed on the regression of the variables presented in the path (b), exposed the direct effect of the mediator variable belief on language learning on language anxiety that obtained \( B = 0.305, \ SE_B = 0.050 \) stated of significant correlation between variables. Of the three steps performed that revealed a significant correlation of each variable, the final step performed was the path (c’) using multiple regression that showed a direct effect of teaching style with still indicator of expertise and language anxiety using the mediator variable belief in language learning showing \( B = 0.009, \ SE_B = 0.048 \), which resulted in no significant correlation needed for this to be the basis of the existence of full mediation.

**Table 6**

*Results of a statistical analysis aimed at detecting the presence (or absence) of a mediation/mediating effect*

<table>
<thead>
<tr>
<th>Combination</th>
<th>Sobel z</th>
<th>p-value</th>
<th>Mediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching styles → language learning beliefs → language anxiety</td>
<td>5.706526</td>
<td>&lt;0.000</td>
<td>Full</td>
</tr>
</tbody>
</table>

Table 6 shows the results of the study that show the mediating effect of belief in language learning on the relationship between teaching style and anxiety in the Filipino language of students. Based on the collected data, it was found that there is a full mediation or mediating effect on teaching style between the relationship of belief in learning to student anxiety in learning Filipino.

**CONCLUSION**

In this study, the researcher realized that the three variables have a significant relationship with each other. The teaching style and language anxiety, teaching style and language learning beliefs, and language learning beliefs and language anxiety. The result in the correlational coefficients shows a positive and strong relationship. It only proves as an implication that when language teaching is improved using different teaching styles by teachers it strengthens students’ language learning beliefs which is a reason to alleviate their anxiety in
learning the language. It is therefore suggested that teachers and students attend seminars or conferences about their responsibility within the classroom and their contribution to the class, especially in language learning to further increase their knowledge and success in teaching. Linguists and other researchers can also conduct comparative research based on ethnographic profiles such as gender, ethnic group, and learning style. Since the data were only obtained in private schools that there is an online learning method of teaching in the new normal of education due to COVID-19 that limits the learning environment. It is suggested to do a similar study that can be done in another area focused on the public school so that the result can be compared. Other factors may also be used that were not used in this study.

REFERENCES


LIVED EXPERIENCES OF MOTHER TONGUE-BASED TEACHERS IN IP SCHOOLS: STORIES TO TELL

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University of Mindanao, Davao City

Article DOI: https://doi.org/10.36713/epra9627
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ABSTRACT
This study’s general objective was successfully achieved by revealing the lived experiences of Mother Tongue-Based teachers in IP schools that implement the MTB-MLE. This qualitative research utilized the phenomenological design and secured the rich data from the in-depth interview and focus group discussion of the lived experiences of Mother Tongue-Based teachers in IP schools. There were eight teacher-participants for the in-depth interviews and seven teacher-participants for the focus group discussion from public elementary schools in the IP communities. The IP school teachers’ experiences, both positive and negative, or even if it shows ease or difficulties, were recorded, interpreted, and analyzed through thematic analysis extracted all the essential themes from the participants’ responses. It has been observed that all the participants provided a positive and negative feedback on the Mother Tongue implementation. The struggles of Mother Tongue-Based teachers in IP schools developed essential themes such as Highly tasking instructional responsibilities, Challenging use of native dialects, Difficulty with unfamiliar terminologies, Negative effects on English literacy, and Aiming for positive learning outcomes. On the coping strategies employed by the MTB-MLE teachers, the following themes were observed: Self-retooling activities, Diversified teaching methods, Contextualized instructional delivery, Individualized instructions, and Acquaintance with the community. While on the insights shared by MTB-MLE teachers to the community, developed these themes: Need for social support, Provision of in-service training, Deep understanding of learner’s needs, Enhancement of student-teacher relationship, and Enrichment of native languages.

KEYWORDS: multilingual education, mother tongue, lived experiences, phenomenology, challenges, coping strategies, IP school teachers, Philippines

RATIONALE
As an elementary teacher, I witnessed how my fellow educators dealt with the difficulties in handling mother tongue in their classroom instructions despite the many benefits charted for MTB-MLE. First, instructional materials, resources, and supplies were not readily obtainable in most local dialects like some of the IP schools with cultural dialects such as the Bagobo and the Matigsalug. Second, teachers assigned in some of the IP schools, particularly in the elementary level, were not trained in the local dialects with the fact that they are not experts of the native languages (e.g., Bagobo and Matigsalug) used for instruction where they were stationed to teach. Third, elementary school teachers might not have any solid preparation for Mother Tongue or English learning study and theories. Furthermore, teachers assigned in IP schools do not belong to the tribal community that makes it hard for them to relay and instruct IP learners.

In this case, this study may help our indigenous brothers and sisters to preserve their native language aside from the fact that these languages are now threatened to be extinct. This study will be of great help for the teachers teaching in IP to share their experiences in handling IP learners and teaching Sinugbuanong Bisaya as a subject and medium of instruction to the IP learners whose dialects are Bagobo and Matigsalug.

In this study, theory was utilized to explain the productive way of coping with the struggles experienced by the teachers who are teaching MTB-MLE in IP schools. Theories provide new notions of the implementation and application of new skills and innovations in language teaching as identified in this study. Particularly, the Humanist Theory emphasized the experiences of the teachers’ experiences and the conclusions of such experiences.
PURPOSE OF THE STUDY

This study's nature and the general objective of this study was to extract the lived experiences of Mother Tongue-Based teachers in IP schools implementing the MTB-MLE. This study’s purpose was to provide reflective ideas from the insights and lessons learned based on their struggles and difficulties encountered in teaching MTB-MLE in IP Schools. The teachers’ lived experiences showed how these mandates utilized the MTB-MLE in aiding our teachers who handled MTB in IP school and learners whose first language is not the Sinugbuang Bisaya. This study utilized the phenomenological study that pursued the documentation and analysis of the teachers' experiences in the primary levels whose learners are members of the indigenous community with a unique cultural language.

The IP school teachers' lived experiences, both positive and negative, were recorded, and interpreted through a series of in-depth interviews, focus group discussions, and thematic analysis. It has more significant contribution to literature, mainly because only a few researchers and scholars have the guts to investigate and discuss through factual analysis the washback of MTB-MLE in language education.

The generated implications for educational practice shared by the MTB-MLE teachers in IP schools served as the contribution of this study. Hence, this further showed the answers on how to preserve the endangered dialects or languages that were endemic in our localities, such as the Bagobo and Matigsalug. The insights shared by the MTB-MLE teachers in IP schools also provided inspiration for the novice teachers who wish to teach in IP schools someday.

RESEARCH QUESTIONS

The researcher's task was to describe and investigate a phenomenon involving teachers' experiences who handled IP learners and taught MTB-MLE. This study has the following research questions:

1. What are the struggles and difficulties of Mother Tongue – Based teachers in IP schools?
2. What are the coping strategies that the Mother Tongue – Based teachers employ?
3. What are the insights and lessons learned by Mother Tongue – Based teachers that they can share in the community?

Theoretical Lens

The researcher was guided by the theoretical perspectives through the lens of Constructivism founded by John Dewey (1998), the Normalization Process Theory developed and introduced by Carl R. May and Tracy Finch (2012) and the Humanist Theory by Rogers (1960). In the perception of constructivism theory, learners were encouraged to realize the central idea through discovery learning and understanding. Learning about vocabulary by playing strips of words; used of

manipulative in learning about additions and subtractions; or learning the impacts, effects, and relationships of subjects with objects through experiments with different sizes and shapes of objects were examples which motivated students in learning (Suhendi & Purwarno 12).

Significance of the Study

This ingenuity to fully implement the MTB-MLE was brought based on the lessons, findings, and conclusions of primary local findings and international studies in the elementary education sector which have validated, corroborated, and claimed the superiority of the use of learner's mother tongue or first language (Jorolan-Quintero '762). Consequently, this study's global significance in this modern era was to discuss the predominant public schools’ model around the globe that education has been that notion of "one size fits all." This study facilitated the readers to open their eyes to the reality that in implementing MTB-MLE, various considerations must be thoroughly discussed by countries who had more than two languages before implementing or adopting it. This research's social value was visible in this study's results, wherein teachers' lived experiences described the properties of teaching the borrowed MT from the larger society.

The Department of Education in Davao City will directly benefit from this study. The researcher's main goal was to interpret the teachers' lived experience in teaching MTB in an IP school, and this led to a discovery of means and innovations on how to use the native language of Bagobo and Matigsalug tribe and preserved their cultural identity. The teachers assigned in the IP schools gained benefits as they were directed in a series of comprehensive training by the key person who knows the native languages. Besides that, the output of instructional materials and innovations shared by the teachers in IP schools provided realization to have more of these which were applicable also in some other schools. Other regions across the country may also benefit from this study by conducting future studies containing subjects (local or native language present) in their specific or own localities.

RESULTS

This chapter described the results of the study based on the information analysis of the qualitative data. The presentation of the results of the qualitative data included the thematic analysis of the lived experiences of the Mother Tongue-Based teachers in IP schools. The findings with their lived experiences showed the participants’ challenges, coping mechanisms, and insights in teaching the Mother Tongue-Based instruction to the IP learners. It also described the analysis of the transcriptions from the conducted In-Depth Interviews (IDI) and Focus Group Discussions (FGD).
Profile of the Participants

Eight research participants took part in the in-depth interview (IDI) while were seven joined the focus group discussion (FGD), as shown in Table 1. Further, the table below shows the profile of the research participants, wherein most of them are from urban areas. Additionally, eight participants were teaching monograde or handling one grade level, while seven were teaching in multigrade levels. The participants’ years in service showed from two to seven years in teaching IP learners in IP schools. Their age ranges from 26 to 45 years old, and most of them are females.

<table>
<thead>
<tr>
<th>Codes of the Participants</th>
<th>Years in Service</th>
<th>Age</th>
<th>Sex</th>
<th>Study Group Classifications</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDI.TR1</td>
<td>3</td>
<td>26</td>
<td>Female</td>
<td>IDI</td>
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</tr>
<tr>
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<tr>
<td>IDI.TR3</td>
<td>2</td>
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<td>IDI</td>
<td>Grade 3</td>
</tr>
<tr>
<td>IDI.TR4</td>
<td>7</td>
<td>27</td>
<td>Female</td>
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<td>Grade 2</td>
</tr>
<tr>
<td>IDI.TR5</td>
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<td>Grade 2</td>
</tr>
<tr>
<td>IDI.TR6</td>
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<td>IDI</td>
<td>Grade 1</td>
</tr>
<tr>
<td>IDI.TR7</td>
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<td>Male</td>
<td>IDI</td>
<td>Grades 2 &amp; 3</td>
</tr>
<tr>
<td>IDI.TR8</td>
<td>3</td>
<td>28</td>
<td>Female</td>
<td>IDI</td>
<td>Grade 2</td>
</tr>
<tr>
<td>FGD.TR1</td>
<td>3</td>
<td>26</td>
<td>Female</td>
<td>FGD</td>
<td>Grades 1 &amp; 2</td>
</tr>
<tr>
<td>FGD.TR2</td>
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<td>28</td>
<td>Female</td>
<td>FGD</td>
<td>Grades 3 &amp; 4</td>
</tr>
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<td>FGD</td>
<td>Grades 1 &amp; 2</td>
</tr>
<tr>
<td>FGD.TR4</td>
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<td>FGD</td>
<td>Grades 1</td>
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<tr>
<td>FGD.TR5</td>
<td>4</td>
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<td>Female</td>
<td>FGD</td>
<td>Grades 3 &amp; 4</td>
</tr>
<tr>
<td>FGD.TR6</td>
<td>7</td>
<td>37</td>
<td>Female</td>
<td>FGD</td>
<td>Grades 2 &amp; 3</td>
</tr>
<tr>
<td>FGD.TR7</td>
<td>3</td>
<td>30</td>
<td>Female</td>
<td>FGD</td>
<td>Grades 1 &amp; 2</td>
</tr>
</tbody>
</table>

These teachers were chosen based on the criteria on the inclusion and exclusion set in this study which included the actuality that these teachers should be teaching or implementing the use of mother tongue-based instructions in IP schools. Those teachers who were not teaching IP learners and not teaching mother tongue were not included in the study. As seen in the table below, teachers were assigned mostly in Grades 1-3, which indicated that they were using mother tongue-based instruction in their teaching as stipulated in the K-12 Basic Education Curriculum.

The Struggles and Difficulties of Mother Tongue-Based Teachers in IP Schools

Based on the transcribed lived experiences of the teacher-participants during the IDI and FGD, the researcher coded the participants’ responses and had identified the themes with the corresponding core ideas generated under each research question. While discussing the first research questions with the participants of both IDI and FGD, the researcher observed that the participants were very active in sharing their experiences and thoughts in the struggles and difficulties they had encountered.

As presented in table number 2, the struggles of Mother tongue-based teachers in IP schools contained the following essential themes: Highly tasking instructional responsibilities, Challenging use of native dialects, Difficulty with unfamiliar terminologies, Negative effects on English proficiency, and Aiming for positive learning outcomes. The core ideas in each theme were also presented based on the transcribed responses from the research participants.

Coping Strategies Employed by Mother Tongue-Based Teachers in IP Schools

The next research objective was learning what the coping strategies were employed by our Mother Tongue-Based teachers who were assigned in different IP schools. The role of the Mother Tongue-Based teachers assigned in different IP schools was to additionally provides strategies and techniques in language teaching.

During the actual gathering of data, the researcher observed that the respondents, when asked about their coping strategies on the problems they had encountered, were delighted to share their thoughts and experiences. They were happy because they finally realized their sacrifices and what they had done to impart knowledge with comfort for the years past in teaching MTB-MLE to the IP learners.

As presented in table 3, the coping strategies employed by Mother Tongue-Based teachers in IP schools produced five essential themes. These themes are self-retooling activities, Diversified teaching methods, Contextualized instructional delivery, Individualized instructions, and Acquaintance with the community. These themes generally refer to the essential activities of the teachers assigned in the IP schools.

As supported by the core ideas, respondents were very consistent with their answers and shared experiences. Thus, this
further indicated that most of the respondents shared the same coping strategies in dealing with their difficulties in teaching MTB-MLE with their IP learners. It was also noted in the results that the importance of the community involvement and the activities provided aided the teachers in coping with the difficulties of providing the IP learners with instructions.

**Insights and Lessons Shared to the Community**

The insights and lessons shared by the respondents were really reflected in this study based on the struggles and difficulties they had encountered. The strengths and coping mechanisms that the MTB-MLE teachers presented in this study served as the ingredients for the participants to provide fruitful and meaningful insights and lessons. During the actual conduct of the FGD and IDI, most of the participants were very emotional in sharing the things that they had learned and the wisdom that they had gotten from teaching MTB-MLE to the IP learners.

In Table 4, themes were formed from the respondents’ answers to the questions about their insights and lessons shared with the community. Based on the respondents’ answers, themes were supported by the core ideas, as seen in the table below. The results in this section were also supported by the raw statements of the participants.

Reading these verbatim statements by some means gave realizations that there was always something to learn from these teachers who were really trying hard just to deliver quality education to our IP learners. These teachers also ensured that equality among tribes and preserving their native language, culture, and traditions were always their top priorities.

**Struggles and Difficulties of Mother Tongue-Based Teachers in IP Schools**

From the transcribed lived experiences during the in-depth interviews and focus group discussions of the Mother Tongue-Based teachers and their struggles and difficulties in IP schools, the researcher coded the core ideas and had revealed five essential themes. They are **Highly-Tasking Instructional Responsibilities, Challenging Use of Native Dialects, Difficulty with Unfamiliar Terminologies, Negative Effects to English Literacy, and Aiming for Positive Learning Outcomes.**

**Coping Strategies Employed by Mother Tongue-Based Teachers in IP Schools**

Every problem had its own set of solutions. In this case, Mother Tongue-Based teachers’ struggles, and difficulties led to the unique and practical application of their identified coping strategies based on their lived experiences teaching IP learners in IP schools. The themes were generated based on the participants’ responses: **Self-retooling Activities, Diversified Teaching Methods, Contextualized Instructional Delivery, Individualized Instruction, and Acquaintance with the Community.**

The lived experiences of the Mother Tongue-Based teachers in IP schools provided concrete data gathered from this exertion and proved that mother tongue teachers in IP schools can develop learners’ linguistic, verbal, and interpersonal skills through inclusive education. According to Domingo (2), Lifelong communication skills, decision-making, and problem-solving can be attained through interactive and integrative teaching modes.

**Insights Shared by Mother Tongue-Based Teachers to the Community**

After all the struggles and difficulties and the coping strategies employed by the Mother Tongue-Based teachers in IP schools were exposed in this study, the participants needed to also impart their insights and lessons learned from teaching the IP learners. As presented in Table 1, most of the participants of this study had served IP schools for 3 years and more, which was enough for us to learn from them. The following themes were highlighted from this section: The Need for Social Support; Provision of In-Service Trainings; Deep Understanding of Learners’ Needs; Enhancement of Student-Teacher Relationship; and lastly, the Enrichment of Native Languages.

The need for social support was essential, as discussed by the participants, resulting in the realization that the constructivism theory was highly encouraged. Teacher-participants had expressed the need for community assistance and mentoring from the local governing units, particularly the barangay where the IP school community belongs.

**Implications for Educational Practice**

The themes that emerged from the transcribed lived experiences of Mother Tongue-Based teachers in IP schools had clearly stipulated a new paradigm that improved their realizations on the vitality of their functions and gave more prominence to their responsibilities and commitment as a catalyst of change. For instance, the teacher's role may be somewhat highly-tasking sometimes. Too many responsibilities may be added to them. However, in the chosen path of our teachers, it was still innate to them to look for a positive way to address this problem.

The coping strategies employed by the Mother Tongue-Based teachers in IP schools indicated that self-retooling may sort to the solicitations of insights and lessons from former teachers, which will help the current teachers in IP schools survive the task deliver quality education for the IP learners. By listening to the seasoned teachers, one can also innovate and improve the practices to make them more functional to the IP learners.

The utilization of various localized teaching instruments or instructional materials will also aid the teachers in exploring the method of the indigenization process. Talking about the contextualized materials, the indigenization processes may be applied to almost all disciplines. They can teach a strong
foundation of values formation and cultural appreciation. In terms of language teaching, teachers in IP schools also implied contextualization of their instructional delivery using various activities which provided relative and authentic situations or real scenarios to localize the lessons with ease and aptness.

With the teachers' willingness to know more about the indigenous people, the acquaintance with the community through the organization of an IP Day was suggested to promote harmony, understanding, and social support to the IP community. Moreover, the teacher's awareness of the IP community will help improve instructional plans that are most excellent for the IP learners.

The enhancement of the teacher and learner relationship was highly encouraged. Lots of activities may be provided to achieve the goal of being open with our learners. The importance of the feeling of belongingness was also highlighted. Teachers lightened the tasks in delivering the instructions for the IP learners if teachers were also willing to work hand-in-hand towards achieving the listed common goal.

Implication for Future Research
The limitation that was shrouded in this study was the number of participants which was included and was selected by the researcher wherein elementary school teachers in the identified IP schools in the Schools Division of Davao City, particularly in Marilog Districts A and B and within that, the researcher only interviewed 15 teachers. However, the assessment processes used by 15 teachers of Marilog District A and B that the researcher interviewed may not speak for the entire population of the Mother Tongue-Based teachers in IP schools in Davao City.

This study's results and findings will not guarantee generalization beyond these 15 participants. Aside from the lived experiences and their coping mechanisms on the challenges mentioned, the researcher was expecting that further studies may be conducted and made, which was highly associated with the IP education and mother-tongue instruction, in any part of the region or even in our country that would be investigated by more future researchers. The researcher suggested that potential researchers explore the orthography of the tribal community and their language preservations and the documentation and conservation of their practical native materials due to the lack of learning materials to be passed on to the next generations.

CONCLUDING REMARKS
As a grade-school teacher with a teaching background in IP school, the researcher chose to study the Mother Tongue-Based instruction in the context of teachers and the IP learners in different tribal communities. It is an educational issue that needs to be discussed addressed. The researcher found this study relevant to the character as a concerned teacher in one of the IP schools in Davao City, as a grade teacher, and as a student.

The researcher decided to have the qualitative research design to take the topic into a richer investigation. With the hint of notable theories, constructivists' notion in this study was highly observed. Teachers' constructive way of teaching the IP learners, with the help of their colleagues, lessened the tasks of dealing with difficulties. The Normalization Process theory, on the other hand, supported the embedding of instructional materials in language teaching. And finally, the Humanist theory suggests that to provide meaningful realization, experiences of the subject were highly organized, categorized, and analyzed into a new type of perspective.

The researcher witnessed the difficulties of the fellow teachers in IP schools in dealing with the Mother Tongue education and IP learners' native language in their daily instruction. The researcher's greatest desire was to uncover how the teachers teaching MTB in IP schools cope with the struggles and difficulties. The experiences and insights that the teachers in IP schools may illuminate the beginners or those teachers who were assigned to the IP schools with no background on what they are dealing with and help future teachers who would be facing the same condition.

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6. Benson, Caroll & Young, Catherine. 'How can MTB-MLE be carried out in classrooms where three or more local languages are represented as mother tongues?', in Trudell, 2016. Good answers to tough questions in mother tongue-
ETHICAL LEADERSHIP AT WORK AND WORKPLACE WELL-BEING OF EMPLOYEES IN A COAL POWER PLANT

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ABSTRACT
This study proposed that ethical leadership at work and workplace well-being are significantly related and that ethical leadership could also significantly influence workplace well-being. There was a total of 122 samples in this study, which included the rank and file workers and employees in a coal power plant, with the exclusion of the top management. The data were analyzed using descriptive and inferential statistics such as the mean and standard deviation, Pearson r, and multiple regression analysis. Results yielded high levels of ethical leadership at work and workplace well-being. Also, the correlation test revealed a significant relationship between the two variables in this study. In addition, the regression analysis revealed a significant influence of ethical leadership on workplace well-being. Finally, the regression models revealed that people-orientation is the best predictor for workplace well-being. The paper offers further discussion of the results.

KEYWORDS: ethical leadership at work, workplace well-being, coal power plant, public administration, Philippines

INTRODUCTION
Leadership affects workers, and unethical leadership negatively influences the workers' well-being. Workers under this leadership are emotionally exhausted and unproductive [1]. More so, when unhealthy working environment pairs with unethical leadership. Workers are emotionally exhausted and physically sick, and others die prematurely [2].

Well-being is one of life's essentials; it is not only the absence of disease or illness. It is an intricate combination of physical, mental, emotional, and social health factors [3]. In addition, happiness and life satisfaction are products of well-being. In short, well-being reveals a person's feelings about himself and life [4].

Ethical leadership at work is also known as positive leadership. Research has proven that ethical or positive leadership strongly correlates with each other [5]. Similarly, [6] found a significant correlation between ethical leadership and well-being, explaining the effect of leadership either in quality of care, work, service, or product.

However, this ethical or positive leadership field is relatively new [7]. In this study's locale, the author has not come across such an investigation. Thus there is a research gap, which makes this study urgent. The findings of this study will shed light on the impacts of ethical leadership at work on the well-being and productivity of workers. Not only that, this study will put ethical or positive leadership in its rightful position in the workplace.

OBJECTIVES
This study mainly sought the significant relationship between its variables and the influence that ethical leadership at work has on the well-being of workers in a coal power plant.

In addition, it intended to describe the levels of ethical leadership at work and workplace well-being through the indicators found inside the tables.
METHODS

This study was quantitative non-experimental, primarily employing a descriptive-correlational research technique with 122 survey respondents. The survey respondents were the rank and file workers in a coal power plant selected through stratified random sampling [8]. Data were analyzed using the mean and standard deviation, which described the levels of ethical leadership at work and the workplace well-being of workers in a coal power plant. Pearson’s r determined the significance of the relationship between the variables [9], and regression analysis established the predictors [10] of the workplace well-being of workers in a coal power plant.

RESULTS AND DISCUSSION

Table 1

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
<th>Descriptive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>People-orientation</td>
<td>0.53</td>
<td>4.03</td>
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</tr>
<tr>
<td>Fairness</td>
<td>0.63</td>
<td>4.05</td>
<td>High</td>
</tr>
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<td>Power Sharing</td>
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</tr>
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<td>Concerns for Sustainability</td>
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<td>3.85</td>
<td>High</td>
</tr>
<tr>
<td>Ethical Guidance</td>
<td>0.55</td>
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<td>High</td>
</tr>
<tr>
<td>Role Clarification</td>
<td>0.54</td>
<td>3.94</td>
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</tr>
<tr>
<td>Integrity</td>
<td>0.77</td>
<td>3.77</td>
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</tr>
<tr>
<td>Overall</td>
<td>0.38</td>
<td>3.97</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 1 displays supervisors’ overall high level of ethical leadership in a coal power plant, as evidenced by an overall mean score of 3.97 with a standard deviation of 0.38. The score means that the respondents often observed the traits such as people-orientation, fairness, power-sharing, concerns for sustainability, ethical guidance, role clarification, and integrity exhibited by their supervisors in their workplace. These are the crucial aspects of management that employees often want to witness and experience. Moreover, a work environment with such ethical leadership exudes positivity that promotes workers’ well-being [5].

Ethical leadership means doing the right thing [11]; [12]. In addition, the leader acts according to the moral principles operating in the workplace [13]. Fairness and integrity, for example, are two of the ethical traits that employees look for in a leader [14] because with these attributes, they could expect transparency and not scandals spreading in the organization [15].

Ethical leadership is a process that does not go out of style [16]. Ethical leaders are wanted in a world with corruption and disloyalty to service, especially in government service [17]. Moreover, where leadership is ethical, members become ethical [18], and the workplace becomes a breeding ground for innovation, productivity, and success [19].

Table 2

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SD</th>
<th>Mean</th>
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<td>Work Satisfaction</td>
<td>0.37</td>
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<tr>
<td>Organizational Respect for the Employee</td>
<td>0.46</td>
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</tr>
<tr>
<td>Employee Care</td>
<td>0.72</td>
<td>3.92</td>
<td>High</td>
</tr>
<tr>
<td>Intrusion of Work into Private Life Questions</td>
<td>0.50</td>
<td>3.97</td>
<td>High</td>
</tr>
<tr>
<td>Overall</td>
<td>0.32</td>
<td>3.99</td>
<td>High</td>
</tr>
</tbody>
</table>
Table 2 shows the data on workplace well-being in a coal power plant. The overall mean score is 3.99, with a standard deviation of 0.32 means that the respondents are often satisfied with their workplace well-being, namely, work satisfaction, organizational respect for the employee, employee care, and intrusion of work into private life questions. Every indicator of workplace well-being has a high mean score, suggesting that the respondents have agreed that they often experienced the things stipulated in the survey items. For example, organizational respect for the employee (mean=4.07; sd=0.46) talks about employees trusting the senior people in the organization.

Workplace well-being is a sought-after condition by employees because they all want to be part of an organization offering a workplace imbued with happy and productive workers [20]. In contrast, the opposite workplace causes dissatisfaction among employees, tires the workers, and encourages turnover [21]; [22].

For example, it is vital that employees feel cared for and respected. Once employees are satisfied with how the administration treats them, they become more engaged with improved performance [23]. However, sometimes, there are issues at work that intrude into the private life of workers, challenging the physical, emotional, and cognitive well-being. Some can withstand these challenges and still hope for better outcomes, but some give up [24]. When this happens, the organization must get in the way ofremedying the situation.

Workplace well-being is the goal of every organization, in whatever season and condition – even with this pandemic [25]. Moreover, employees need workplace well-being, especially during difficult times, because it balances the opposing forces outside the organization [26].

Table 3 shows the correlation test results. The overall coefficient of correlation is .702, which is significant at a p-value of <.05. The correlation coefficient conveys a solid and positive relationship between ethical leadership at work and workplace well-being. It means that the 70.2% increase in ethical leadership at work would also increase workplace well-being by that level. Moreover, the relationship is two-tailed, meaning it is reciprocal in that whichever increases, one variable also goes with the same increase.

Of the seven indicators of ethical leadership at work, five have significant relationships with workplace well-being; the two indicators, concerns for sustainability and integrity,
display otherwise. In other words, the correlation coefficients of these two indicators are not substantial enough to establish a significant relationship. However, the associative function of Pearson r showed the linear association of the variables [27].

This result confirms several studies that proved ethical leadership at work and workplace well-being are significantly correlated [28]; [29]; [30]. Furthermore, the elements of ethical leadership at work such as people-orientation, fairness, power-sharing, concerns for sustainability, ethical guidance, role clarification, and integrity are also the imperatives of workplace well-being.

For example, people-orientation can result in a positively charged organization [31], affecting workplace well-being [32]; [33]. Fairness opens equal opportunities to workers, thereby giving them security and ease in their jobs, ensuing in job satisfaction [34]; [35]; [36]. Workplace well-being happens with fair leadership [37]; power-sharing shows democracy operating in the workplace. Employees are more attuned to democracy for the protection of their rights. Democracy in the workplace breeds employees' well-being [38]; [39].

Further, ethical leaders provide moral guidance to their members by promoting professionalism in the workplace. Professionalism breeds respect, tolerance, and a more effective workplace for diversity and well-being [40]. Role clarification is evident in a professional work setting prevents overlapping or stepping on others' toes to accomplish things. Nevertheless, collaboration among peers happens every time, and employees feel that their opinions, talents, and skills matter in the organization [41].

In sum, employees value how organizations treat them as persons. Therefore, workplace well-being can happen if organizations treat their employees as worthy people rather than a means to their end.

<table>
<thead>
<tr>
<th>Table 4</th>
</tr>
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<tbody>
<tr>
<td>Influence of the Ethical Leadership at Work on Workplace Well-being</td>
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<tr>
<td>Ethical Leadership at Work (indicators)</td>
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<td>People-Orientation</td>
</tr>
<tr>
<td>Fairness</td>
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<td>Power-Sharing</td>
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<td>Integrity</td>
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<td>r</td>
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<tr>
<td>R²</td>
</tr>
<tr>
<td>ΔR²</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>p</td>
</tr>
</tbody>
</table>

Table 4 displays the regression analysis of the data. The regression model shows that people-orientation, fairness, and ethical guidance are predictors of workplace well-being. However, of the three, people-orientation has the most influence over workplace well-being, as demonstrated by its huge beta coefficient of .538, significant at p<.05. The coefficient of determination (R²) is .702. It indicates that ethical leadership at work influences workplace well-being by 70.2 percent. The remaining 29.8 of workplace well-being is attributable to other factors outside of this study. The result implies that organizations that desire to increase workplace well-being should put ethical leadership at work at the organization's core. Because, whether they like it or not, ethical leadership at work could influence workplace well-being. As pointed out earlier in the previous discussion, ethical leadership is associated with workplace well-being [27].
Surprisingly, power-sharing, which has a significant relationship with workplace well-being, does not significantly impact the latter. In other words, despite the relationship between two variables, this relationship may or may not influence the other variable just like this one. Notably, the Pearson r test is not about cause and effect, but it determines the linear relatedness of the variables, that is, how the variables coincide with each other. Meaning the change in one variable corresponds with the difference in the other variable.

CONCLUSION
The descriptive statistics showed overall high levels of ethical leadership at work and workplace well-being at a coal power plant, suggesting that there is still room for improvement in both variables. Essentially, the correlation test revealed a solid, positive and significant relationship between ethical leadership at work and workplace well-being, suggesting strongly for upholding ethical leadership in the organization to achieve workplace well-being. In addition, the regression model revealed the predictive capability of ethical leadership at work with its manifest variable, people-orientation, as the prime predictor of the workplace well-being of workers in a coal power plant. Furthermore, the findings affirmed the foundation theories of this study that ethical leadership, authentic leadership, and prosocial leadership are all imperatives for workplace well-being.

The study concludes that leaders need to revisit the organization’s mission statement to redesign the existing approaches already operating in the workplace. Then, they would be able to tailor-fit and add new and relevant leadership approaches to boost workplace well-being to reach the peak measure.

REFERENCES


OBSERVATION ON THE PAPER ENTITLED INTEGRAL SOLUTION OF THE HOMOGENEOUS TERNARY CUBIC EQUATION

\[ x^3 + y^3 = 52(x + y)z^2 \]

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\(^4\) Professor, Department of Mathematics, Shrimati Indira Gandhi College, Affiliated to Bharathidasan University, Trichy-620 002, Tamil Nadu, India.

ABSTRACT

This paper concerns with the problem of obtaining non zero distinct integer solutions to the homogeneous ternary cubic equation \[ x^3 + y^3 = 52(x + y)z^2 \]. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

KEYWORDS: Ternary cubic, Integer solutions, Homogeneous cubic, Generation of solutions.

INTRODUCTION

The theory of Diophantine equations in multidegree with multivariables offers a rich variety of interesting and fascinating problems\(^{[1-4]}\). One may refer \(^{[5-22]}\) for cubic equation with three variables. It is observed that in \(^{[22]}\) the authors have presented some patterns of integer solutions to the ternary cubic equation \[ x^3 + y^3 = 52(x + y)z^2 \]. It is noted that the above equation has other choices of non-zero distinct integer solutions.

Thus, in this paper, the other choices of non-zero distinct integer solutions to the above ternary cubic equation are obtained. Also, formulas for generating sequence of integer solutions based on the given solution are presented.

METHODS OF ANALYSIS

The homogeneous ternary cubic equation under consideration is

\[ x^3 + y^3 = 52(x + y)z^2 \] (1)

To start with, it is observed that (1) is satisfied by the triples

\((x, y, z) = (16, 12, \pm 2), (6, -2, \pm 1), (16, 4, \pm 2), (48, 36, \pm 6)\).

However, we have other sets of non-zero distinct integer solutions to (1) which are illustrated below.

Introduction of the linear transformations

\[ x = 2(u + v), y = 2(u - v) \] (2)
in (1), it is written as

\[ u^2 + 3v^2 = 13z^2 \]  

(3)

The above equation is solved through different method for obtaining the values of 

\(u, v, z\). Substituting the values of \(u, v\) in (2) the corresponding values of \(x\) and \(y\) satisfying (1) are found.

We present below different methods of solving (3) and in view of (2), one obtains different sets of integer solutions to (1).

Set 1:

Assume \(z\) as

\[ z = a^2 + 3b^2 \]  

(4)

Write 13 on the R.H.S. of (3) as

\[ 13 = (1 + i2\sqrt{3})(1 - i2\sqrt{3}) \]  

(5)

Using (4) & (5) in (3) and employing the method of factorization, consider

\[ u + i\sqrt{3}v = (1 + i2\sqrt{3})(a + i\sqrt{3}b)^3 \]

After Equating the real and imaginary terms on both sides, it is seen that

\[ u = a^2 - 3b^2 - 2(ab) \]

\[ v = 2a^2 - 6b^2 + 2ab \]

Using in (2), one has

\[ x = 2(3a^2 - 9b^2 - 10ab) \]

\[ y = 2(-a^2 + 3b^2 - 14ab) \]  

(6)

Note : 1

In addition to (5), the integer 13 on the R.H.S. of (3) is written as

\[ 13 = \frac{(7 + i\sqrt{3})(7 - i\sqrt{3})}{4} \]  

or

\[ 13 = \frac{(5 + i3\sqrt{3})(5 - i3\sqrt{3})}{4} \]

Following the above procedure, one may obtain different set of integer solutions to (1).
Set 2:

(3) is written as

\[ u^2 = 13z^2 - 3v^2 = u^2 * 1 \quad (7) \]

Assume \( u = 13a^2 - 3b^2 \) 

(8)

Write 1 on the R.H.S. of (7) as

\[ 1 = (\sqrt{13} + 2\sqrt{3})(\sqrt{13} - 2\sqrt{3}) \quad (9) \]

Using (8) and (9) in (7) and employing the method of factorisation, consider

\[ \sqrt{13}z + \sqrt{3}v = (\sqrt{13} + 2\sqrt{3})(\sqrt{13}a + \sqrt{3}b)^2 \quad (10) \]

Equating the corresponding parts, one has

\[ z = 13a^2 + 3b^2 + 12ab, v = 26a^2 + 6b^2 + 26ab \]

Therefore, in view of (2), the corresponding integer solutions to (1) are given by

\[ x = 2(39a^2 + 3b^2 + 26ab), y = 2(-13a^2 - 9b^2 - 26ab) \]

Note:

In addition to (9), the integer 1 on the R.H.S. of (7) is written as

\[ 1 = \left( \frac{2\sqrt{13} + 3\sqrt{3}}{49} \right)^2 \quad \text{or} \]

\[ 1 = \left( \frac{2\sqrt{13} + 3\sqrt{3}}{25} \right)^2 \]

Following the above procedure, one may obtain different set of integer solutions to (1).

Set 3:

(3) is written as

\[ 3v^2 = 13z^2 - u^2 \quad (11) \]

Assume \( v = 13a^2 - b^2 \) 

(12)

Write the integer 3 on the L.H.S. of (11) as
Using (12), (13) in (11) and employing the method of factorisation, consider

\[ \sqrt{13}z + u = \left(2\sqrt{13} + 7\right)\left(\sqrt{13}a + b\right)^2 \]  

(14)

Equating the rational and irrational parts,

\[ z = 26a^2 + 2b^2 + 14ab \]

\[ u = 91a^2 + 7b^2 + 52ab \]

In view of (2), the corresponding integer solutions to (1) are given by

\[ x = 2\left(104a^2 + 6b^2 + 52ab\right) \]

\[ y = 2\left(78a^2 + 8b^2 + 52ab\right) \]

Note: 3

In addition to (13), the integer 3 on the L.H.S. of (11) is written as

\[ 3 = \left(2\sqrt{13} + 5\right)\left(2\sqrt{13} - 5\right) \]

Following the above procedure, one may obtain different set of integer solution to (1).

**GENERATION OF SOLUTIONS**

Different formulas for generating sequence of integer solutions based on the given solutions are presented below:

Let \((u_0, v_0, z_0)\) be any given solutions to (3)

**Formula 1:**

Let \((u_1, v_1, z_1)\) given by

\[ u_1 = h - 2u_0, \quad v_1 = h - 2v_0, \quad z_1 = 2z_0 \]

(15)

be the second solution to (1). Using (15) in (1) and simplifying, one obtains

\[ h = u_0 + 3v_0 \]

In view of (17), the values of \(u_1\) and \(v_1\) are written in the matrix form as

\[ (u_1, v_1)^T = M(u_0, v_0)^T \]


where
\[
M = \begin{bmatrix}
-1 & 3 \\
1 & 1 \\
\end{bmatrix}
\]
and \(t\) is the transpose.

The repetition of the above process leads to the \(n^{th}\) solutions \(u_n, v_n\) given by
\[
(u_n, v_n) = M^n (u_0, v_0)
\]

If \(\alpha, \beta\) are the distinct eigen values of \(M\), then
\[
\alpha = 2, \beta = -2
\]

We know that
\[
M^n = \frac{\alpha^n}{(\alpha - \beta)} (M - \beta I) + \frac{\beta^n}{(\beta - \alpha)} (M - \alpha I), I = 2 \times 2 \text{ Identity Matrix}
\]

Thus, the general formulas for integer solutions to (1) are given by
\[
z_n = 2^n z_0,
\]
\[
x_n = 2(u_n + v_n) = 2 \left[ u_0 \left( \frac{2\alpha^n + 2\beta^n}{4} \right) + v_0 \left( \frac{6\alpha^n - 2\beta^n}{4} \right) \right]
\]
\[
y_n = 2(u_n - v_n) = 2 \left[ \beta^n u_0 - \beta^n v_0 \right]
\]

**Formula 2:**

Let \((u_1, v_1, z_1)\) given by
\[
u_1 = u_0 , v_1 = v_0 + 2h, z_1 = h - z_0
\]
be the second solution to (1). Using (18) in (1) and simplifying, one obtains
\[
h = 12v_0 + 26z_0
\]

In view of (17), the values of \(v_1\) and \(z_1\) are written in the matrix form as
\[
(v_1, z_1) = M(v_0, z_0)
\]
where
\[
M = \begin{bmatrix}
25 & 52 \\
24 & 51
\end{bmatrix}
\]
and \( t \) is the transpose.

The repetition of the above process leads to the \( n^{th} \) solutions \( v_n, z_n \) given by

\[
\left( v_n, z_n \right) = M^n \left( v_0, z_0 \right)
\]

If \( \alpha, \beta \) are the distinct eigen values of \( M \), then

\[
\alpha = 38 + \sqrt{1417}, \quad \beta = 38 - \sqrt{1417}
\]

We know that

\[
M^n = \frac{\alpha^n}{(\alpha - \beta)}(M - \beta I) + \frac{\beta^n}{(\beta - \alpha)}(M - \alpha I)I = 2 \times 2 \text{ Identity Matrix}
\]

Thus, the general formulas for integer solutions to (1) are given by

\[
u_n = u_0 + \frac{12}{\sqrt{1417}} \left( \frac{\alpha^n + \beta^n}{2} - \frac{13(\alpha^n - \beta^n)}{2\sqrt{1417}} \right) + \frac{26}{\sqrt{1417}} \left( \frac{\alpha^n - \beta^n}{2} \right) z_0
\]

\[
z_n = \frac{12}{\sqrt{1417}} \left( \frac{\alpha^n - \beta^n}{2} \right) v_0 + \frac{12}{\sqrt{1417}} \left( \frac{\alpha^n + \beta^n}{2} - \frac{13(\alpha^n - \beta^n)}{2\sqrt{1417}} \right) z_0
\]

\[
x_n = 2(u_n + v_n)
\]

\[
y_n = 2(u_n - v_n)
\]

**Formula 3:**

Let \((u_1, v_1, z_1)\) given by

\[
u_1 = 4h - 3u_0, v_1 = 3v_0, z_1 = 3z_0 + h
\]

be the second solution to (1). Using (19) in (1) and simplifying, one obtains

\[
h = 8u_0 + 26z_0
\]

In view of (17), the values of \( u, \) and \( z_1 \) are written in the matrix form as

\[
\left( u_1, z_1 \right) = M \left( u_0, z_0 \right)
\]
where
\[
M = \begin{bmatrix}
29 & 104 \\
8 & 29
\end{bmatrix}
\]
and \( t \) is the transpose.

The repetition of the above process leads to the \( n^{th} \) solutions \( u_n, z_n \) given by
\[
(u_n, z_n)^T = M^n (u_0, z_0)^T
\]

If \( \alpha, \beta \) are the distinct eigen values of \( M \), then
\[
\alpha = 29 + 8\sqrt{13}, \beta = 29 - 8\sqrt{13}
\]

We know that
\[
M^n = \frac{\alpha^n}{(\alpha - \beta)}(M - \beta I) + \frac{\beta^n}{\beta - \alpha}(M - \alpha I), I = 2 \times 2 \ Identity \ Matrix
\]

Thus, the general formulas for integer solutions to (1) are given by
\[
u_n = u_0 \left( \frac{\alpha^n + \beta^n}{2} \right) + \frac{\sqrt{13}}{2} z_0 (\alpha^n - \beta^n)
\]
\[
z_n = \frac{1}{2\sqrt{13}} u_0 (\alpha^n - \beta^n) + z_0 \left( \frac{\alpha^n + \beta^n}{2} \right)
\]
\[
x_n = 2(u_n + v_n)
\]
\[
y_n = 2(u_n - v_n)
\]

CONCLUSION
In this paper, an attempt has been made to obtain non-zero distinct integer solutions to the ternary quadratic Diophantine equation
\[
x^3 + y^3 = 52(x + y)z^2
\]
representing homogeneous cone. As there are varieties of cones, the readers may search for other forms of cones to obtain integer solutions for the corresponding cones.

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CUSTOMERS' PREFERENCE FOR APPAREL BRANDS WHEN SHOPPING ONLINE- A STUDY

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ABSTRACT

In today's technology-driven society, client preferences have shifted substantially with majority of the age group between 18 and 30 years preferring to buy garments online. The fashion companies, in particular, are given a high priority when it comes to buying by the majority of teens and this fact has prompted numerous online shopping websites to cater to the youth market. The purpose of this study is to articulate customers' perceptions about online buying with particular emphasis on Apparel Brands.

KEY WORDS: E-Commerce, Online Shopping, Preference, Perception.

INTRODUCTION

The internet is transforming the way customers shop and purchase items and it has grown to become a worldwide phenomenon. Numerous businesses have begun to utilise the internet in order to reduce marketing costs, consequently lowering the price of their products and services in order to compete in the highly competitive marketplaces. Additionally, businesses utilise the internet to transmit, communicate and publish information.

Due to the various advantages and benefits, an increasing number of consumers now choose online shopping to traditional shopping. In recent years, the buyer's decision-making process has shifted substantially. Buyers perform thorough research online before meeting a sales representative. Additionally, buyers are making more direct purchases online, using their smartphone and bypassing conventional brick-and-mortar businesses entirely. The internet has significantly simplified and accelerated the process of conducting business. It has resulted in a shift in how individuals do business with a fast rising global trend toward online buying or e-commerce. E-commerce thus facilitates market the product, solicit feedback and perform customer satisfaction surveys. Customers utilise the internet not just to purchase products online, but also to compare prices, product characteristics and the after-sale support they will receive from certain retailers. Experts are optimistic about the future of online commerce. Additionally to the enormous potential of present and future e-commerce customers, it is a boon. It has been more than two decades since the emergence of business-to-customer e-commerce. Electronic commerce scholars and practitioners are continually striving to get a better understanding of customer behaviour in cyberspace.

ONLINE SHOPPING AND E-COMMERCE IN INDIA

The rapid growth of e-commerce in India over the last two decades and rising internet and mobile phone penetration has changed the way we communicated and do business. Electronic commerce is a relatively new concept. It is heavily reliant on the internet and mobile phone revolutions to fundamentally alter how businesses interact with their customers at the moment. The industry of online fashion retailing is booming. Numerous sites have popped up in recent years, all vying for a piece of an extremely satisfying retail pie. Additionally, this competition has resulted in both small and large businesses innovating in order to stay ahead of a ferocious pack. Additionally, the segment is attracting capital. According to a report published by consultancy Technopak titled 'Apparel E-tailing in India,' the country's $130 million apparel "e-retailing space" has attracted investments totaling $70 million, or 40% of the total funding received by Indian online retailers over the last two years. Increased customer-driven purchases in durables and electronics, apparel and accessories as well as traditional products such as books and audio-visual are expected to drive growth. The birth and growth of the internet has been the century's most significant events. E-commerce in India has come a long way since its timid beginnings in the 1999-2000 period to a point where anyone can sell and find anything online, from high-end products to meagre peanuts.
The majority of businesses use the internet to showcase their product line and services in order to make them accessible to a global market and to reach out to a larger range of their audience. The apparel brands are making significant investments in online shopping capabilities and interactive features to complement their apps and websites. Retailers and manufacturers are rushing to release new products in order to keep up with fast fashion leaders such as Zara, H&M, and Forever 21, which release new fashions on a weekly or biweekly basis. There are a lot of reasons why customers today prefer shopping online:

1. **Convenience** - The convenience is the biggest perk. Where else can you comfortably shop at midnight while in your pajamas? There are no lines to wait in or shop assistants to wait on to help you with your purchases and you can do your shopping in minutes. Online shops give us the opportunity to shop 24/7 and also reward us with a “no pollution” shopping experience. There is no better place to buy informational products like e-books, which are available to you instantly as soon as the payment goes through. Downloadable items purchased online eliminate the need for any kind of material goods at all, as well, which helps the environment!

2. **You can send gifts more easily** - Sending gifts to relatives and friends is easy, no matter where they are. Now, there is no need to make distance an excuse for not sending a gift on occasions like birthdays, weddings, anniversaries, Valentine’s Day, Mother’s Day, Father’s Day and so forth.

3. **Price comparisons** - Comparing and researching products and their prices is so much easier online. Also, we have the ability to share information and reviews with other shoppers who have firsthand experience with a product or retailer.

4. **No crowds** - People hate crowds when shopping. Especially during festivals or special events there can be such a huge headache. Also, it tends to be more chaotic when there are more crowds out and this sometimes makes us feel rush or hurried. Parking also becomes a huge issue. All of these problems can be avoided when you shop online.

5. **No need to travel** - People don't usually like to move a lot to get what they want. Of course, nothing can compete with experience of going to a cloth boutique and buying what you want, but normally people just don't want to travel. Customers don't usually live near the shops they would want to visit, but today they have an option to visit the shop online.

**CUSTOMER BEHAVIOUR TOWARDS PURCHASE OF ONLINE APPAREL**

The phrase "customer attitude towards online shopping" refers to a person's psychological condition when it comes to buying purchases online. The term "online purchasing behaviour" refers to the act of purchasing goods online. The process of internet shopping is similar to that of conventional purchasing. Prior to making a final purchase, the client is inundated with a variety of factors that limit or affect the buyer's ultimate decision.

**OBJECTIVES OF THE STUDY**

The objective of the research study is to investigate customer behavior toward purchasing online apparel, which in turn provides e-marketer with a constructional framework for their e-business strategies. The specific objectives of this research are:

1. To study and determine the level of customer awareness about online buying.
2. To identify the various factors which motivate a customer preference of online shopping
3. To estimate the preference of apparel brands by the customers
4. To analyze the problem customers face during online shopping.

**METHODOLOGY**

In order to identify and gain insight into the most essential characteristics that online consumers consider when making clothes purchases on the internet, a survey was conducted. To further improve customer awareness and increase the effectiveness of their online marketing strategy, the findings of this research will be provided in the form of a simplification for online garment purchases. It was necessary to collect primary data through the use of a structured questionnaire, which was closed ended and had questions that were meant to evaluate respondents' levels of satisfaction while keeping the study's objectives in mind. Secondary data was obtained through websites as well as from a few research publications that were linked to this issue. The complete data collection process is carried out in order to get insight into the purchasing habits of clients who make purchases of online clothes. The number of participants in my project is 100.

**ANALYSIS AND DISCUSSION**

Based on the study on 70 respondents chosen for the field survey, the Cronbach’s alpha is computed to evaluate the internal consistency among the variables studied. The results are presented in Table-1.
An alpha value of 0.938 was obtained from the data in Table-1 for the 23 questions used to construct the survey and shows that there is good internal consistency among the survey items.

**T-TEST RESULTS**

The Sample T Test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. The Sample T Test is a parametric test. This test is also known as: Sample t Test. To analyze the gender wise significant difference in the perception of the customers, independent sample t-test is applied and results are shown in Table-2.

| Source: Primary Data |

**Table-1: Reliability Analysis results**

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.938</td>
<td>23</td>
</tr>
</tbody>
</table>

**Source: Primary Data**

**Table-2: Results of Independent Sample t-test**

<table>
<thead>
<tr>
<th>Independent Samples Test</th>
<th>Levine’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>Employment Type Of Respondent</td>
<td>Equal variances assumed</td>
<td>.224</td>
<td>.638</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source: Primary Data**

**Interpretation**

Ho: There is no significant difference in the perception of male and female customers on purchasing apparel online. H1: There is significant difference in the perception of male and female customers on purchasing apparel online. P=.173 which is greater than .05 then we have to accept Ho. Hence, it is proved that there is no significance difference in the perception of male and female customers on purchasing apparel online.

**Results of Chi-square Test**

The relationship between location of the consumers and choice of garment brands through online purchasing is investigated using Chi-square test. Results are given in Table-3.

| Source: Primary Data |

**Table-3: Chi-square test results**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.558</td>
<td>4</td>
<td>.816</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.570</td>
<td>4</td>
<td>.814</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.682</td>
<td>1</td>
<td>.409</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.94.

**Source: Primary Data**
Interpretation

Null Hypothesis (Ho)
Ho: There is no significant association in between locality of the customers and preference on apparel brands through online shopping.

Alternative Hypothesis (H1)
H1: There exists a significant association between locality of the customers and preference on apparel brands through online shopping.

Hence, it is concluded from the table that there is no significant association between locality of the customers and preference on apparel brands through online shopping. Since the analysis revealed that the asymptotic significance level was .816 which is greater than .05 accept Ho and reject H1.

RESULTS OF CROSS TABULATION

The results on gender wise amount of transaction done through online shopping for the purchase of apparel brands is analyzed and presented in Table-4. From the results, it is clear that majority of the customers from both male and female category have opined that they shop below Rs.2500 through online shopping. Overall, majority of the customers are doing online shopping in the range of less than Rs.3000 for the purchase of apparel brands.

<table>
<thead>
<tr>
<th>Table-4: Cross Tabulation Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount of transaction done through online shopping</strong></td>
</tr>
<tr>
<td>below 2500</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Primary Data

Results of ANOVA test

The ANOVA test is applied to analyze whether there is a significant difference in the amount of transaction done through online shopping. Results are presented in Table-5.

<table>
<thead>
<tr>
<th>Table-5:ANOVA Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANOVA</strong></td>
</tr>
<tr>
<td><strong>Gender type of respondent</strong></td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Primary Data

Interpretation

Ho: There is no significant difference in the amount of transaction done through online shopping.

H1: There is a significant difference in the amount of transaction done through online shopping.

P=.747 which is greater than .05 so we have to accept Ho. Hence, it is concluded that there is no significant difference in the amount of transaction done through online shopping.

FINDINGS & SUGGESTIONS

- The survey reveals that reviews are extremely popular among those between the ages of 15-20, with more than half of the sample population falling into this category.
- The purchase of online clothes, on the other hand, has an impact on individuals because they believe that online purchases are safe and they choose for doorstep delivery, which saves them time while also making them feel more comfortable with their purchase.
  - I believe that the consumer should be made aware of the fact that one of the security features of using credit cards and debit cards is that they can be used in the event of a disagreement.
  - It demonstrates that online purchasers are safeguarded against fraudulent use of a credit card or debit card, which is important.

CONCLUSION

According to the research, online shopping is becoming more popular and is becoming a trend. This is due to the value proposition it provides to customers, which includes convenience, 24*7 shopping, doorstep delivery, a broad product selection and an ever-expanding range of unique and
unusual gift suggestions. The convenience, cost-effectiveness and safety of online purchasing can be enhanced if the buyer takes certain steps before making a purchase. Customers must exercise extreme caution when dealing with bogus shopping websites and the steep discounts promised by them on fashion brands.

REFERENCES


THE PROMISING RESPONSIBILITY OF ICT IN TEACHING-LEARNING PROCESS DURING COVID-19

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ABSTRACT
The present paper attempts to analyze the effects of COVID-19 Pandemic on multiple dimensions of human life especially the instructional technologies, the emergence of the role of ICT and other alternative technologies which have provided newer models in Teaching-Learning process gradually supplanting the conventional methods of teaching-learning process. The Nano Architecture Mobile Oriented Digital Institute (NAMODI), specific provisions in the National Education Policy, 2022 regarding ICT and its role in Indian Education system of the new millennia are other important components of the study. Web reports, Academic research, scholarly reviews and articles, recent studies, surveys conducted by the individuals as well as socio-cultural groups and organizations online, academic institutions etc. have been incorporated in the present study to validate the proposed topic. It’s not merely the negative impact of COVID-19, but also a futuristic approach that has ushered due to COVID-19 in the Education system and the pedagogical technologies, has also been included in the paper.

KEY-WORDS: COVID-19 Pandemic, Instructional Technologies, New Education Policy, 2022

INTRODUCTION
The onslaught of the COVID-19 (Coronavirus) pandemic has adversely affected the entire human life disrupting all human activities, world economy sliding down steeply, millions of affected people have been killed due to the spread of this disease. The most common symptoms of this viral infection are fever, cold, cough, bone pain and breathing problems, and ultimately leading to pneumonia. This, being a new viral disease affecting humans for the first time, vaccines are not easily available. Thus, the emphasis is shifted on precautions such as extensive hygiene protocol (e.g., regularly washing of hands, avoidance of face to face interaction etc.), social distancing, and wearing of masks, and so on. This virus is spreading exponentially region wise. Countries are banning gatherings of people to the spread and break the exponential curve. Many countries are locking their population and enforcing strict quarantine to control the spread of the havoc of this highly communicable disease. Human life, socio-cultural behavior, domestic violence, dislocation and trauma of migration and homelessness, emerging new lifestyle, dietary habits and health awareness, alternative modes of teaching learning process, economic activities, social behavior, international relations and diplomacy, commerce and manufacturing of goods and materials, employment generation etc. have been most adversely affected.

The impacts of COVID-19 in daily life which are extensive and have far reaching consequences have been divided into three categories by Haleem A-n al are:

(A) **Healthcare**
- Challenges in the diagnosis, quarantine and treatment of suspected or confirmed case
- High burden of the functioning of the existing medical system
- Patients with other disease and health problems are getting neglected
- Overload on doctors and other healthcare professionals, who are at a very high risk
- Overloading of medical shops
- Requirement for high protection
- Disruption of medical supply chain

(B) **Economic**
- Slowing of the manufacturing of essential goods
- Disrupt the supply chain of products
- Losses in national and international business
- Poor cash flow in the market
- Significant slowing down in the revenue growth

(C) **Social**
- Service sector is not being able to provide their proper
COVID-19 has become a global crisis, evolving at unprecedented speed and scale. It’s creating a universal imperative for governments and organizations to take immediate action to protect their people. Accenture, a leading global professional services company, providing a broad range of services in strategy and consultancy, considers it the biggest global event—and challenge—of our lifetimes. As such, it is changing human attitudes and behaviors today and forcing organizations to respond. However, the need to respond won’t end when the virus’ immediate threat eventually recedes. Covid-19 has altered the human behavior and time has come to act. Accenture outlines the five major human implications as its impact continues to develop:

1. The cost of confidence: The erosion of confidence will make trust way more important than ever before. This will necessitate a “trust multiplier”—action that, to be effective, rebuilds trust quickly and credibly. Focus will be on confidence-building through every channel. Justifiable optimism will sell well. All of this may change the nature of what we regard as premium products and services.

2. The virtual century: The enforced shift during the worst of the pandemic to virtual working, consuming and socializing will fuel a massive and further shift to virtual activity for anything. Anything that can be done virtually will be. Winners will be those who test and explore all of the associated creative possibilities.

3. Every business is a health business: The concerns about health amplified during the crisis will not ebb after it is over. Rather, health will dominate. A health economy will emerge with opportunities for all to plug into. Every business will need to understand how it can be part of a new health ecosystem that will dominate citizen thinking.

4. Cocooning: Desire for cocooning, along with opportunities for those with creative strategies to enable it, will move center-stage for the same reason. Winners will be those who zero their sights on the home. At the height of the crisis, many—workers, especially—are spending more time at home. After, this pattern will endure with meaningfulness and comfort carrying a price premium.

5. The reinvention of authority: A reinvention of authority is likely after the effect of travel limitations, self-isolation and lockdown officially mandated by many governments. This is likely to be the trickiest of the five human implications as its impact could go one of two ways. If governments get their handling of the crisis broadly right, expect top-down control to be back in fashion; if not, the reverse. This is likely to vary by geography. What role will companies play? (www.accenture.com)

The impact of COVID-19 has also been recorded in an increase of domestic violence and United Nations Secretary-General Antonio Guterres, witnessed the “horrifying global surge”, and called for a domestic violence “Ceasefire”. (Wikipedia) Domestic violence and sexual exploitation rapidly increased during lockdown when households were put under strains due to security, health, financial worries, disrupted legal services, stress and uncertainty and confinement at home, restriction on any kind of movement isolated women and left untended because all resources are diverted to deal with the pandemic.

COVID-19 has accelerated the use of ICT in teaching-learning process as a powerful alternative to traditional mode. Digital technologies can definitely play a crucial role in transforming learning, teaching and evaluative practices for teachers and students in a high-standard 21st century education system. Most of the rich and technologically advanced countries are investing in the field of information processing and ICT as a key instrument and within the area of education in the learning-teaching process. Jamaluddin Mostafa et al made pertinent remark in the paper entitled “The role of ICT in learning-teaching process” in the World Scientific News: “in the modern world, thanks to ICT, we are faced with a new civilization based on which we can integrate our learning and teaching procedures while respecting cultural issues and objectives as well as approaches and thus attain new forms acknowledge production in more innovative forms by placing learners and instructors in the face of a larger part of empowerment, innovations and upgraded information along using limited classroom times optimally” (www.worldscientificnews.com).

Baisakhi Bhattacharjee and Kamal Dev has emphasized the, “role of ICT in 21st Century’s Teacher Education. It’s because there is a technological gap between the progress of the society and instructional activities of the teacher in the classroom”. (www.ripublication.com). Scott Frei Berger finds 5 emerging trends in 21st Century Education: “1. App Innovation and Gamification 2. Digital Literacy 3. Library Media specialists 4. Self-Directed Professional Development and; 5. Collaborative Learning”. (www.gettingsmart.com). It's true that with the technological changes the burden is shifted to educators and instructional designers. The challenge is to make the optimum use of new technologies while preparing students for productive lives in the 21st century. J. Michael Spector finds three technologies highly promising in the current scenario—” (a) Massive Open Online Course (MOOC); (b) Personalized Learning and; (c) Game-based Learning”. (www.ksu.edu.sa). By involving the students with recent pedagogical technologies and motivating them, we can better

service
• Cancellation or postponement of large-scale sports and tournaments
• Avoiding the national and international travelling and cancellation of services
• Disruption of celebration of cultural, religious and festive events
• Undue stress among the population
• Social distancing with our peers and family members
• Closure of the hotels, restaurants and religious places
• Closure of places for entertainment such as movie and play theatres, sports clubs, gymnasiums, swimming pools, and so on.

(https://doi.org/10.1016/j.jp2.20)
their learning habits over a period of time. Kelly Walsh finds 10 highly engaging uses of instructional technology in the classroom, along with dozens of tools and resources for implementation. Most of these involve free web based tools: “Interactive Collaboration, Gathering Feedback, Embedding Questions in Videos, Active Learning, Social Learning, Using Technology to Help to Ensure Engagement with Digital Content, Student Created Presentations, Project Based Learning, Digital Makerspaces and; Flip Your Class to Free Up Class Time for More Engaged Learning”. (www.emergingedtech.com). In an article entitled “Emerging technologies as pedagogical tools for teaching and learning science: A Literature review” Alando Oliveira et al consider the following emergent technologies the most significant for teaching and learning science: “(a) computational thinking; (b) simulations, dynamic visualizations, and virtual labs; (c) computational modelling; (d) mobile devices; (e) pedagogic robotics; (f) gaming and technology-mediated play; and (g) creative and artistic technologies”. (wileyonlinelibrary.com).

COVID-19 has adversely affected all sectors around the world and education is no exception. Indian education system also faced severe lockdown and around 32 crore learners were compelled to remain at home and all sorts of educational activities suspended for long. But the outbreak of COVID-19 has taught us to accept that change is the law of nature and educational institutions should be ready to acknowledge it as an opportunity as well as challenge. Privat Kumar Jena considers this change, “ as a catalyst for the educational institutions to grow and opt for platforms with technologies, which have not been used before. The education sector has been fighting to survive the crises with a different approach and digitizing the challenges to wash away the threat of the pandemic” (www.journalera.com). Such challenges and opportunities have helped to strengthen the technological knowledge base and infrastructure of the educational institutions. Nevertheless, Deepali &Gayatri consider, “COVID-19 has prompted experts to rethink the conventional mode of education. Digital education appears to be a viable solution to fill in the void for classroom education. It has brought the hitherto peripheral issue of digital education in India to the centre stage. Going forward, digital education is likely to be integrated into mainstream education. This will enable inclusive education by facilitating learning across diverse geographies in India. Moreover, it will provide an opportunity for educators to come up with customized learning solutions for every student”. (LatestLaws.com)

NAMODI Framework is a part of Digital India Institute which aims to connect the entire nation digitally and make available all sorts of information online for all the sections of the society. This framework is a three layered architecture and has been designed to suit the needs of the deprived sections of the society. NAMODI Framework comprises of big data cloud project which contains massive online content and can be accessed from any part of the world. The specialty of the big data project is that the enormous amount of data can be uploaded through this platform and be made available to all the sections of the society. Digitization of Indian Education System through Massive Online Content Development, Technology Development, Apps Development, Data Analysis, Procedures, Outcome Measures, Conditions of the Testing, Social Treatments, Research Design etc. are the integral part of NAMODI Framework (igntu.ac.in/Seminars/NAMODI)

With a view to frame an all-inclusive educational tune with the digital revolution for better utilization of Digital India Infrastructure for its implementation, to implement and bring the entire education domain from across India to one common platform, the concept of NAMODI Framework will be developed. To revolutionize educational system in a digital format is a step forward to transform Indian Educational System into Digital Education System. NAMODI Framework has become imperative to make our education more accessible and affordable. The Framework utilizes web 2.0 Cloud Computing and Big Data Technology so that the size of the architecture of this frame could be of nano size. This will enable the people to have accessibility to the study material in the form of Mobile Apps, digital tutors, E-Books, and thereby transform traditional educational Institutions into Digital Institutes.

India has the third largest educational system in the world next only to U.S.A. and China. Higher education is crucial to develop knowledge-based society and important tool to mould the socio-economic and cultural shape of the country; it contributes to the growth of the nation by providing specialized knowledge and skilled manpower. The core mission of higher education, according to Ramamurthy Naidu and Shakeel Ahmad is, “to Educate, Train, Undertake Research, and provide Service to community”. (p 25) A.D.N. Bajpai and Rama Devi Rani extend the notion further: “Higher Education contributes to development of nation in several ways—as a productive resource in scientific research and industrial technology; as a catalyst for social change and economic development; and as a basis for civilization and cultural values that promote social integrity and harmony, which is essential for any nation to develop”. (p7) But in the changed scenario, new challenges are emerging—students puffed with new aspirations and expectations, flux of technological innovations, process of globalization, dismantling the geographical boundaries, need of world class education and employability are the prerequisites of knowledge society. Ramachandran Tekamah has justly analyzed the role of higher education in the modern context: “Today’s challenging economic situation warrants that it is no longer sufficient for a graduate to have knowledge of an academic subject; increasingly it is necessary for students to gain employability skills. It means that courses should be designed to suit the needs of the professions and that curricula should have the right mix of theory and practice”. (“Guest Editorial”) Naidu and Ahmad have explored the major concerns of Indian Higher Education during the XI Plan are, “Access and Expansion, Equity & Inclusion, Quality and Excellence, Relevant Education and Quality Research”, but in the present competitive world they opine: “Quality has become the key word in higher education. Globalization of the economy has also thrown up new challenges and hence quality
improvement has become the biggest challenge before the higher education system. Access to the global economy will depend more on the quality and skilled productivity than on low labor costs”. (p25)

To attain above objectives, higher education system requires qualitative rather than quantitative advancement that will emanate from certain innovations—which means nothing but introducing something new that makes the system better than the earlier. Even U.G.C. has realized the concern of the quality in Indian Higher System: “Quality and excellence couldn’t be attained overnight. Organized and focused efforts are needed to achieve this goal. The unplanned growth of higher education coupled with lack of resources affects the quality of education. A careful distribution of resources is mandatory to achieve quality and excellence along with access and equality”. (“Quality Assurance”) The U.G.C. has taken upon itself this onerous task and has succeeded in maintaining the quality of education. It has launched many schemes, which have made some impact in the system i.e. (1) Innovative Programmed including Emerging Areas (2) International Cooperation (3) Identification of Universities and Colleges with Potential for Excellence (4) Networking of Universities and Colleges (5) Faculty Improvement Programmed (6) National Eligibility Test (7) Schemes for strengthening of Research (8) Programmed for the development of Engineering and Technical Education (9) Programmed for the development of Management Education (10) Programmed for the development of Computer Education and Upgradation/Augmentation of Computer Facilities and; (11) Accreditation System.

To restrict such currency devaluation, small and big ones, there is an immediate need for putting in place a Scientific Thought Revolution which has already commenced through 'Make in India', 'Skill India' 'Start Up India' and 'Digital India' process initiated by the Govt. of India. For this purpose, the digitalized educational system should be in tune with the demand of changing times and should be progressive, inclusive and composite in nature. The impartial theme of the research on NAMODI (Nano Architecture Mobile Oriented Digital Institutes) framework is to bring the entire educational aspects and teaching-learning activities to a common digital platform.

According to the demographic composition of India by 2030, our country will be one among the youngest nations in the world. With nearly 140 million people in the college-going age group, one in every four graduates in the world will be a product of the Indian higher education system. By 2030, the already existing challenges for Indian higher education – access, equity and quality – will only be greatly aggravated unless it significantly transforms our higher education model.

**Digitization of Indian Education System**

Innovation and technology have been game changer in every sector in India Technology has made everything much easier and faster, and it has compelled almost all the sectors of economy to adapt to change or fear to become obsolete. In this pace of digitalization, it has also become imminent for our education sector to adopt a dynamic environment and change itself, as it allows it to keep pace with a competitive world. The Western education system in India was introduced during British regime. However, while the British government has experimented and evolved ways of learning, the Indian education system still lags behind. Teaching is still conducted in old-fashioned classrooms with rigid syllabi dominating the curriculum. Mainland, Founder & CEO, Guru Q has rightly foresees the power of modern innovation and technology in education system:

…digitalization offers fluidity to the Indian education sector by being a supplementary form of the system as it is available to students as per their need. While the traditional education system has a uniform approach, EdTech can be customized as per students’ requirements. It can be molded as per the student’s capability to understand and imbibe any particular subject. Secondly, as the world is moving towards digitalization has no option but to keep pace with it. We know that the traditional education system in India is here to stay for the long haul and that no one can take away that learning experience. But our education system needs to be dynamic and needs to adapt to technology. (www.entrepreneur.com)

There is no need to fear a subject like math’s as there are fun ways to learn it with the use of EdTech. Today there are apps to learn languages or any other subject. Hence, what is the point in learning a traditional system when there are so many impactful means of learning through digitalization? Anand continues:

Thirdly, digitalization brings in a more practical approach of tracking students’ performance. One can easily evaluate a child’s progress by going through his exam scores, attendance, assignments, etc. For instance, one has a choice to choose a tutor, schedule class as per one’s time availability and study offline or online as per their convenience. In today’s world where time is money, digitalization is a big-time saver. Apart from metros, there are many tier II and tier III cities where transport system isn’t fully developed. Students have to commute for hours to reach their educational institutes. In this scenario, a digital course comes as a rescuer to students from the remotest parts of the country. One just needs to log into a website or switch on their dish TV channel to learn a subject rather than spend long hours in the commute from one spot to another. Lastly, digitalization offers a safe mode of learning which is transparent and accountable. Parents can keep a track of their wards’ progress by logging into the website. It also offers them a platform to air their views and suggestions which can be used to improve the system, unlike the traditional method where one has to be quite a few reprimand from the teacher. Digitalization help in creating a solid partnership between parents and teachers with one goal in mind - better learning for students. (ibid)

Prof Nivedita Jha and Prof Veena Shenoy find digitization of Indian education system a second revolution in the history of education: “Printing press changed the world of education forever. Six centuries later we are undergoing another
transformation and this time everything is going digital” (www.iosrjournals.org).

The 21st century has witnessed phenomenal growth in technology especially relevant to education sector. Smartphones, laptops, and tablets are very common devices and quite familiar words. With the phenomenal growth of technology, mode of education, pedagogical technologies are also changing. If we go on teaching our students with old methods it means we are going to restrict them for future technological advancements. Our old educational system has no capability to stand a chance in the 21st century. So we are compelled to use digitization in our educational system.

Technology can become the 'wings' that will allow the educational world to fly farther and faster than ever before; if we will allow it. Janetta Ainsley her article “Digitalization Of Education In The 21st Century” has observed the evolution of the educational industry. She describes the era of 21st century in terms of educational progress and how the 'old school' systems became the 'new school' systems that boosted digital education:

Digitization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized. Yes! Digitization is the trending term, describing the 21st century in the most precise manner as possible. We are in the era where unprecedented ideas are unfolding in our education industry and creating the advancement that can’t be matched by lagging behind in terms of technology. The new phase of learning has begun and involves various advanced techniques like: Online Courses, Online Exams, digital Textbooks (e-textbooks and e-texts other name), animation, accumulation of students on the same platform, Online Resources: Connecting Students with Their Educators, Internet: Making Digitization Possible, Administrative Activities: An Integral Part of The Education Industry. And she concludes:

Digitization has no doubt changed our education system, but we cannot say that it has diminished the value of our old-time classroom learning. Neither do we want something so priceless to turn into dust. The best part about the digitization of education in the 21st century is that it is combined with the aspects of both; classroom learning and online learning methods. Walking hand in hand both act as a support system to each other, which gives a stronghold to our modern students. Digitization in education has also proved to be the right method for saving resources. Online examination platforms have restricted the frivolous usage of paper, directly confining the cutting down of trees. This way the digitization of education industry in the 21st century proves to be a boon to our society. (elearningindustry.com)

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