

KNOWLEDGE AND ATTITUDE TOWARDS POSTPARTUM DEPRESSION AMONG WOMEN ATTENDING POSTNATAL CLINIC IN THE UNIVERSITY OF BENIN TEACHING HOSPITAL

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ABSTRACT

Postpartum depression is a major public health problem and a threat to the life of both mother and offspring. This study examined the knowledge of and attitude towards postpartum depression among women attending post-natal in the University of Benin Teaching Hospital in Edo State. A descriptive survey research design was used and the population for this study was 150, simple random sampling technique was used to select 105 respondents for this study. The instrument was a self-developed questionnaire. The data collected were analyzed using frequency count and percentage. The findings revealed that majority of the respondents had poor knowledge of postpartum depression. Also majority of respondents have positive attitude towards postpartum depression. The study concluded that respondents had poor knowledge of postpartum depression although their attitude towards the illness was positive. It was recommended that there should be sensitization campaigns to create awareness on postpartum depression among women, their family members and healthcare workers so as to reduce the physical, mental and emotional toils the health condition can lead to.

Keywords: Postpartum depression, Post-natal, Healthcare workers, Mental health

INTRODUCTION

Postpartum Depression (PPD) also called Post-natal Depression (PD) is one of the serious psychiatric disorders affecting women during the postpartum period. It is a biological illness caused by changes in the brain chemistry characterized by strong feelings of sadness, anxiety (worry) and tiredness lasting for a long time after giving birth. These feelings

make it difficult for the mother to take care of herself and the baby. The symptoms of postpartum depression include losing interest in previously enjoyable activities, depressed mood most of the time, a sense of guilt or worthlessness, insomnia, suicidal thoughts, impaired concentration, being anxious about the baby's health, amongst others (Abazie, 2021).

The exact cause of PPD is unknown, however, research suggests that genetics, hormonal and psychological and social life stressors play a role in the development of PPD (Mousa et al., 2023). Women who develop PPD may be sensitive to these changes as the body returns to its normal balance. Women are more likely to have PPD if they've had previous mental health problems, anxiety or depression during pregnancy, poor support from partner, family or friends, recent stressful event e.g. death of a loved one, relationship ending, losing a job (Mousa et al., 2023).

According to Nnaka (2018) postpartum mothers interviewed on their lived experiences of postpartum depression stated that feelings of unhappiness and sadness increased after delivery of their babies, which were misinterpreted by family and friends. The mothers also stated that they sought recovery through prayer and herbs, and were unable to seek appropriate care because of a lack of knowledge about what they were experiencing. If a woman is not educated on postpartum depression before giving birth, she may confuse her continuing depressive symptoms for 'baby blues' and remain untreated for her depression. Exposing women to knowledge about postpartum depression before birth allows them to recognize the signs and symptoms,

and seek appropriate help instead of feeling ashamed, guilty or seeking solutions through unorthodox methods. Mental health literacy regarding postpartum depression among family members of high-risk women is also vital to improve rates of diagnosis and treatment (Obioha et al., 2021).

Many women remain unaware of postpartum depression due to a lack of sufficient knowledge about its signs and symptoms. Insufficient awareness during pregnancy and after childbirth can lead to a failure in recognizing the condition's symptoms and seeking necessary treatment. A study conducted by Abazie and Inyang (2021) aimed at assessing postpartum depression knowledge among mothers attending immunization clinics in selected primary healthcare centers in Mushin, Lagos, revealed that the majority of respondents had limited knowledge of postpartum depression, indicating that inadequate awareness might contribute to the condition's high prevalence among nursing mothers. Failing to identify postpartum depression symptoms can have negative consequences for both the mother and her baby, including marital strain, increased vulnerability to recurrent psychiatric issues, social and emotional cognitive disorders in infants, and, in severe cases, suicide.

In a study conducted by Obioha et al. (2021) to assess the knowledge of postpartum depression among postnatal mothers in Southwestern Nigeria, it was found that 80% of the participants had limited knowledge of postpartum depression. This finding highlights the existence of an unmet need for mental health literacy, particularly concerning postpartum depression, among Nigerian postnatal mothers. To facilitate early detection and diagnosis of postpartum depression, educating women before childbirth becomes crucial. This would enable them to recognize the symptoms of postpartum depression and seek appropriate help instead of feeling ashamed or resorting to unconventional methods for solutions.

A study by Alsabi et al. (2022) revealed that the attitudes of nursing mothers towards postpartum depression, the condition and related issues is positive. In the study cited above, respondents agreed that PPD is a legitimate mental health concern that requires understanding and empathy and a serious problem. Additionally, 78.4%, 73.1%, and 72.3% of the participants expressed disagreement with the notion that postpartum depression (PPD) is not a significant issue. Maxwell et al. (2018) found that cultural factors significantly shaped women's

attitudes toward postpartum depression (PPD) and how their families responded to it. Respondents pointed out that family members often fail to recognize when a woman is depressed or do not grasp the significance of the postpartum period, with many regarding it as a routine occurrence (Hayden et al 2013). The lack of cultural awareness about depression, can make it difficult for individuals to express their feelings to healthcare providers.

Traditionally, the birth of a child is considered a huge blessing that is worth celebrating, it is one of the most beautiful phases in a woman's life, filling her with the joy of motherhood. However, it is also a period of tremendous change in the woman's life as she undergoes various physical and mental changes and as such may often be in a vulnerable state of mind. Women suffering from PPD are unable to perform their regular activities resulting in child neglect, disruption in career, negligence, inability to carryout household duties and spouse neglect. The inability of women to function properly due to PPD can lead to different problems such as loss of job, divorce or separation, malnutrition and illness in mother and child, and in extreme cases death of mother and child. Women experiencing postpartum depression

may have limited care giving capabilities, potentially leading to child neglect and future developmental and behavioral problems for the child. Study exist on prevalence and predictors of postpartum depression among postnatal women in Lagos, Nigeria (Adeyemo et al., 2020), but to the best of the researcher's knowledge, none exist on knowledge, attitude and practice of postpartum depression among women attending postnatal clinic in the University of Benin Teaching Hospital. It is this gap in research the researcher attempts to fill.

Objectives of the Study

The study seeks to:

1. examine the level of knowledge of postpartum depression among women attending postnatal clinic in the University of Benin Teaching Hospital.
2. examine the attitude towards postpartum depression among women attending postnatal clinic in the University of Benin Teaching Hospital.

Research Questions

The following research questions were raised to guide the study

1. What is the level of knowledge of postpartum depression among women

attending postnatal clinic in the University of Benin Teaching Hospital?

2. What is the attitude towards postpartum depression among women attending postnatal clinic in the University of Benin Teaching Hospital?

METHODOLOGY

Research Design

This study employed the descriptive survey design. Descriptive survey design is one in which a group of people is studied by collecting data from only a few people considered to be representative of the entire group.

Participants

The population of this study comprised all women attending postnatal clinic in the University of Benin Teaching Hospital, Edo State with the total population of one hundred and fifty females (150). The researchers adopted the simple random sampling technique of balloting with replacement for the selection of respondents. The sample size for the study was therefore one hundred and five (105) women.

Instrumentation

A self-structured questionnaire with ten items was the instrument used for the collection of data and it was constructed after meticulously studying the related literature of the study.

Validity

In order to establish the content and face validity of the instrument for the study, the researcher presented the instrument to three experts in the Department of Health, Safety and Environmental Education, after which their suggestions, corrections and contributions were effected in the final draft of the instrument so as to ensure that the instrument measure what it set to measure.

Reliability

To test the reliability, the researcher used the test re-test method. The test was administered to twenty (20) respondents outside the real population but similar to the real population and after two weeks the instrument was again administered to the same respondents. The responses were computed using Pearson

Product Moment correlation Coefficient and the reliability coefficient was 0.81.

Data Collection

The instrument was administered by the researcher with the aid of one research assistant and data was collected at the spot to ensure high return rate. Written informed consent was collected from the respondents before the instrument was administered to them.

Data Analysis

The descriptive statistic of frequency count and percentage was used to analyze the data.

RESULTS

Research Question 1: What is the knowledge of postpartum depression among women attending postnatal clinic in UBTH

Table 1: Level of Knowledge of Postpartum Depression

S/N	LEVEL OF KNOWLEDGE	F	%
1.	High knowledge	47	44.8
2.	Low knowledge	58	55.2
	TOTAL	105	100

The above table 1 indicated that majority of the respondents had low knowledge of postpartum depression while 44.8% of respondents had high knowledge of postpartum depression.

Research question 2: What is the attitude towards postpartum depression among women attending postnatal clinic in UBTH?

Table 2: Attitude towards Postpartum Depression

S/N	ITEMS	SA	A	D	SD
		F (%)	F (%)	F (%)	F (%)

1.	Do you believe that postpartum depression is a common issue among new mothers?	12(11.4)	30 (28.6)	55(52.4)	8 (7.6)
2.	Do you think it is important for healthcare providers to screen for postpartum depression during postnatal visits?	21 (20)	58 (55.2)	25(23.8)	1 (1)
3.	Do you feel comfortable discussing your emotional well-being with healthcare providers?	8 (7.6)	42 (40)	50(47.6)	5 (4.8)
4.	Are you open to seeking help if you experience symptoms of postpartum depression?	21 (20)	45(42.85)	36(34.3)	3(2.85)
5.	Do you believe that social support from family and friends is important for managing postpartum depression?	45(42.9)	50 (47.6)	8 (7.6)	2 (1.9)

Table 2 presented findings on the attitude of the respondents towards postpartum depression. The table shows that 12 (11.4%) strongly agreed, 30(28.6%), agreed, 55(52.4%) disagreed and 8(7.6%) strongly disagreed that postpartum depression is a common issue among new mothers. It also shows that 21(20%) strongly agreed, 58(55.2%) agreed, 25(23.8%) disagreed and 1(1%) strongly disagreed that it is important for healthcare providers to screen for postpartum depression during postnatal visits. It also shows that 8(7.6%) strongly agreed, 42(40%) agreed, 50(47.6%) disagreed and 5(4.8%) strongly disagreed to discussing their

emotional wellbeing with healthcare providers. It also shows that 21(20%) strongly agreed, 45(42.85%) agreed, 36(34.3%) disagreed and 3(2.85%) strongly disagreed to seeking help if they experience symptoms of postpartum depression. It also shows that 45(42.9%) strongly agreed, 50(47.6%) agreed, 8(7.6%) disagreed and 2(1.9%) strongly disagreed that social support from family and friends is important for managing postpartum depression. It can be deduced from the table that majority of the respondents have a positive attitude towards postpartum depression.

Discussion

On the knowledge of postpartum depression, majority of respondents had low knowledge of the health condition. The findings of this study is in consonance with Abazie & Inyang (2021) whose study revealed that the majority of mothers attending immunization clinics in selected primary healthcare centers in Mushin, Lagos, had limited knowledge of postpartum depression. Low knowledge of postpartum depression means that mothers may fail to identify postpartum depression symptoms and this can have negative consequences for both the mother and her baby, including marital strain, increased vulnerability to recurrent psychiatric issues, social and emotional cognitive disorders in infants, and, in severe cases, suicide.

This study is also supported by Obioha et al. (2012), to assess the knowledge of postpartum depression among postnatal mothers in Southwestern Nigeria, it was found that 80% of the respondents had limited knowledge of postpartum depression. This finding highlights the existence of an unmet need for mental health literacy, particularly concerning postpartum depression, among Nigerian postnatal mothers. To facilitate early detection and diagnosis of postpartum depression, educating women before childbirth becomes crucial. This would enable

them to recognize the symptoms of postpartum depression and seek appropriate help instead of feeling ashamed or resorting to unconventional methods for solutions.

On the attitude of mothers towards postpartum depression, majority of respondents had a favourable attitude towards the health condition. This study is corroborated by Alsabi et al. (2022) whose study revealed that the attitudes of nursing mothers towards postpartum depression, the condition and related issues is positive. In the study cited above, respondents agreed that PPD is a legitimate mental health concern that requires understanding and empathy and a serious problem. Additionally, 78.4%, 73.1%, and 72.3% of the participants expressed disagreement with the notion that postpartum depression (PPD) is not a significant issue.

This study is contrasted by that of Obioha et al., whose study revealed that only 11% of respondents had positive attitude towards postpartum depression. Maxwell et al. (2018) found that cultural factors significantly shaped women's attitudes toward postpartum depression (PPD) and how their families responded to it. Respondents pointed out that family members often fail to recognize when a woman is depressed or do not grasp the

significance of the postpartum period, with many regarding it as a routine occurrence (Hayden et al., 2013). The lack of cultural awareness about depression, can make it difficult for individuals to express their feelings to healthcare providers.

CONCLUSION

It can therefore be concluded that knowledge of postpartum depression among women attending post-natal clinic in the University of Benin Teaching Hospital is low and the women had positive attitude towards postpartum depression.

RECOMMENDATIONS

The following recommendations were made:

1. Increase sensitization on postpartum depression through workshops, seminars, jingles on radio and television.
2. Healthcare providers and family members should be trained to be able to screen for risk factors of postpartum depression during pregnancy and postpartum periods to improve their knowledge and attitude towards postpartum depression.
3. Counselling services should be made available, in such a way that it doesn't cause

embarrassment or stigmatization of the women.

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INFLUENCE OF STUDENTS' DRUG ABUSE ON THE MANAGEMENT OF SECONDARY SCHOOLS IN ZONE "A" SENATORIAL DISTRICT OF BENUE STATE

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ABSTRACT

This study examined the influence of students' drug abuse on discipline, supervision and communication in Secondary Schools in Zone "A" Senatorial District of Benue State, Nigeria. The descriptive survey design was adopted for the study. The population consisted of 1,713 teachers from the existing 119 public secondary schools in Zone "A" Senatorial District of Benue State. The sample of 400 teachers was selected using simple random sampling technique. The instrument used for data collection was a structured 15-item questionnaire titled "Students Drug Abuse on the Management of Secondary School Questionnaire" (SDAMSSQ). Data were analyzed using mean and standard deviation to answer the research questions. Chi-square test of goodness of fit was used to test the hypotheses at 0.05 level of significance. The results revealed that students' drug abuse has significant influence on discipline, supervision and communication in secondary schools in Zone "A" Senatorial District of Benue State, Nigeria. Based on the findings of the study, it was concluded that the effects of students' drug abuse are glaring on discipline, supervision and communication. The study recommended that schools management should frequently invite Non-Governmental Agencies (NGOs) who are professionals in rehabilitation to give talks on experiences and counsel students on the dangers of indulging in drug abuse.

Keywords: Drug abuse, Management, Secondary school

INTRODUCTION

Management is a phenomenon that is of great importance to educationists and educational administrators. Educationists need to know what they can do to help their students to adjust and benefit from the school. Yawe (2010) defined management as the effective organization and utilization of human and material resources in a particular system for the achievement of identified objectives. Management of secondary schools according

to Olatunde (2023) is the appropriately putting all resources together towards achieving the goals of educational institutions. Therefore, management of schools involves the ability of the school management to seek for the co-operation and services of his staff, that is teachers and non-academic staff to carefully and meaningfully use the available resources efficiently and effectively in order to achieve school goals and objectives. There seems to be an

influence of management in the shaping of students in secondary school. Management of secondary schools has to make students to adapt to school rule to achieve effective academic activities. The indices of management which are being identified for use in this study include among others: discipline, supervision and communication.

Drug abuse among youths has not just persisted, but has continued to increase in recent times (Abikoye & Olley, 2012). The mode, pattern, and frequency of drug abuse exhibited by youths in secondary schools also point to the problematic and unwavering place of drug in youth activities. Studies by Al-Alawi and Shaikh (2016) showed a rapid increase in drug availability, consumption, and abuse by young adults in secondary schools. The studies further noted that students who indulge in drugs must likely to have been influenced by a friend and lack of discipline. Abusing drug is a behaviour that is readily observable among young people as they struggle to adjust to developmental, social, cultural, as well as academic demands and dictates. For some, these events become a passing fancy and are resolved with maturity. However, there exist an increasing number of others who end up as abusers, addicts, or dependents. So, many reasons have been cited by several researchers like Gaide (2013) to explain individuals' involvement in drug abuse. Such reasons include availability of the substance, social pressure, peer pressure, curiosity or experimentation, rebel against constituted authority, frustration, expression of maturity, vulnerable personality, insomnia, need to increase work output or better performance, search for identity, religious obligations, rejection of society, ignorance of the implications of abuse, poverty, unemployment, anxiety, depression, stress, exhibit of strength, potency, and endurance (Gaide, 2013; Attah et al., 2016).

The frequency of use, quantity of intake, and expected effects of drug abuse may influence students in schools and affects the management of such schools. When drug is allowed at gaining ground, bullying, lack of seriousness, poor performance, and unruly behaviour becomes most likely tendencies. This is why discipline should not be compromised (Ochai & Ameh, 2015).

Drug abuse is a matter of grave concern to educational stakeholders, principals, teachers, medical practitioners, sociologists, Non-Governmental Agencies (NGOs), religious leaders, counselors and parents. It is a national and international sensitive challenge that needs urgent attention due to the alarming rate of involvement of youth. Drug abuse is the use of chemical substances such as saw stimulants, which are substances that cause an increase in the activity of an organ in the body, as chemicals that excite certain activities of the central nervous system. It is the wrong use of non-prescribed substances that are capable of changing functions of cells in the body. Attah et al. (2016) posited drug abuse as social ills practiced by youths, constitute premarital sexual practices and drug abuse which have been the problems in the secondary school system. Drug abuse has been a serious constraint to effective teaching and learning process in the Nigerian educational system (Adelekan & Lawal, 2018). Adelekan and Lawal added that it is the intake of unprescribed substances that are capable of changing functions of cells in the body.

A list of such substance was given by Kawafha (2018) include cocaine, Indian hemp (marijuana), morphine, tremol, heroin, tobacco, ephedrine, valium five and Chinese capsules. Other drug abuse may include Burukutu (local beer), codine, cigarette, tramadol and beer. To curb some of the menace, discipline is required (Bua, 2020a).

Discipline as a function of the interaction between teacher and students that brings about self-control and respect for authority. It is an important component of human behavior and asserts that without it no system would be able to function well. Ofah (2012) defined discipline as the ability to exercise self-control and respect for constituted authority. Yahaya and Akinyele (2012) referred to discipline in the classroom based on mutual respect of rights and duties of the teacher and students. Bua (2020a) maintained that learning cannot take place without order. Discipline is the training of people (students) to obey rules or code of behavior, using punishment to correct disobedience. However, drug abuse can affect discipline in a school by making students to misbehave and disobey order. Discipline is necessary in our schools not only for the sake of the learners' academic achievement and intellectual growth but also for the promotion of their personal development and social adjustment. Supervision is crucial in the schools.

The influence of students' drug abuse on supervision cannot be ruled out. The Nigerian National Policy on Education (FGN 2014) is very clear on supervision. It states that; the success in any system of education is dependent on inspection and supervision. Supervision, According to Nwaogu (2009), supervision is the process of bringing about improvement in instruction by working with students. Adequate supervision is very necessary so that the nation's aspirations and those of individuals are met. However, it is important for teachers to check on every student not just those who ask for help. This will allow the teacher to allocate time for assessing all students. Students whose performance in class examinations is high are organized learners; they have a systematic way of learning. They are curious and ambitious. The teacher is responsible for helping students

set goals and supervising them in order to ensure that students are on the track. Another index necessary is communication.

Communication has been defined by many people in different ways. Others look at it as the imparting or exchanging of ideas, attitudes and information by use of human abilities or technological medium (Bua, 2020b). Also, Bua stressed that the sharing of information between two or more persons is communication. Ndu (2007) asserted that poor and unqualitative communication accounts for over one third of the problems of any social organization such as education. Afolayan (2009) asserted that effective and quality communication facilitates school management as it relate the institution's staff and students, equipment, space and time to one another harmoniously. Afolayan further agreed that effective communication motivates, help to mould attitudes and impact beliefs in order to persuade, convince and influence behaviour. Where effective communication exists, students could be better shaped and could also desist from drug. The study focused on the influence of students' drug abuse on the management of secondary school in Zone A senatorial District of Benue State, Nigeria.

Globally, drug abuse has increased in recent times, particularly in developing countries. The rise in drug abuse in developing countries provides ample cause for concern over the possible advent of a matching rise in drug-related problems in those regions of the world most at risk to substance abuse. Stakeholders in Zone A senatorial District of Benue State have expressed concerns over the frequent and list of drugs used by students in secondary schools. The worry of the above stakeholders suggests that students could be strongly influenced by drugs which may consequently affect the effective management of secondary schools.

In Zone A Senatorial District of Benue State, it is common to see students in the beer parlors or joints consuming locally brewed alcohol drinks like palm wine, burukutu, ogogoro and some other fermented drinks when they are supposed to be in the school attending lectures or reading their books. The outcome of this attitude may be poor self-management, indiscipline, disruption of school supervision, truancy, poor interest in other academic activities, lack of effective communication and low participation in school activities which may also result to poor academic performance. Such students may find it difficult to control their social life thereby giving academic activities little or no attention and causing destruction on the schools' structures in some cases.

The escalating level of students abusing alcohol and other drugs is making stakeholders in secondary education such as teachers, students, parents uncomfortable. Their worry stems from the fact that they have speculated that excessive drug abuse by students in secondary schools could very likely affect the effective and efficient management of secondary schools making it impossible to achieve the stated school objectives. It is against this background that this study aimed at investigating on the influence of drug abuse on discipline, supervision and communication among secondary school students in Zone A Senatorial District of Benue State, Nigeria.

Objectives of the Study

The main objective of this study is to examine the influence of students' drug abuse on the management of secondary schools in Zone A Senatorial District of Benue State. Specifically, the study sought to:

1. examine the influence of students' drug abuse on discipline in secondary schools in Zone A Senatorial District of Benue State.

2. determine the influence of students' drug abuse on supervision in secondary schools.
3. establish the influence of students' drug abuse on communication in secondary schools.

Research Questions

The following research questions were formulated to guide the study:

1. What is the influence of students' drug abuse on discipline in secondary schools in Zone A Senatorial District of Benue State?
2. How does students' drug abuse influence supervision in secondary schools in Zone A Senatorial District of Benue State.?
3. What is the influence of students' drug abuse on communication in secondary schools in Zone A Senatorial District of Benue State.?

Research Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance.

1. Students' drug abuse has no significant influence on discipline in secondary schools in Zone A Senatorial District of Benue State.
2. Students' drug abuse has no significant influence on supervision in secondary schools in Zone A Senatorial District of Benue State.
3. Students' drug abuse has no significant influence on communication in secondary schools in Zone A Senatorial District of Benue State.

METHODOLOGY

Research Design

The study on the influence of students’ drug abuse on the management of secondary school in Zone A Senatorial District of Benue State, Nigeria. The descriptive survey design was adopted. The population of the study consists of 1713 teachers from the existing 119 public secondary schools in Zone A Senatorial District of Benue State (Benue State Teaching Service Board, 2022).

Participants

Teachers were deliberately chosen as respondents for the study because they were involved with the students. The sample of 400 teachers was selected using simple random sampling technique while 20 public secondary schools were purposively selected for the study from 119 schools. This sample was considered adequate for the study. The researchers adopted the purposive sampling and sampled twenty (20) public schools. Simple random sampling technique was used to sample 400 teachers from each of the selected public schools.

Instrumentation

A 15-item structured questionnaire titled “Drug Abuse on Management of Secondary Schools Questionnaire” (DAMSSQ) was used for data collection. The questionnaire was divided into three clusters: A, B and C. Cluster A was on influence of students’ drugs abuse on discipline, B on influence of students’ drugs abuse on supervision and C on influence of students’ drugs abuse on communication in secondary schools in Zone

A Senatorial District of Benue State, Nigeria. The responses were Agree and Disagree. Three research questions and three null hypotheses were formulated to guide the study.

Validity of the Instrument

The instrument was validated by two experts, one in Tests and Measurement and the other in Educational Management from Joseph Sarwuan Tarka Univeristy Makurdi and Benue State University, Makurdi.

Reliability of the Instrument

The instrument was trial-tested on Thirty (30) teachers in two schools outside the study area by the researchers; this was to ascertain the reliability of the items on the questionnaire. The reliability coefficient yielded 0.77 which showed that the instrument was reliable.

Data Analysis

Data collected were analyzed using Mean and Standard Deviation to answer the research questions and chi-square test of goodness-of-fit was used to test the hypotheses at 0.05 level of significance. The descriptive statistics of mean scores of 2.50 and above were considered accepted otherwise any mean score below 2.50 was considered not accepted.

RESULTS

Research Question One: What is the influence of students’ drug abuse on discipline in secondary schools in Zone “A” Senatorial District of Benue State?

Table 1: Mean and Standard Deviation on Influence of Students’ Drugs Abuse on Discipline in Secondary Schools in Zone “A” Senatorial District of Benue State

S/No	Items	N	Mean	Std. D	Decision
1	Students who abuse drugs are not always regular in class because of going out for substance.	400	3.34	.81	Agree
2	Students who abuse drugs render insults to staff and are stubborn to school management.	400	3.02	.81	Agree
3	The major disciplinary problem of principals in secondary schools’ management is drug abuse.	400	3.42	.89	Agree
4	Drug abused students always disobey school rules and regulations.	400	2.68	.68	Agree

5	Students who abuse drugs are most likely to be disciplined in the class activities.	400	2.04	.32	Not Agree
Clusters		400	2.90	0.69	Accepted

Table 1 revealed that item 1 had mean of 3.34 and SD of 0.81, item 2, 3 and 4 with mean of 3.02, 3.42 and 2.68 and SD 0.81, 0.89 and 0.68 respectively while item 5 with mean 2.04 and SD of 0.32 which fall below the cut-off point of 250 with grand mean of 2.90 and SD of 0.69 indicating that drug abuse

influences students’ discipline in secondary schools in Zone A Senatorial District of Benue State.

Research Question Two: What is the influence of students’ drug abuse on supervision in secondary schools in Zone “A” Senatorial District of Benue State?

Table 2: Mean and Standard Deviation on Influence of Students’ Drug Abuse on Supervision in Secondary Schools

S/no	Items	N	Mean	Std. D	Decision
6	Drug abuse students make supervision of classroom activities by teachers difficult.	400	3.65	.58	Agree
7	School quality assurance is hampered when supervision is affected by drug abuse students.	400	3.49	.62	Agree
8	Students under drug abuse hardly do their assignments and class work that is supervised by the teachers.	400	3.38	.67	Agree
9	Drug abuse affects supervision of students’ progress that is identified as an attribute enhancing teaching and learning.	400	3.48	.58	Agree
10	Students whose progress is supervised have higher achievement than those who abuse drugs and refuse to be supervised.	400	3.59	.51	Agree
Clusters		400	3.52	0.59	Accepted

Table 2 revealed that item 6 had mean of 3.65 and SD of 0.51, item 7, 8, 9 and 10 with mean of 3.49, 3.38 and 3.48, and 3.59 and SD 0.62, 0.67 and 0.58 and 0.51 respectively with grand mean of 3.52 and SD of 0.59 indicating that drug abuse influence students’

supervision in secondary schools in Zone A Senatorial District of Benue State.

Research Question Three: What is the influence of students’ drug abuse on communication in secondary schools in Zone “A” Senatorial District of Benue State?

Table 3: Mean and Standard Deviation on Influence of Students’ Drug Abuse on Communication in Secondary Schools

S/no	Items	N	Mean	Std. D	Decision
11	Ineffective communication between teachers and students who abuse drugs affects the quality of secondary schools management	400	3.47	.59	Agree
12	Students who abuse drugs are not likely to lead class discussion better than those who do not.	400	3.45	.58	Agree
13	Students who abuse drugs do not contribute meaningfully during lesson in the class.	400	3.48	.58	Agree

14	Students who abuse drugs hardly participate in problem solving and brain storming in the class.	400	3.46	.60	Agree
15	Students affected by drug abuse ask irrelevant questions in the class.	400	3.84	.46	Agree
Clusters		400	3.54	0.51	Accepted

Table 3: Reveals that item 11 had mean of 3.47 and SD of 0.59, item 12, 13, 14 and 15 with mean of 3.45, 3.48 and 3.46, and 3.84 and SD 0.58, 0.58 and 0.60 and 0.46 respectively with grand mean of 3.54 and SD of 0.51. This result implies that item 11-15 is significant and showed the influence of drug

abuse on communication in secondary schools in Zone A Senatorial District of Benue State.

Hypothesis One: Students’ drug abuse has no significant influence on discipline in secondary schools in Zone “A” Senatorial District of Benue State.

Table 4: Chi-Square test of significance on Influence of Students’ drug Abuse on Discipline in Secondary Schools in Benue State

Variable	Observed score	Expected score	Chi-Square (χ^2)	Df	p-value (sig)	Alpha value (α)
	25	78.00	448.69	9	0.001	0.05
	12	77.56				
	166	124.89				
	197	119.56				
Total	400	400				

Table 4 shows that p-value is less than the alpha value, of 0.05 at df =9. The null hypothesis which states that students’ drug abuse has no significant influence on discipline in secondary schools in Zone “A” Senatorial District of Benue State is therefore

rejected. There is a significant association between the variables. Students’ drug abuse has significant influence on discipline in secondary schools in Zone “A” Senatorial District of Benue State.

Hypothesis Two: Students’ drug abuse has no significant influence on supervision in secondary schools.

Table 5: Chi-Square test of significance on Influence of Students’ drug Abuse on Supervision in Secondary Schools in Benue State

Variable	Observed score	Expected score	Chi-Square (χ^2)	Df	p-value (sig)	Alpha value (α)
	5	73.56	575.96	9	0.001	0.05
	7	77.56				
	111	111.11				
	277	137.78				
Total	400	400				

Table 5 showed that p-value is less than the alpha value, of 0.05 at df =9. The null hypothesis which states that students’ drug abuse has no significant influence on supervision in secondary schools in Zone “A” Senatorial District of Benue State is therefore rejected. There is a significant

association between the variables. Students’ drug abuse has significant influence on supervision in secondary schools in Zone “A” Senatorial District of Benue State. **Hypothesis Three:** Students’ drug abuse has no significant influence on communication in secondary schools.

Table 6: Chi-Square test of significance on Influence of Students’ drug Abuse on Communication in Secondary Schools in Benue State

Variable	Observed score	Expected score	Chi-Square (χ^2)	df	p-value (sig)	Alpha value (α)
	4	78.00	585.35	9	0.001	0.05
	7	77.56				
	186	124.89				
	203	119.56				
Total	400	400				

Table 6 showed that p-value is less than the alpha value, of 0.05 at df =9. The null hypothesis which states that students’ drug abuse has no significant influence on communication in secondary schools in Zone “A” Senatorial District of Benue State is therefore rejected. There is a significant association between the variables. Students’ drug abuse has significant influence on communication in secondary schools in Zone “A” Senatorial District of Benue State.

attention in class, they disobeyed instruction and tend to be rude to authority.

Discussion

The first finding is supported by Bua (2020a) who maintained that learning cannot take place without order. Discipline includes creating and keeping rules passed on reciprocal understanding and tolerance and requires establishing limits that must not be transgressed. This is further supported by Al-Alawi & Shaikh (2018), they opined that indiscipline in the form of drug abuse, stubbornness, rudeness, disobedience and aggression from students affected school management negatively and students that indulges in drugs were likely to have been influenced by friends and lack of care, lacks

The second finding revealed that Students’ drug abuse has significant influence on supervision in secondary schools. This agrees with Nwaogu (2009) who asserted that supervision is the process of bringing about improvement in instruction by working with students. Adequate supervision is very necessary so that the nation’s aspirations and those of individuals are met. According to his findings, for any school organization to achieve its aims and objectives, there must be proper supervision of all its activities which include students that indulge in drug abuse. Teachers can supervise students’ development in the classroom, especially when it is discovered that some are influence by drug abuse.

The third finding revealed that Students’ drug abuse has significant influence on communication in secondary schools. This finding corroborates the studies by Ndu

(2007), which asserted that poor and non-qualitative communication accounts for over one third of the problems of any social organization such as education. Afolayan (2009) further supported that effective and quality communication facilitates school management as it relate the institution's staff and students, equipment, space and time to one another harmoniously. Afolayan again agreed that effective communication motivates, help to mould attitudes and impact beliefs in order to persuade, convince and influence behaviour. Classroom communication has great influence in molding the students.

CONCLUSION

Based on the results of the study, the effects of students' drug abuse are glaring on discipline, supervision and communication. Drugs should be discouraged among students in secondary schools in Zone "A" senatorial district of Benue State. .

RECOMMENDATIONS

From the findings of the study, the following recommendations were made:

1. Schools' management should frequently invite Non-Governmental Agencies (NGOs) who are professionals in rehabilitation

to give talks on experiences and counsel students on the danger of indulging in drug abuse.

2. Discipline should be enforced on disobedient students; this would make the students to be obedient.
3. Students should be closely supervised and management should implement stricter supervision measures in order to help students overcome the challenges of drug abuse.
4. Schools management should create a friendly and cordial atmosphere for students to be free and encouraged to report any students who indulge in drugs.

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EVALUATION OF PASTORAL PUPILS' ACCESS TO EDUCATION AND ARTIFICIAL INTELLIGENCE IN BIU BORNO STATE, NIGERIA

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ABSTRACT

Evaluation of every educational programme is very essential in understanding the whole programme or an aspect of its objectives, whether it is functioning as stated for which new innovations may demand modification or total deletion of some portions is required for quality services in a dynamic environment. Access to education of Pastoral Nomads could be influenced positively when Artificial Intelligent is used as a method of instruction and assessment in the 21st Century. This paper revolved around the impact of evaluation, access of pastoral nomads to school and artificial intelligence technologies for teaching and assessment. This was followed by brief discussion on factors that mitigate access to education for pastoral nomads in Biu Local Government of Borno State. It was found that, there was a gap in the stated objectives of pastoral nomads' access to education. Therefore, the paper concluded that the entire objectives of establishing nomadic education since its inception in 1989 should be modified to meet the current technological realities as lots of discrepancies were identified. It was recommended that Federal government in conjunction with the NCNE should adopt Artificial Intelligence as means of evaluating nomadic pastoralist pupils and National Commission for Nomadic Education in conjunction with the State Government should liaise with the Federal Ministry of Education for implementation of using AI strategies in the assessment of Nomadic schools across the state.

Keywords: Evaluation, Access, Pastoral nomads, Artificial Intelligence

INTRODUCTION

Education is a metric that determines population creation, social mobility and greater opportunities as such

education is regarded as the most important tool for national, scientific and technical advancements.

Education entails bringing the entire society and social system up to a higher standard of living. Self-sufficiency, social adjustment, and economic development are all expected outcomes in any civilized and educated society as viewed by Okoli (2005).

The process of establishing value judgments on educational programs in order to adjust or improve a course of instruction and make legitimate decisions is referred to as evaluation (Okoli, 2005). In order to increase the educational level, judgments are made based on a range of observations or test results. According to Adegoke, et al. (2017), evaluation is the process of making a choice based on set criteria and curriculum standards on the quality, value, or what of a response, product, or performance. An organization, program, project, or any other intervention or initiative can use evaluation to analyze any goal, realizable concept/proposal, or alternative to aid in decision-making. Appraising issues of interest in a wide range of human enterprises, including the arts, criminal justice, foundations, non-profits organizations, government health care, and other human services, characterizes the effectiveness of instruction or an educational program.

Access to basic education means that all school-aged children, regardless of their social status, ethnicity, gender, ethnic background, or physical or mental disability, have equal access to education. As seen by the United Nations, universal access to education fosters a variety of pedagogical approaches to achieve knowledge diffusion across a diversity of social, cultural, economic, national, and biological bases United Nation Economic and Scientific Cultural Organization (2021). When examining education through the capability building, one most important question is, do all pastoral nomads have easy access to education in order to achieve their functioning? Despite the achievements in increasing access to education locally and globally, issues of access remain an issue of concern as viewed by National Commission for Nomadic Education (NCNE) (2021). For nomadic pastoralist to attach more importance to education for massive increase in pupil's enrolment there is need for the government to employ the use of Artificial Intelligence assessment as a strategy for instructions.

Artificial Intelligence as viewed by (Verma, 2018) referred to the study of intelligent machines and software that can reason, learn, gather knowledge, communicate, manipulate and

perceive objects in its utilitarian significance for easy and speedy assimilation. Artificial Intelligence is a part of computer science that deals with the design of intelligent systems that is, systems that exhibit characteristics associated with intelligence in relation to human behaviors as recorded by (Ocana, 2019). In consonant to the assertions of other researchers, Strusani and Hounbonon (2019) defined AI as a combined large volume of data with computing power to simulate human intellectual abilities such as reasoning, language processing, perception, vision recognition and spatial processing which may stand as an indices for attracting increase and access to school.

Nomadic Education in the North East Nigeria

Since the inception of nomadic education in Nigeria, it has been gaining ground in all the geopolitical zones, most especially in the North eastern region. The establishment of NCNE has impacted the nomadic activities in the region for several years leading to great achievements of the programme. The programme has been marshaled by stake holders comprising of teachers, Nomadic officials, pupils, parents teachers association and nomadic heads of the region as could be seen in the following tables

Problems of Nomadic Education in Nigeria

Nomadic education in Nigeria has had considerable success in achieving its goals since its start, but it has also faced certain difficult problems that have undermined the main goal. Obtaining the right to education for all appears to be one of our times' greatest challenges. The Millennium Development Goals address these issues by requiring all countries to provide universal primary education by 2015 and beyond. Given the foregoing, it is evident that any country seeking long-term economic success must improve its residents' literacy. While proportionally small, Nigerian's nomadic people represent a sizeable population that needs access to basic educational provisions to acquire literacy skills. Education is widely considered as an authentic and necessary tool for national development. Every segment of Nigerian society must therefore have access to education to education, including Nigerian's relatively small nomadic population. Some of the challenges faced by nomadic education in Nigeria are as follow:

Diversion from Nomads culture: some schools were built in Nomadic villages in Katsina State during colonial times, and education in Nigeria may be traced back to that time. Nomadic Primary School, established in 1953 in the Daura

Local Government Area of Katsina State, is an example of such a school. However, due to a number of obstacles, the initiative was not able to continue. Among the problems are the Nomads' unique lifestyle, culture, and teaching, which have received little attention. The trend was created on an experimental basis, with no concrete strategies in place to ensure its long-term viability. The issue raised was that the nomadic commission's capacity to carry out its duty effectively is hampered by the target populations' cultural lifestyles. Early marriage among pastoralists, child substitution, boy-child disengagement among migrant farmers, and the primacy of child-labor among all groups are examples. (Ibrahim, 2011)

b. Poor enrolment: United Nations Development Programme (2019) also reported that of the estimated 20 million children of school age are not enrolled in any primary school while only around two third of all Nigeria children are completing primary education and the average completion rate at the end of primary six, as a percentage of enrolment into primary one is reported to be 55% (UNDP, 2019).

c. Non-Integration of Mobile learning: However, due to the lack of integration of mobile learning technology, the development of nomadic schools in Nigeria has failed

to generate the expected results. Mobile learning has been defined as any service that supports in the acquisition of knowledge regardless of place or time (United Nation Development Programme, 2019).

d. Constantly dropping out: Despite these logistical aids, many Nigerian children of school age, notably pastoral nomads, are out of school. According to the National Commission for Nomadic Education (NCNE), only 203,844 out of 11.6 million pupils in basic education are enrolled in school (NCNE, 2020). Since that period the enrollment has been fluctuating without recording tangible progress in the enrollment. Notwithstanding, the report of NCNE (2020) was more shocking and displeasing as it reported that 3.5 million nomads' children are out of school.

e. Teachers' Attrition: A recent spike in teacher demand, as well as dwindling teacher retention, pose a danger to nomadic education. Teachers' attrition refers to the sudden departure of teachers from the system owing to a variety of factors. It is common, and pupils' learning suffers as a result of these teachers' premature departures. For a variety of reasons, nomadic school instructors are unlikely to be kept. According to the UNESCO Institute of Statistics, some of them are unable to withstand the arduous passage of migrants

(2019). The unmarried and the majority of married people show zeal at first, but as soon as they see that the situation is favorable, their zeal disappears. For these teachers, teaching becomes a second or third career option.

f. Poor Teacher- Pupil Ratio:

According to Lynn in Modibbo (2011), one of the factors that can favorably improve retention is the teacher-pupil interaction, especially in the case of educationally disadvantaged students. If the teacher-to-student ratio remains high, as reported by the Federal Ministry of Education, the expected relationship will be missing, resulting in the withdrawal of students from nomadic schools. This was corroborated by Modibbo (2011), who discovered a strong link between teacher expertise and enrolment and retention in nomadic schools. One of the most essential drivers of a well-functioning education system is attracting and keeping outstanding instructors.

g. Discrimination among

Participants: However, due to discrimination that prevents access to school, a substantial proportion of people miss out on education (UNESCO, 2019). Discrimination is most visible when it comes to gaining access to education. Girls, for example, may encounter gender-based barriers such as child marriage, pregnancy, and gender-based abuse,

which frequently prevent them from attending school or force them to drop out. In Nigeria, culture, particularly religion, has played an important role in gender discrimination. Some people believe that a female doesn't need an education and simply requires training to manage her house and family because of religious misconceptions. Others misconceive that once a girl furthers her education to tertiary level, she will become arrogant, disobedient and promiscuous in the community. These misconceptions erode the confidence in the minds of millions of parents to allow their daughters attend school. This stimulated several policies from the federal government as avert the effects of these cultural practices.

h. Language Barrier: The indigenous language is meant to be the medium of communication in nomadic education, as stated in the national policy. Fulanis or fulbe make up the bulk of nomads in Nigeria, followed by Hausas. Nigeria's official language is English, which is utilized as a medium of instruction in schools from the primary level to the university level. The usage of the mother tongue is not fully incorporated in the system; in other words, English takes precedence in teaching and learning activities. This has caused several drawbacks which include ineffective teaching and

learning, dropping-out and demotivation amongst learners. Among the benefits of the use of mother tongue in instruction are children learn better and faster, it makes children attend school regularly, improve performance, increases parents' participation in school activities and it increases students' self-esteem which is vital for effective learning (RUTU Foundation, 2021).

i. Underfunding: Nothing is considered successful until money is spent, according to popular belief. Poor government subjective to education, like in the case of Nigeria's general education sector, has been frightening over the years, producing severe instability and setbacks in education. Similarly, in nomadic education as an expression of the system, a lack of money has hampered the program's ability to reach its established goals throughout the years. This has resulted in infrastructure depreciation, a lack of instructional resources, the hiring of untrained teachers, the delay of appropriate curricula, and, to some extent, the cessation of wages, among other things (Maxwell, et al, 2019).

j. Insecurity: Insecurity has emerged as the most troubling condition in today's civilizations, including Nigeria, hobbling most economic and social activities. Nigeria has been plagued by insecurity, which has

included terrorism, kidnapping, banditry, armed robbery, and communal disputes as viewed by Inter-Agency Network for Education in Emergencies (INEE, 2021). Unemployment, illiteracy, and poverty are some of the factors that contribute to these insecurity issues. It is self-evident that the unscrupulous elements involved in murders, kidnappings, and devastation are all well-funded and motivated by the sponsors, implying that they are employed indirectly and illegally. Unfortunately, the most afflicted settings and populations are now the main targets of nomadic education, namely rural and semi-rural areas, and the rural population, which are primarily farmers. Had it been the basic and nomadic education are well grounded as planned, such insecurity would have been a past events as there would be much employment opportunities and most youths would be highly engaged especially fulanis who are reported to be more participating in kidnapping and banditry these days (INEE, 2021).

Programme Evaluation Models

Cook (2010) defined evaluation as making a value judgment about information that one has available. Durning and Hemmer (2010) defined evaluation as forming a value judgment about information that one has available. As a result, educational program evaluation makes a

judgement regarding the value or worth of a program based on information (Cook, 2010). The process of educational programme evaluation is more precisely defined as the systematic collecting and analysis of data relating to a program's design, implementation, and outcomes for the purpose of monitoring and enhancing the programme's quality and effectiveness. Programme assessment aims to discover both internal and external sources of variance in programme outcomes, as well as whether these sources of variation, or even the outcome itself, are acceptable or undesirable. That work is shaped by the model used to establish the evaluation process.

Measurement techniques are commonly used to collect information for programme evaluation. Many elements, including the precise evaluation questions that define the intended understanding of the programme's success or deficiencies, influence the selection of certain measuring instruments, strategies, or assessments for programme evaluation processes. We define assessments in this Guide as measurements or the tactics used to acquire data for making a decision. Evaluation as noted earlier, is about reviewing, analyzing, and judging the importance or value of the

information gathered by all these assessments.

To evaluate any programme there are series of evaluation models that are available based on the nature, purpose and scope of the programme intended to be evaluated. For this purpose of understanding the effectiveness of any programme based on its stated objectives, Discrepancy evaluation model is viewed most appropriate to look at the gaps as intended in terms of standard and performance since inception of the programme in 1989.

Discrepancy Evaluation Model

This model is credited to Malcolm Provus (1971) which figure out how much of a gap exists between the program's standard and its actual performance. The model is concerned with achieving a level of performance that meets the specified minimum standard, as well as the quality of the performance, the level reached, and the cause for success or failure. According to the concept, evaluation is the process of deciding on a programme standard and assessing if the standard and some characteristics of the programme are in conflict. The stages relevant for evaluation are Design, Installation, Process, Product and Programme Comparison.

Design Variable is the document that shows the nature of the programme;

Installation Variable is to ensure that the intended programme is in line with the plan;

Process Variable is the method(s) used to achieve the terminal objectives;

Product Variable involves the outcome of the programme (Provus, 1971)

Programme Comparison involves cost-benefit analysis (Okoli, 2005). This model is the most appropriate in this study because, it aimed at comparing standard, performance and outcome of a programme which the researcher adapted.

Utilization of Artificial Intelligence for Education

Artificial Intelligence has penetrated education spheres, in the form of intelligent data, web browsers, education applications and learning platforms known as Google classroom (Karsenti, 2019). This may enable new ways of learning, teaching, assessment and research as well increasing the efficiency of educational activities and give access to a wide range of information. For pastoral nomads children to feel socially inclusive in Nigerian educational system there is the need for providing all these relevant platforms of learning that will constantly connect them to the world.

Artificial Intelligence Technologies for Teaching

Gooru: Gooru is a free search engine described as GPS for learning which is used by teachers and students to search for rich collections of multimedia resources, digital textbooks, webpages, videos, games and quizzes created by educators in the Gooru community (Humphry, 2012). Courses designed in Gooru empower lecturers to construct personalized learning opportunities for students, enabling them to organize course content into comprehensible units of study comprise of narrated collections and assessments with access to immediate feedback (Agarwal, 2018).

Project Essay Grade (PEG)

Writing Scholar: Project Essay Grade (PEG) Writing Scholar is an online learning environment that also allows users to improve their writing skills, get instant feedback with recommended activities that enable teachers to track the progress of each student (Stanojevic, 2020). Using PEG Writing Scholar, students get immediate feedback to their submitted writings with suggestions to improve the student's writing, the teacher can also monitor the students' progress on the platform.

Padlet: is a free web application featuring a virtual wall where multiple users can post comments and media in real-time

(www.padlet.com). For teaching and learning purposes, this can be useful to encourage collaboration and knowledge sharing among students, between students and teachers and around particular topics synchronously thereby enhancing whole class discussion and participation. Padlet walls are used for viewing students' work, grading submitted answers and continual assessment of students' progress, viewing teacher's comments, getting feedback, and for revision/reference.

Smartboards: Smartboards or Interactive Whiteboards (IWB) are potential tools for collaboration, improving students' learning outcomes and streamlining lesson planning (Shi et al., 2012). According to United State Agency for International Development (2018), Interactive Whiteboards enhances interactions in combination with a remote device, support collaborative learning, facilitate learning, save teacher's time, promote idea sharing, and enhance class management and class preparation.

Intelligent Virtual Reality: Intelligent Virtual Reality is an AI based avatar that can simulate realistic conversations with learners, which enables learners to gain fluency and build confidence through highly personalized practice. IVR is used to create authentic virtual reality

and game-based learning environments.

CONCLUSION

Having viewed the utilitarian significance of the key concepts that serves as basic structures for this paper, this paper discusses Evaluation of an educational Programme and its model, looked at the access to education of pastoral Nomads and the important AI in the teaching and assessment of pastoral nomads pupils since they are always on the move in search green pastures for their cattle and other domestic animals under their custody which requires modern technology to get them more socially inclusive and connected to the world of civilization and modernization. This was followed by detailed discussion on Nomadic Education and some problems faced by the programme. AI been of the major variable of this paper, explained the utilization and ways of using AI in teaching as well as assessing pastoral nomad's pupils in their respective schools. The paper concluded that, stakeholders such as NCNE, FME, WB, UNICEF, UNDP, Curriculum planners, Nomadic Heads and State government among others must ensure continuous appropriation and allocation intervention of modern technological gadgets so as to make the nomadic programme gain strong footing in the world of modern

education. It is hope that, this paper will attract attention of stakeholders for supports and restructuring of the objectives of pastoral nomads to its full implementation.

RECOMMENDATIONS

Therefore, it was recommended that Federal government in conjunction with the NCNE should adopt Artificial Intelligence Assessment as means of evaluating nomadic pastoralist pupils and National Commission for Nomadic Education in conjunction with the State Government should liaise with the Federal Ministry of Education for implementation of using AI strategies in the assessment of Nomadic schools across the state.

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STUDENTS' PERCEIVED FACTORS RESPONSIBLE FOR GAMBLING BEHAVIOUR IN TERTIARY INSTITUTIONS IN OYO STATE: IMPLICATIONS FOR SCHOOL COUNSELLING

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ABSTRACT

This study examined factors responsible for gambling behaviour amongst tertiary institution students in Oyo State, Nigeria. The study adopted a descriptive survey research design. *The population consisted of students in tertiary institutions in Oyo State. A sample of 400 students was randomly selected for the study.* The respondents were administered with a researcher-developed instrument namely: "Factors Responsible for Gambling Behaviour Questionnaire (FRGBQ)". Data were analysed using independent t-test and One-Way Analysis of Variance statistics. The findings revealed that lack of parental supervision, desire for quick financial gain, negative peer pressure, mental health problems, and easy access to gambling venue were among the factors responsible for gambling behaviour. Also, there was no significant difference due to age and institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. However, there was a significant difference due to gender and religion in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. The study concluded that *lack of parental supervision, the desire for rapid financial gain, negative peer influence, mental health challenges, readily available gambling venues, feelings of inadequacy, influence of social media among others were perceived as the major factors responsible for gambling behaviour in Oyo State.* It was recommended that the *government and school policy makers should make stringent regulatory policies to discourage easy accessibility to gambling activities in all tertiary institutions in the country.*

Keywords: Factors, Gambling behaviour, Students, Oyo state

INTRODUCTION

The prevalence of gambling among Nigerian youths is on the rise, driven by factors such as the country's large youth population, widespread access to digital technology, and

increased availability of internet-enabled devices like smartphones and tablets. This surge in gambling activity, particularly among tertiary institution students, has raised concerns about the potential for pathological

and compulsive gambling behaviours (Adedayo & Balogun, 2021).

Many young Nigerians turn to gambling as a means of coping with academic stress, loneliness, and other challenges they face. They perceive it as a way to alleviate tension, frustration, and boredom, and some even believe it enhances their mental alertness or helps them stay awake during late hours. Gambling establishments such as casinos, bars, clubs, and local game centers play a significant role in facilitating this behaviour, providing convenient and accessible venues for youths to engage in gambling activities (Adeyemo & Aluko, 2023).

According to Alimi, Aderoju and Falade (2020), gambling encompasses both games of chance that rely solely on luck and activities that involve skills that can improve one's chances of winning. It involves willingly taking on risk with the possibility of either gaining or losing. In the Nigerian university environment, various forms of gambling have emerged, including draft, Naira bet, Bet9ja lotto plus, Cash bet, 360 bet, MTN Quest 4Football, sports betting, lottery, poker, Baba Ijebu, online gaming, card games, among others.

Victor-Aigbodion (2022) revealed that a significant 78% of Nigerian university students were identified as problem gamblers, with gambling linked to drug abuse and involvement in illicit activities. The study highlighted how students sometimes misuse their school fees in attempts to multiply their money through betting. Adeyemo and Aluko (2023) argued that various factors such as monetary gain driven by greed, lack of moral discipline, unemployment, economic hardship, and poverty serve as strong motivators for gambling, potentially leading to criminal behaviour.

Several studies had been conducted within Nigeria to investigate the nature of gambling-related issues. For instance, Alimi, Aderoju and Falade (2020) carried out a study on appraisal of online gambling on undergraduate students' academic performance in University of Ilorin, Ilorin, Nigeria. Adeyemo and Aluko (2023) investigated psychosocial predictors of problem gambling among male college students in Nigeria. To the best of the researchers' knowledge, none of the previous studies have focused on the factors responsible for gambling behaviours as perceived by tertiary institution students in Oyo State, Nigeria. Addressing this gap in the literature, the present study sought to explore the factors responsible for gambling behaviours as perceived by tertiary institution students in Oyo State, Nigeria.

Objectives of the Study

The specific objectives of the study were to:

1. examine factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.
2. examine whether gender, age, religion, and institutional type would influence factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

Research Questions

1. What are the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State?

Research Hypotheses

1. There is no significant difference due to gender in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.
2. There is no significant difference due to age in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.
3. There is no significant difference due to religion in the factors responsible for

gambling behaviour as perceived by tertiary institution students in Oyo State.

4. There is no significant difference due to institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

METHODOLOGY

Research Design

The researchers opted for a quantitative research design, specifically adopting a descriptive survey method to collect and analyse data pertaining to the identified problem. According to Kachigan (2022), the descriptive method serves as a preliminary step, providing a foundation for more rigorous and objective research approaches. Descriptive survey was considered most appropriate research design because the study examined students’ perceived factors responsible for gambling behaviour in tertiary institutions in Oyo State.

Participants

For this study, the target population consisted of students enrolled in tertiary institutions located in Oyo State, Nigeria. To obtain a representative sample, the researchers employed a multi-stage sampling procedure. The population size of students at each

institution was as follows: 13,299 at the University of Ibadan, 7,000 at Oke-Ogun Polytechnic, Ibadan, and 7,250 at Federal College of Education (Special), Oyo. In total, the combined student population across the selected institutions amounted to 27,549 students. Following the recommendation outlined in Research Advisor (2006), which suggests a sample size of 381 respondents for a population of this magnitude, the researchers decided to increase the sample size to account for attrition rate. Therefore, an additional 10% of the sample size was added, resulting in a total sample of 419 respondents. In the initial stage of the sampling process, one institution was purposively chosen from each senatorial district. Specifically, the University of Ibadan in Ibadan was selected from the Oyo South Senatorial District, Oke-Ogun Polytechnic in Saki was chosen from the Oyo North Senatorial District, and Federal College of Education (Special) in Oyo was picked from the Oyo Central Senatorial District. In the second stage of sampling, a proportional sampling technique was employed to select students from each of the participating institutions for inclusion in the study.

Table 1: Proportional Sample of Students from Targeted Institutions in Oyo State

S/N	Institution	Targeted Population	Sample
1	University of Ibadan, Ibadan	13, 299	202
2	Oke-Ogun Polytechnic, Saki	7, 000	107
3	Federal College of Education (Special), Oyo	7, 250	110
Total		27, 549	419

In the third stage of sampling, a simple random sampling technique was employed to select 419 students for inclusion in the study. This method involved using a dip-hat method, where each sampling unit or individual in the population had an equal opportunity of being selected for the desired sample.

Instrumentation

The data collection instrument, titled "Factors Responsible for Gambling Behaviour Questionnaire (FRGBQ)," was developed by the researchers based on the literature review. It consisted of two sections: Section A focused on demographic data, while Section B addressed factors

responsible for gambling behaviour. Section B was patterned in line with 4 point Likert-type rating scale format of: Strongly Agree, Agree, Disagree, and Strongly Disagree. Mean scores equal to or above 2.5 were considered as factors responsible for gambling behaviour, while scores below 2.50 were not.

Validity and Reliability of Instrument

The face and content validity of the instrument was established by five lecturers in the Department of Educational Management at the University of Ilorin. The reliability of the instrument was carried out in the Department of Social work, University of Ilorin using test-retest reliability method. First test was administered on 20 students, while the second test was administered on the same set of students after two weeks. The reliability coefficient of 0.89 was obtained.

Procedure for Data Collection

The questionnaire forms were administered to the respondents by the researchers with the help of two research assistants who were

Research Question: What are the factors responsible for gambling behaviour as

trained on how to administer the instrument. The researchers established adequate rapport with the respondents and promise them of confidentiality in order to ensure maximum response to the questionnaire items. The respondents were encouraged to respond accurately and promptly to the questionnaire and the completed ones were retrieved from them.

Data Analysis

Four null hypotheses were tested using independent t-test and One-Way Analysis of Variance (ANOVA) at the 0.05 level of significance.

RESULTS

This section presents the study's findings based on the information collected. A total of 419 questionnaire forms were distributed to participants, with 400 properly completed questionnaires retrieved for data analysis. Hypotheses were tested using Independent t-test and One-Way Analysis of Variance (ANOVA) at 0.05 level of significance. perceived by tertiary institution students in Oyo State, Nigeria?

Table 2: Mean and Rank Order of Factors Responsible for Gambling Behaviour as Perceived by Tertiary Institution Students in Oyo State

N	Factors responsible for gambling behaviour include:	Mean	Rank Order
10	Lack of parental supervision	3.87	1 st
8	Desire for quick financial gain	3.86	2 nd
11	Negative peer pressure	3.84	3 rd
1	Mental health problems (substance abuse, anxiety, depression)	3.80	4 th
12	Easy access to gambling venues	3.79	5 th
7	Feelings of inadequacy	3.75	6 th
14	Social media influence	3.71	7 th
15	Family history of gambling problems	3.69	8 th
2	Lack of awareness about the risks of gambling	3.64	9 th
6	High sensation-seeking tendencies	3.59	10 th
4	Poor decision-making skills	3.55	11 th
13	Financial difficulties	3.52	12 th
9	Availability of online gambling platforms	3.47	13 th
5	Coping mechanism for academic failure	3.42	14 th
3	High level of social isolation	3.39	15 th

Grand Mean

3.66

Source: Field Survey, 2024

Table 2 showed the responses on the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. All items recorded the mean score ranging from 3.87 to 3.39. All the items were

found to be above the cut-off point of 2.50 on Four Point Likert Type scale. This indicated that all these factors were responsible for gambling behaviour among students.

Hypothesis One:

There is no significant difference due to gender in the factors responsible for

gambling behaviour as perceived by tertiary institution students in Oyo State.

Table 3: Difference in Factors Responsible for Gambling Behaviour as Perceived by Tertiary Institution Students in Oyo State Owing to Gender

Gender	N	Mean	SD	df	Cal. t-value	Crit. t-value
Female	201	59.55	4.11	398	2.01*	1.96
Male	199	53.90	5.53			

***Significant at 0.05**

Table 3 presented a calculated t-value of 2.01 and a critical t-value of 1.96. The comparison between these values revealed that the calculated t-value was greater than the critical t-value. The hypothesis was rejected,

therefore, there was a significant difference due to gender in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

Hypothesis Two:

There is no significant difference due to age in the factors responsible for gambling

behaviour as perceived by tertiary institution students in Oyo State

Table 4: One-Way Analysis of Variance (ANOVA) on Factors Responsible for Gambling Behaviour as Perceived by Tertiary Institution Students in Oyo State Owing to Age

Source	df	SS	MS	Cal. F-ratio	Crit. F-ratio
Between group	2	206.167	103.084	0.45 (ns)	3.00
Within group	397	89034.025	224.267		
Total	399	89240.192			

ns = not significant at 0.05

In Table 4, it showed a calculated F-ratio of 0.45 and a critical F-ratio of 3.00. The comparison between these values indicated that the calculated F-ratio was less than the critical F-ratio. The hypothesis was accepted,

therefore, there was no significant difference due to age in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

Hypothesis Three:

There is no significant difference due to religion in the factors responsible for

gambling behaviour as perceived by tertiary institution students in Oyo State

Table 5: Difference in Factors Responsible for Gambling Behaviour as Perceived by Tertiary Institution Students in Oyo State Owing to Religion

Religion	N	Mean	SD	df	Cal. t-value	Crit. t-value
Christian	212	34.27	5.11	398	1.99*	1.96
Muslim	188	31.03	7.51			

***Significant at 0.05**

In Table 5, it showed a calculated t-value of 1.99 and a critical t-value of 1.96. The analysis indicated that the calculated t-value was greater than the critical t-value. The hypothesis was rejected; thus, there was a **Hypothesis Four:** There is no significant difference due to institutional type in the factors responsible for gambling behaviour as

significant difference due to religion in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

perceived by tertiary institution students in Oyo State

Table 6: One-Way Analysis of Variance (ANOVA) on Factors Responsible for Gambling Behaviour as Perceived by Tertiary institution students in Oyo State owing to Institutional Type

Source	df	SS	MS	Cal. F-ratio	Crit. F-ratio
Between group	2	42.268	21.134	0.35 (ns)	3.00
Within group	397	23731.674	59.777		
Total	399	23773.942			

ns = not significant at 0.05

In Table 6, it showed a calculated t-value of 0.35 and a critical t-value of 3.00. The analysis indicated that the calculated F-ratio was less than the critical F-ratio. The hypothesis was accepted; thus, there was no

significant difference due to institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

Discussion

The study findings indicated that several factors were responsible for gambling behaviour among tertiary institution students in Oyo State. These factors include lack of parental supervision, desire for quick financial gain, negative peer pressure, mental health issues (such as substance abuse, anxiety, and depression), easy access to gambling venues, feelings of inadequacy, influence from social media, family history of gambling problems, lack of awareness about the risks of gambling, among others. These findings align with the research conducted by Adedayo and Balogun (2021), which identified peer group influence,

loneliness, and lower family connectedness as risk factors associated with gambling activities. The reason for this finding might be attributed to the advertisement of gambling platforms on social media means. This makes it extremely appealing for tertiary institution students, who see gambling as financial opportunity, added to other possible factors such as seeking entertainment, socialising, or mitigating negative emotional states.

The finding revealed that there was a significant difference due to gender in the factors responsible for gambling behaviour as perceived by tertiary institution students in

Oyo State. This implied that both male and female tertiary institution students had different perception with regards to factors responsible for gambling behaviour in Oyo State. Differences in the perception of factors responsible for gambling behaviour between male and female students could be attributed to personal experiences, cultural influences, and psychological factors. Personal experiences, peer influences and socialization could differ between genders, impacting how they perceive and respond to factors such as peer pressure, academic stress, motivations, and social acceptability of gambling. Psychological factors such as risk perception, coping mechanisms, and motivations might vary between males and females', contributing to distinct views on what drives gambling behaviour. These diverse influences and experiences could lead to differing perceptions among male and female students regarding the factors behind gambling behaviours.

Another finding showed there was no significant difference due to age in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. This implied that the perception of tertiary institution students were not different on factors responsible for gambling behaviour in Oyo State based on age. The reason for this finding might be due to social factors. Exposure to gambling advertisement, societal norms around gambling, or peer behaviours could influence their perceptions uniformly. Students might encounter similar situations, such as financial stress, peer pressure, or seeking excitement, which can collectively contribute to their understanding of the motivations behind gambling behaviour.

Findings revealed that there was a significant difference due to religion in the factors responsible for gambling behaviour as

perceived by tertiary institution students in Oyo State. This implied that the perception of tertiary institution students were different on factors responsible for gambling behaviour in Oyo State based on religion. Christian and Islamic teachings may have varying perspectives on gambling. Some denominations might have strict views against gambling, considering it as morally wrong, while Islam teachings also often condemn gambling as prohibited (Haram). Also, these differing religious stances could shape individuals perceptions towards factors responsible for gambling behaviour. These diverse influences, including teachings, cultural norms, community influences, personal beliefs, and interpretations of religious texts, could lead to different perceptions among Christians and Muslims regarding the factors contributing to gambling behaviour.

Findings also revealed that there was no significant difference due to institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. This implied that the perception of tertiary institution students were not different on factors responsible for gambling behaviour in Oyo State based on institutional type. Despite differences in the educational institutions they attend, students often share similar social environments. They might interact with peers from different institutions, share common social media platforms, or be exposed to similar societal influences, which can contribute to a collective understanding of the factors responsible for gambling behaviour.

Implications for School Counselling

The findings of the study have significant implications for various stakeholders, with guidance counsellors playing a vital role in guiding students. The results highlight that tertiary institution students engage in

gambling due to a multitude of factors, including lack of parental supervision, desire for quick financial gain, negative peer pressure, among others. In light of these findings, counsellors should provide students with information regarding the risks associated with gambling behaviour, address misconceptions, and raise awareness about the negative impacts. Also, counsellors can help students set achievable goals and reinforce positive behaviours outside of gambling activities.

School counsellors should provide comprehensive counselling services to students regarding the factors contributing to gambling behaviour through information dissemination and orientation sessions within schools. They should assist students in developing coping skills to effectively manage stress, emotions, and triggers that may lead to gambling. This includes teaching problem-solving techniques, stress management strategies, and healthier approaches to addressing financial concerns.

In addition, counsellors should strive to establish partnerships with various stakeholders in education, including government agencies, community organizations, healthcare providers, and the gambling industry. This collaboration will facilitate the development of comprehensive strategies for preventing and addressing gambling-related problems among students. The findings of the study revealed that there were no significant differences due to age and institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. This implied that counsellors should provide counselling to students and identify factors such as financial stress, psychological issues, or social influences that contribute to gambling behaviour across age groups and institutional types. Counsellors should implement prevention programmes that

target specific task factors prevalent in different age groups and institutional settings, fostering a proactive approach to gambling behaviour. However, the findings revealed that there were significant differences due to gender and religion in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. This implied that there is need for moral and religious counselling for all students regardless of their differences in gender and religion so as to inform them about the risks associated with gambling activities.

CONCLUSION

The study highlighted numerous factors perceived as contributing to gambling behaviour among tertiary institution students in Oyo State. These factors encompassed lack of parental supervision, the desire for rapid financial gain, negative peer influence, mental health challenges such as substance abuse, anxiety, and depression, readily available gambling venues, feelings of inadequacy, influence of social media, among others. The findings further showed that there were no significant differences due to age and institutional type in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State. However, the findings revealed that there were significant differences due to gender and religion in the factors responsible for gambling behaviour as perceived by tertiary institution students in Oyo State.

RECOMMENDATIONS

Based on findings of the study, it was recommended that:

1. Parents should endeavour to check and provide proper supervision over their children's activities, both at school and at home. This will help to curb any act of engaging in gambling.

2. Students should develop realistic financial goals and plans. This will help to reduce the temptation to seek quick gains through gambling.
3. Government and school policy makers should make stringent regulatory policies to discourage easy accessibility to gambling activities in all tertiary institutions in the country.
4. Students in school should be provided with counselling and orientation programmes that address gender-specific risk factors for gambling, thereby empowering them with the knowledge and skills necessary to make informed decision and mitigate the associated risks.
5. Religious organisations in schools should educate Christian and Muslim

- students on the moral aspects of gambling through their sermons or messages, which will help reduce the risks associated with gambling.
6. Schools should provide comprehensive gambling programmes for all students, regardless of age or underlying factors, and promote responsible decision-making and healthy choices.
7. Tertiary institutions, such as universities, polytechnics, and colleges of education, should incorporate gambling education into their school curricula to raise awareness among students about the risks associated with gambling and equip them with the skills to make informed decisions.

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DRONE TECHNOLOGY: A TOOL FOR MINIMIZING INSECURITY IN EDUCATIONAL DELIVERY SYSTEM IN NIGERIA

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ABSTRACT

It is not a gainsaying that Nigeria has been faced with myriads of security challenges. Deploying emerging technology at problems can be helpful, but fundamental challenges are political and economic which are rooted in human nature. This paper examined the various challenges confronting Nigeria, such as Boko Haram insurgency, banditry, kidnapping, and herdsman farmer clashes, abduction of students, killings, destruction of properties, school's destructions piracy among others and how they affect educational delivery system in Nigeria. It also examined various ways by which emerging technology such as "Drone" can be used to minimized national insecurity and assist security agencies to be more efficient and effective in their operations. It was concluded that advance in technology is vital to the solutions of the problems as it has a strong driving force to facilitate national development. The study recommended that institutions across the country should install drone to monitor activities on campus.

Keywords: Boko Haram, Drone, Insecurity

INTRODUCTION

In recent times, Nigeria has been faced with myriads of security challenges, ranging from Boko Haram insurgencies, banditry, Kidnapping, herdsman farmer clashes, and piracy. These insecurities are occurring almost simultaneously. The ideology of insurgent group opposes children attending schools and also commits criminal offences ranging from kidnapping of school pupils and attacking teachers in schools

(Adeyemi, 2004), there is major destruction of schools' activities, abduction of school children and the elderly were also common in the recent styles of mindless attack. Musa (2011) stated that the Boko haram has been in existence since 2001 but did not become popular until 2009 when they participated actively in the sectarian violence which occurred in the Northern Nigeria.

In November 2016, head teachers from 114 institutions including 100 schools in the Northeast attended a United Nations Educational, Scientific and Cultural Organisation (UNESCO) (2016) workshop on security to help them handle the instability caused by extremists of the Boko Haram insurgency, which has been disrupting education in the area. Forty per cent (40%) of Nigerian children aged between 6 and 11 do not attend any primary school with the northern region recording the lowest school attendance rate in the country, particularly for girls. Despite a significant increase in net enrolment rates in recent years, it is estimated that about 4.7 million children of primary school age are still not in school.

Nowadays, many children cannot attend school because of the fear of incessant Boko Haram attacks. Even when children enroll in schools, many do not complete the primary cycle. According to United Nations children's fund (UNICEF) (2023), about 7.6 million girls mostly from northern region remain deprived of education in Nigeria. Reasons for this low completion rate include child labour, economic hardship, early marriage for girls, and lately, Boko Haram insurgency <https://dailypost.ng>.

Targeted kidnapping of school children began in 2014 with the mass abduction of 276 female students in Chibok by Boko-haram insurgent. That event was ideologically motivated and designed to extort concessions from the government. The groups have been raiding schools in the northern Nigeria in recent months, with hundreds of students abducted for ransom. Also, on February 29, 2016, Babington Macaulay Junior Seminary, a school on the outskirts of Lagos was thrown into pandemonium when some schoolchildren were abducted. It was around 8 pm when pupils of the school were busy studying for their upcoming examinations that a gang of 12 armed men struck and kidnapped three schoolgirls. But in about one week, some of the kidnappers were apprehended and the girls were rescued

(<https://journal.scholarpublishing.org>).

Since December 2020 children and students have been kidnapped and the worst incident this year occurred at the Government Girls Secondary School gangebe in February, when 279 girls were abducted though later released with concerted efforts of stakeholders Many schools in the region have been forced to close due to frequent and unpredicted incidents of attack. On Sunday, 14

undergraduate students and staff who had been abducted from Greenfield University in Kaduna State on April 20 were freed after spending more than a month in captivity. Recently an Armed gang also abducted dozens of students from Islamic school in the North central Nigerian, Niger State. At least one person was confirmed dead while the exact numbers of student abducted from the school remain unascertained in the latest string of school kidnapping raids the country has seen this year. It is pertinent to know that schools are safe in so far the larger society are safe(<https://journal.scholarpublishing.org>).

The Nigerian education system is deep into crises on multiple fronts, including in areas of access and quality of education. The Boko Haram crisis, with its devastating effects on economic and education systems, is also heavily concentrated in the region. Now, with the sudden increase of recent school kidnappings, community and parental trust in the education system could shrink significantly, and the problem of access to quality and equitable education could become severely amplified. It is against this background of the above problems that the study systematically reviewed how drone technology can help in minimizing insurgency in

educational delivery system in Nigeria.

Concept of Education

Education is derived from two Latin words; 'Educare', which means 'to bring up' and 'educere', meaning 'to bring forth' (<https://www.rahacollege.co>)

Thus, education means both to bring up and to bring forth. Bringing up is essential, but bringing forth is more important today; we need the education that brings forth the latent skills and creative potentials of people's native intelligence, making them think outside the box. (Akanbi et al., 2020, p. 11).

According to Kolawole (2022), education is a process of making man better, informed, knowledgeable, and empowered to create and recreate his world to live and for people to live with him, emancipating him from enslavement to myths and irrational traditions. Kolawole's definition of education also aligns with Ryan and Cooper (2013) submission that "education is a process of human growth by which one gains greater understanding and control over oneself and one's world. Its involves our minds, our bodies, and our relations with the people and the world around us" (p. 28). Therefore, for any education to be worthwhile, it must positively impact the recipients

and their society because whatever the problem, education is the answer (Obanya, 2016).

Meaning of Educational Delivery System

An educational delivery system or learning delivery system implements the curriculum content through effective communication between the learner and the teacher towards achieving educational goals. Igi-global.com/dictionary (n. d.) sees the learning delivery system as "an approach to conveying teaching and learning activities" (para. 1), which occur in all educational systems - formal or informal. However, developed nations have created virtual schools through Open Distance Learning (ODL) education. They do this by using technologies to deliver materials and instruction to students who are not physically present with a teacher, long before it now becomes the New Normal (NN) after the COVID-19 pandemic. The new normal has now opened up several delivery systems, and there are plenty of options that are also available as inclusive education is currently in vogue. Nevertheless, it will not be out of place, and for academic purposes, to highlight a few popular educational delivery systems available worldwide, whether they are operational in Nigeria or not, namely:

1. In-Person or instructor-led classroom
2. Instructor-led online (synchronous)
3. Self-paced online (asynchronous)
4. Blended Learning
5. Open Distance Learning (ODL)
6. Alternative Education

National Insecurity and Educational Delivery System

If security has to do with safety and protection from harm, danger, attack, crime, risk, anxiety and freedom from financial care or want, then insecurity is when there is no safety and protection. People place a premium on human security, thinking less of national security, but Hubert (2001) believed human security cannot replace national security as they are mutually supportive. A practical and democratic state that values and protects its people is central in promoting human safety, strengthening, stabilising, and securing the nation. It is under this condition that the educational delivery system can be effective.

Odekunle (2011) perspective to national security is focusing on government envisioning and endeavouring to put in place "an economically-prosperous, politically-

stable, and socially-just society in which the security of life and property of the generality of the population is guaranteed against criminal victimisation, in almost all places and at almost all times" (p. 57). Maduekwe (2010) also opined that "a country's security must be citizen-centred with the objective of addressing the basic needs of the people for food, clothing and shelter, and lots more as the complexity of our society grows in terms of needs" (p. 5). The spate of insecurity in Nigeria today should call our attention to the seven essential issues associated with human security identified by Srinivas (n. d.), namely, economic, food, health, environmental, personal, community and political security. These are needed for an effective educational delivery system to minimise insecurity and promote safety in Nigeria.

Presently, insecurity in Nigeria is a concern for all, especially stakeholders in education. Tanko (2021) submitted that Nigeria faces an unprecedented wave of different but overlapping security crises - from kidnapping to extremist insurgencies - almost every corner of the country has incidences of violence and crime. The insecurity stemmed from jihadism, clashes between herders and farmers, banditry and kidnapping, separatist insurgency and

oil militants. Still, Akubo and Okolo (2019) and Bukarti (2020) think that the Boko Haram insurgency poses significant security threats to the lives and property of the citizens and is affecting the educational delivery system, socio-economic development and peace of the nation. According to Simone et al. (2021), frequent news headlines throughout Western and Central Africa are about the attacks on schools. Popular among the attacks is the kidnapping of students and teachers around educational facilities, which disrupt or completely stop education for many of these children and decrease enrolment through school closure.

The aftermath of insecurity in Nigeria is the increase in the number of out-of-school children at the basic level. That Nigeria has an estimated 10,193,918 out-of-school children, the highest in sub-Sahara Africa (Nwajiuba, 2021), is no longer news. These children are easy targets of abuse, exploitation and are being ploughed back into the insecurity network by being readily available for recruitment by the criminal groups. Nwajiuba (2021) lamented that though the FG is making concerted efforts to reduce the numbers; more and more children are joining the queue. Therefore, unless and until our efforts at enrolling these children outweigh the birth rate, the challenge

will continue to stare us in our face. With insecurity in most schools, especially in the north, the government and the community must take urgent steps to ameliorate security issues, make schools safer, and make the educational delivery system smoother (Akanbi et al., 2017). The recent pandemic, COVID-19, has also added new dimensions to the educational delivery system by creating a new normal in education. Unfortunately, the issue of the Covid-19 in Nigeria met an education system that is not IT-driven, as most learning institutions had no template for online Education for Emergency Response Teaching/Learning (ERT)" (Akanbi et al., 2020, p. 11).

In the conceptual framework of quality education for all, which is the focus of the Sustainable Development Goals (SDG) 4, leaving no child behind (Okeowo et al., 2021), there is the need to secure education environment and make funds available for the smooth running of the system. The importance of securing schools came to the fore in the discussion of the United Nations (UN) General Assembly. It then proclaimed the International Day to Protect Education from Attack, which should be celebrated every year for the first time on September 9, 2020. This proclamation is a clear message from

the United Nation (UN) (2021) on "the importance of safeguarding schools as places of protection and safety for students and educators and the need to keep education at the top of the public agenda" (para. 4). This declaration should encourage Nigeria to take aggressive steps to secure all the educational facilities to make the delivery system more effective. It is also unfortunate that the economy is not robust now, and Nigeria is facing insecurity; nevertheless, the solution to all national problems is education if adequately managed. Furthermore, with the Nigerian education system still recovering from the comforting effects of the prolonged school closure from COVID-19, adding insecurity concerns to the basket of challenges could lead to its irrecoverable collapse/
<https://www.brooking.edu>

In Nigeria, for administrative purposes, has equally divided the total land area into units, divisions, zones for effective policing. All the security, intelligence and military institutions are also distributed to cater for everywhere. The implication of this division is that there exists no single land that is not covered by country defense, security, intelligence and police machineries, despite, all these, Nigeria is fast becoming an abode for criminals and national security threatening

activities. With emerging technologies, all these land and space can be manned and monitor. One of such technologies is the use of drones to monitor and police such space and raise a red alert when any suspicious activity is noticed.

According to Kailash (2011), drones are the weapons developed after the post cold war to predict international troubled environment. Drones are designed to move with spiced through vast geographical spaces, and therefore used as a mechanism for a global policeman to maintain order over distances. According to Kailash (2011), America utilized drones in Iraq for surgical strikes and a counter terrorist effort because of its timeless and space-less potentials and lack of causalities, which shields the use of drones from public opinion.

A drone, also know is an Unmanned Aerial Vehicle (UAV), is an Aircraft that operates without a human a pilot on board and operates with autonomy that is under the remote control of human operator, International civil Aviation Organization (ICAO) 2016. It was originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring. A drone's autonomy level can range from remotely piloted (a human

controls its movements) to advanced autonomy, which means that it relies on a system of sensors and Light detector and ranging (LIDAR) detectors to calculate its movement. Law enforcement and governments everywhere have started to look towards drone technology to start solving some of the hard problems with crime. It is possible that coming generations of drone technology could be used to actively fight crime. <https://www.globalpolicy.org>

The local government of Lagos, Nigeria has recently announced that they are considering deploying drones to monitor developments, collect data, and to fight crime in the state. This is in addition to the 1,000 surveillance cameras that have recently been installed across the city. The Commissioner for Science and Technology Olufemi Odubiyi shares that “the present administration is set to deploy technology to dispassionately drive efficient allocation and development of resources” and they are upgrading their Enterprise GIS platform to improve their citizen-government relations. The Nigerian National Petroleum Corporation recently deployed drones to monitor surrounding ships in key coastal areas for oil theft prevention. The Nigerian government has lost \$150B in oil theft in the last decade. Crude theft is

also seen as a possible concern in the city of Lagos as drilling for newly discovered oil reserves will begin within the year.

How Drone as Emerging Technology could help to Reduce Crime Rates

Effective Surveillance in Key Areas

One of ways that drone technology can help to reduce crime rates is by providing effective surveillance in key areas. This is already being done in some countries to a certain extent. A drone can monitor an area nonstop without getting tired or missing anything. A drone can use infrared or other sensors to detect people who are hidden or behind obstacles. That surveillance can detect crimes happening early so that police are able to respond fast (<https://www.droneregulation.info.ns>)

Safely Pursue Criminal Suspects

If criminal escapes capture after committing a crime, then it is likely that person will commit another offense later. Drones have the ability to safely pursue criminal suspects. A drone can fly high above the ground keeping watch on where a suspect is heading. This information can be fed to law enforcement to pursue and eventually capture the suspect. Capturing more criminals on the streets can lower crime rates dramatically over time (<https://www.droneregulation.info.ns>)

Help Identifying Suspects and providing evidence

Something that a drone can do very well is to help with identifying suspects at the scene of a crime and providing evidence for prosecution. A drone can record footage of a crime occurring or a suspect fleeing the scene of a crime. That footage can be used to identify and capture suspects. The footage of the crime is forensic evidence that prosecutors can use to secure a conviction. This will take criminals off the streets and lower crime rates in important areas (<https://www.droneregulation.info.ns>)

Crowd Monitoring

Drones can be used for crowd monitoring to fight crime. They already are in certain parts of the world. A drone could be connected to a remote server running facial recognition software. The drone can then move around crowded areas or events looking for people who have criminal records or who are wanted by law enforcement. Crowd monitoring is another way that drone technology can potentially lower crime rates. It is also an effective way to identify and track some of the most dangerous people on the streets such as suspected terrorists (<https://www.droneregulation.info.ns>)

Intimidation to Deter Crime

A final indirect way that drones could reduce crime rates is through the intimidation factor. If someone sees and knows that a drone is nearby monitoring an area, then it is likely that person will think twice about committing a crime. The drone will act as a deterrent to suppress criminal activity. This can be especially effective when a drone is placed near high value targets like schools, banks, campuses, and a host of others.

CONCLUSION

Education in Nigeria, especially North-eastern part of the country is confronted with the challenges of Boko Haram insurgency. This is because the Boko Haram insurgency has led to the destruction of many schools which have made the affected states to close down school and colleges for a long period of time. It has affected education in the north eastern state - low school enrolment, especially for girls as well as high number of out of school children. School attendance is affected in areas prone to Boko Haram attacks. The rural schools are often neglected because of inadequate security and the children live in perpetual fear of attacks, schools record very low school attendance as parents disallow their children from attending school as soon as there is an attack or rumors of attack. Student's performance is affected, demoralized from attending

regular school period because of the unsafe environment which is prone to attack at any unpredicted time. It has also led to the developmental challenges through destruction of live and properties, destruction of school facilities which have led to the closing down of so many schools in affected areas. It is also concluded that Boko Haram insurgency affected implementation of Education curriculum and policy statement as contain in the National Policy on Education in Nigeria (NPE) (2014), section 2, sub-section 13(c) Early childhood/Pre-Primary Education which stated that, the purpose of Pre-Primary Education shall to be: Provide adequate care and supervision for children while their parent are at work (on the farms, markets, offices, home to mention only a few). This is due to abduction of students, killings, destruction of properties, school's destructions and so on.

RECOMMENDATIONS

1. Nigeria should be in the world map of those using drone technology in manning areas where they cannot place soldiers on a daily basis, and tight against terrorism.
2. Institutions across the country should also install drone to monitor activities on

campus. Institution determined to be unsafe should immediately be shut, with contingency plans in place to facilitate temporary alternative learning environment.

3. Preventing more kidnapping should be priority, rather than the welfare of potential future victims.
4. Provision of access to emerging technologies and internet to everyone and everywhere will reduce the impact of criminals since their attacks can be reported, tracked and escalated.
5. Policies that due for the use of technologies in managing space should be made sufficient e.g., Nigeria constitution, national security act, police acts, NAMA regulation, Nigerian Army signal act, NCAA regulation, Armed forces Act 2003 and so on.
6. Nigeria Government can be more responsible and responsive to the need of the peoples in the ungoverned spaces with the utilization of drone for delivery of some basic amenities.

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A SURVEY OF FACTORS AFFECTING STRATEGIC PLAN'S IMPLEMENTATION IN TERTIARY INSTITUTIONS OWNED BY BAUCHI STATE GOVERNMENT

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ABSTRACT

The study examined factors that affected strategic plans' implementation in tertiary institutions owned by Bauchi state government. The descriptive survey research design was adopted for the study. The population of the study was 314 while a total of 118 respondents were selected as sample using stratified random sampling technique from the three educational zones in Bauchi state to participate in the study. A self-structured questionnaire titled: Research Questionnaire on Factors Affecting Strategic Plans' Implementation in Tertiary Institution (RQFASPI) was administered to the participants on a five-point Likert scale. Data collected were analyzed using mean, and standard deviation and inferential Statistics. The findings revealed that managerial behaviour (MB), organizational structure (OS), resource allocation (RA), and communication (COM) were statistically significant with Strategic plans' implementation (SPI) and thereby contributed greatly to successful implementation of strategic plans in tertiary institutions owned by Bauchi state government. The study concluded that higher institutions' Managers need to consider multiple aspects, as there are multiple relations and connections between factors affecting implementation of strategic plans. It was recommended that tertiary institutions' management should create a higher level of involvement of faculty members in any further strategic plans' implementation and play an active role in implementation process.

Keywords: Strategic plan, Implementation, Tertiary institution, Government, Bauchi state

INTRODUCTION

Organizations have dream to achieve their set goals and objectives and in doing so they need to have strategic plans that will

propel them to the destination and ensure the implementation of such plans. Schools as organizations need to arise to the

occasion that they must develop strategic plans that will drive them in achieving the set goals and objectives as per their visions and missions. By doing so, the school as an organization will have to implement such strategic plans that will guide the direction and the future of where she wants to be as an organization Bryson (2011). As Olsen et al. (2005) opined “doing is harder than dreaming, Organizations invest a lot of time and resources in the planning of strategy, but very little of it will get successfully implemented” (p47). The biggest challenge in strategic plan is however the phase after planning, that is, the successful implementation of the strategic plan that is needed and developed. Research in this field will lead to a better understanding of not only what can go wrong and why, but also what will foster success. School Organization that fails to implement its strategic plans may fail to achieve the set goals on the long run.

Higher education institutions are complex organizations with a strong sense of tradition and a distinct culture. The absence of a political environment signifies confusion in the internal governing structure. The organizational structure is generally bifurcated between academic and administrative components. One of the strong values of the academic component is the "academic freedom" where it may not tolerate any interference from outside sources. The pressure of factors such as tenure creates a unique situation at higher education institutions (Omutoko, 2009). Higher education institutions have many stakeholders who must be involved in the Strategic management process. Apart from administrators, faculty, staff, and students, the institutions also need to account for the interests of students' parents, government agencies, benefactors, alumni, the community, and accreditation agencies. Each of these stakeholders makes demands

upon the institution and the strategic management must bring these stake holders into the strategic management process to maximize "client satisfaction"(Omutoko, 2009).

Strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it (Bryson, 2011). Strategy implementation on the other hand is described as an action phase of the strategic management process. To ensure success, strategic plans must be translated into carefully implemented actions (Wambugu, 2012). Strategy implementation, therefore, is carefully considered processes of ensuring strategies that have been formulated within the organization are executed to achieve organizational goals and objectives (Ngonze, 2011). Execution of strategies does not happen without obstructions, and it is impossible to foresee all the problems that will arise during implementation. It is important for school organization to understand that strategic plan is a process and must be undertaken to its logical conclusion. This means that the logical conclusion will be the actual implementation and the monitoring and evaluation of the entire strategic plan. The process of implementing a strategic plan has several procedures that go with it and if one procedure is not properly followed, everything could be lost. Given the importance of strategic plan implementation to tertiary institutions, all schools are struggling to ensure that they have successfully implemented their strategies, but this is not the case as the implementation process is normally faced with several challenges and or factors that affect effective implementation of these strategic plans. If either of these factors is lacking or poorly handled, the implementation of strategic plans is bound to fail leading to poor academic

achievements, increased levels of truancy, and delinquent behaviors among others (Pearce et al., 2011).

Managerial behaviour is one of the factors affecting strategic plans implementation of tertiary institution. This basically means using strategy in the management of workers by motivating, directing, innovating, and communicating with staff of the school to achieve certain organizational goals. Organizational Structure as another factor can be said to revolve around the distribution of responsibilities among Organizational members, and how decisions relating to the accomplishment of the shared responsibilities should be taken. The allocation of resources, in terms of staff, knowledge, finance and time, is thought to be crucial as part of strategic implementation. Also, Communication along with vigorous reviews is the key to efficient execution of strategic plan. When we are communicating strategic plan, we are communicating change (Lewa et al., 2009). Thus, understanding the factors that affect the process of strategy implementation has become increasingly important in Bauchi State tertiary institutions given the rates of truancy, delinquent behaviors among student among others. According to Njagi et al. (2012) “during strategic management process in institutions, one should note that merely a good plan or strategic decision cannot generate value for an organization and its stakeholders; rather, strategies should be implemented effectively” (p.116). Whether a strategy itself is consistent and fitting or not is a key question for successful strategic plans implementation, but even consistent strategic plans cannot be all things to all people. A poor or vague strategic plan can limit implementation efforts dramatically.

It is a known fact that successful implementation of strategic plans leads to high performance in the school organization, thus strategic plans implementation in tertiary institutions owned by Bauchi state government seems worth stressing. Strategic implementation has been widely researched in many organizations, while most of the research are focusing on challenges of strategy implementation on profit making entities (Njoki, 2009; Kweri, 2011), few have looked at the challenges and factors affecting strategic plans implementation of school organizations (Thompson Jr. et al., 2012); Wakiuru, 2011). Several studies have shown that most school organizations fail in the realization of their formulated strategies (Hill & Cuthbertson, 2011; Pearce & Robinson, 2011). This situation in tertiary institutions owned by Bauchi state government does not give room for the attainment of the educational objectives; hence, there is a significant gap in researching on factors affecting Strategic plans implementation in tertiary institutions owned by Bauchi state government. Failure to implement strategic plans could be contributing to stagnation of most schools in terms of infrastructural and academic development. Although tertiary institutions owned by Bauchi state government have started to get serious about strategic planning because they recognized the challenges and were now required by the government to carry out strategic planning (MOE, 2021). In the light of the above, this study sought to identify those factors affecting strategic plans’ implementation in tertiary institutions owned by Bauchi state government.

Objectives of the Study

The objective of the study was to investigate the factors that affected strategic plans’ implementation in tertiary institutions owned by Bauchi state government.

The specific objectives of the study were to:

1. assess the extent to which Managerial Behaviour affects the implementation of strategic plans in tertiary institutions owned by Bauchi state government.
2. examine the extent to which Organizational Structure affects the implementation of strategic plans in tertiary institutions owned by Bauchi state government.
3. determine the extent to which Resource Allocation affects the implementation of strategic plans in tertiary institutions owned by Bauchi state government.
4. investigate the extent to which Communication affects the implementation of strategic plans in tertiary institutions owned by Bauchi state government.

Research Questions

The following research questions were formulated based on the research objectives.

1. To what extent did Managerial Behaviour affect strategic plans implementation in tertiary institutions owned by Bauchi state government?
2. To what extent did Organizational Structure affect strategic plans implementation in tertiary institutions owned by Bauchi state government?
3. To what extent did Resource Allocation affect strategic plans implementation in tertiary institutions owned by Bauchi state government?
4. To what extent did Communication affect strategic plans implementation in tertiary institutions owned by Bauchi state government?

METHODOLOGY

Research Design

The study adopted the descriptive survey research design. A descriptive study entails the systematic collection and presentation of data to give a clear picture of a particular situation. The survey design

was preferred because it was the most appropriate design where self-reported beliefs and opinions of participants were sought (Check & Schutt, 2012).

Participants

The study covered public tertiary institutions owned by Bauchi state government. According to MOE Bauchi state (2021), there are nine tertiary institutions owned by Bauchi state government. Management staffs of the nine tertiary institutions were the target population of the study totaling 314. The sample size for the study was one hundred and eighteen (118) respondents comprising of twelve (12) top level managers, thirty-two (32) middle level managers and seventy-four (74) lower-level managers from three (3) tertiary institutions owned by Bauchi state government.

Instrumentation

The instrument for primary data collection was questionnaire. The questionnaire was a self-structured questionnaire titled “Research Questionnaire on Factors Affecting Strategic Plans’ Implementation in Tertiary Institution (RQFASPI)” and the item was designed in such a way as to elicit respondents’ views concerning the factors affecting successful implementation of school strategic plans. The instrument was made up of two sections. Section A contained demographic information while Section B contained twenty-eight (28) items soliciting data on the factors affecting strategic plans’ implementation in public tertiary institutions in Bauchi State. The Likert – type scale was used for the scoring of the instrument. Respondents were free to agree with any statement on the questionnaire on a continuum ranging from very large extent (VLE), Large Extent (LE), Moderate Extent (ME), Small Extent (SE) to very small extent (VSE) at 5-1 point respectively.

Validity of the instrument

The instrument was validated using both face and content validity. Thus, areas pointed out by the validators in the choice of words, and other observations and suggestions were strictly adhered to

before producing the final draft of the instrument for the study.

Reliability of the instrument

The reliability of the instrument was determined through a pilot study and established using Cronbach’s alpha after the pilot study, the result of the reliability test showed 0.70.

Procedure for Data Collection

A letter of introduction was presented to the heads of the selected institution. Two research assistants were

selected to help the researcher in getting data from the respondents. For effective collection of data from the sampled institutions, the researcher revisited the Institutions in the same week for collection.

Method of Data Analysis

The data collected was analyzed using descriptive statistics (mean and standard deviation) to analyze the research question, inferential statistics (multiple regressions) to test for the hypotheses formulated at 0.05 level of significance. All data collected were analyzed using statistical package for social sciences (SPSS).

RESULTS

Table 1: Mean and Standard Deviation on Managerial Behaviour on strategic Plan’s Implementation in Tertiary Institutions Owned by Bauchi State Government

	N	Minimum	Maximum	Mean	Std. Deviation	Remarks
Managerial Behaviour 1	118	1.00	5.00	3.86	0.95	LE
Managerial Behaviour 2	118	1.00	5.00	4.08	1.02	LE
Managerial Behaviour 3	118	1.00	5.00	3.53	1.39	LE
Managerial Behaviour 4	118	2.00	5.00	4.38	0.85	LE
Managerial Behaviour 5	118	2.00	5.00	3.69	0.98	LE
Managerial Behaviour 6	118	1.00	4.00	4.28	0.85	LE
Managerial Behaviour 7	118	1.00	5.00	3.18	1.33	ME
Valid N (listwise)	118					

Grand Mean= 3.86, Grand SD= 1.05

KEY: VLE= Very Large Extent, LE= Large Extent, ME=Moderate Extent, SE= Small Extent and VSE=Very Small Extent., SD= Standard Deviation.

The result in Table 1 above revealed that all the items had their mean rating scores above the cutoff point of 3.00. The cumulative mean score fell under the index score for

large extent. This means that tertiary institution managers under study perceived that managerial behaviour affected strategic plans implementation in a large extent.

Table 2: Mean and Standard Deviation on Organizational Structure on Strategic Plan’s Implementation in Tertiary Institutions Owned by Bauchi State Government

	N	Minimum	Maximum	Mean	Std. Deviation	Remarks
Organizational Structure 8	118	2.00	5.00	4.22	.85	LE
Organizational Structure 9	118	1.00	5.00	2.23	1.05	SE
Organizational Structure 10	118	1.00	5.00	3.51	.95	LE
Organizational Structure 11	118	2.00	5.00	3.74	.77	LE
Organizational Structure 12	118	1.00	5.00	3.67	1.12	LE
Organizational Structure 13	118	1.00	5.00	2.55	1.09	ME
Organizational Structure 14	118	1.00	4.00	1.64	.76	SE
Valid N (listwise)	118					

Grand Mean= 3.08, Grand SD= 0.94

The table 2 above showed that the Grand mean obtained was 3.08 with standard deviation of 0.95. The mean score obtained

fell under the range of moderate extent. This means that the extent of organizational structure on strategic plans implementation was moderate.

Table 3: Mean and Standard Deviation on Resource Allocation on Strategic Plan’s Implementation in Tertiary Institutions Owned by Bauchi State Government

	N	Minimum	Maximum	Mean	Std. Deviation	Remarks
Resource Allocation 15	118	2.00	5.00	4.39	.91	LE
Resource Allocation 16	118	2.00	5.00	4.14	.80	LE
Resource Allocation 17	118	2.00	5.00	4.26	.95	LE
Resource Allocation 18	118	1.00	5.00	3.80	1.22	LE
Resource Allocation 19	118	1.00	5.00	3.81	1.04	LE
Resource Allocation 20	118	1.00	5.00	3.74	1.33	LE
Resource Allocation 21	118	2.00	5.00	4.37	.79	LE
Valid N (listwise)	118					

Grand Mean= 4.07, Grand SD= 1.00

The result in table 3 above indicated that the Grand mean score obtained was 4.07 with standard deviation 1.00. The Grand

mean score fell under the scale of large extent. This means that the extent of resource allocation on strategic plans implementation was found to be large.

Table 4: Mean and Standard Deviation on Communication on Strategic Plan's Implementation in Tertiary Institutions Owned by Bauchi State Government

	N	Minimum	Maximum	Mean	Std. Deviation	Remarks
Communication 22	118	2.00	5.00	3.36	.95	ME
Communication 23	118	1.00	4.00	3.95	1.13	LE
Communication 24	118	1.00	5.00	3.27	.74	ME
Communication 25	118	1.00	5.00	4.00	.82	LE
Communication 26	118	2.00	5.00	4.35	.85	LE
Communication 27	118	1.00	5.00	3.48	1.14	ME
Communication 28	118	1.00	5.00	3.50	.86	LE
Valid N (listwise)	118					

Grand Mean= 3.70, Grand SD= 0.93

The Table 4 above showed that the Grand mean score of 3.70 with standard deviation of 0.93 was obtained. The Grand mean score fell under the range of large extent, and this means that the managers of tertiary institutions under study agreed that communication affected strategic plans implementation largely.

Discussion

The findings that emerged from research question one revealed a large mean score of managerial behaviour on strategic plans implementation in tertiary institutions owned by Bauchi state government. This finding was supported by the finding of hypothesis one which reported that managerial behaviour had a significant relationship with strategic plans implementation. Managerial behaviour was found to affect implementation of strategic plans though the correlation coefficient index which showed a relatively strong relationship. The findings agreed with that of Njagi et al. (2012); Beer and Eisenstat (2010); Omutoko (2009); Lewa et al. (2009); Manyasi (2012); Olsen et al. (2005).

The findings that emerged from research question two revealed a moderate mean score of

organizational structure on strategic plans implementation in public tertiary institutions. The finding was in support of the finding of hypothesis two which rejected the null hypothesis that there is no significant relationship between organizational structure and strategic plans implementation in tertiary institutions owned by Bauchi state government. However, the findings were in conformity with that of Gichema (2012); Muriithi (2012); and Kalali et al. (2011) who reported a moderate mean score of organizational structure and significant relationship with strategic plans implementation of public tertiary institutions. On the contrary, the findings were not in line with that of Manyasi (2012); Njagi (2012) who reported a low mean score and insignificant relationship with strategic plans implementation of public tertiary institutions in Spain due to the environment

The finding that emerged from research question three revealed a large mean score of resource allocation on strategic plans implementation in tertiary institutions owned by Bauchi State government. The result indicated that all the seven items used to determine research question three were agreed by

respondents. The finding was in concordance with that of Schram (2014); Muriithi (2012); Barney (2011); Nganga (2013). On the contrary, the findings do not support that of Gichema (2012) and Kitonga (2012) who reported a low mean score and insignificant relationship with strategic plans implementation in tertiary institutions in Kenya as a result of low enrolment, and inefficiency in terms of inappropriate use of public resources in higher education.

The findings that emerged from research question four revealed a large mean score of communication on strategic plans implementation in tertiary institutions owned by Bauchi state government. The findings agreed with that of Gichema (2012); Muriithi (2012); Wambugu (2012); Kweri (2011); Hill and Cuthbertson (2011); Beer and Eisenstat (2010). On the contrary, Manyasi (2012) reported a low mean score and insignificant relationship of communication with strategic plans implementation because management of tertiary institutions lack knowledge about strategic actions such as integrating crises management into strategic planning process.

RECOMMENDATIONS

1. Tertiary institutions should create a higher level of involvement to faculty members in strategy development and avoid negligence approach and lack of ownership on their part.
2. It is also critical that a review is done to distinguish between strategic plan implementation and other performance and Quality management tools.
3. There is need for school management to change its organizational structure to move away from tasks that are not important. Structure should be set and have clear, open lines of communication with the employees.
4. The government agencies charged with management of tertiary institutions should ensure that adequate resources are availed to the institutions for purposes of strategy implementation as this is an expensive exercise which must be deliberately budgeted for.
5. Managers should select those to be involved in communication of organizational needs to avoid skeptics or spoilers who would otherwise bend the intended aim as stipulated in the strategic plan. This will involve drawing discussions and debates about the right

timing plus the freedom to have open talk on how efficient a plan is being implemented.

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INFLUENCE OF PREVIOUS LESSONS ON PROSPECTIVE EDUCATORS' BELIEFS ABOUT LEARNING BIOLOGY IN FEDERAL COLLEGE OF EDUCATION ABEOKUTA, OGUN STATE

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ABSTRACT

This study examined the influence of previous lessons on prospective educators' beliefs about learning biology at the Federal College of Education, Abeokuta. A descriptive survey research design was adopted, while a sample size of two hundred and fifty (250) students participated. A self-developed instrument tagged: "Influence of Previous Lessons on Prospective Educators' Beliefs". Data collected were analyzed using both descriptive and inferential statistics. The results indicated that individuals aspiring to become educators exhibited high level of beliefs pertaining to the acquisition of knowledge in Biology. Also, the results showed that the prospective educators' educational beliefs and teacher identities differ significantly due to gender, academic level and age. In the light of the research outcomes, the study concluded that a positive and significant relationship existed between educators' previous lesson experience and their belief in learning biology. It was recommended that seminars and workshops should be organized for potential educators to engage in introspection regarding their beliefs on teaching and learning of biology especially in Federal Colleges of Education in Nigeria.

Keywords: Prospective, Educators, Previous, Lesson, Belief

INTRODUCTION

Prospective educators are individuals who are currently engaged in the process of preparing for their future roles as educators in the classroom environment. The preparation of aspiring teachers is strategically designed to provide students in higher education with the essential teaching skills, as well as opportunities to develop implicit knowledge crucial for their future success as competent

educators (Maria-Monica & Alina, 2014; Superfine, 2021). Teacher training programs are commonly administered through either the Nigerian Certificate in Education (NCE) or Degree Programs in Nigeria. The Nigerian Certificate in Education (NCE) program plays a crucial role in teacher education, with a primary goal of producing educators who exhibit strong personal and

professional ethics, dedication, and possess the necessary knowledge, skills, and attitudes required to achieve national educational goals National Commission for Colleges of Education (NCCE, 2012). The Nigerian Certificate in Education (NCE) is the minimum qualification required in Nigeria to ensure the preparation of competent teachers for the elementary education sector, while also acknowledging the importance of higher education for the beneficiaries National Commission for Colleges of Education (NCCE, 2012).

Nevertheless, the examination of teacher education has increasingly focused on the pivotal role of teachers' beliefs. The beliefs held by teachers play a fundamental role in shaping their professional identity (Valcke et al., 2010). Consequently, the significance of these beliefs in teacher education cannot be overstated, as they influence the manner in which aspiring teachers hone their pedagogical skills (Beijaard et al., 2004; Valcke et al., 2010). The beliefs that prospective teachers hold regarding the learning process are crucial for their growth within the realm of teacher education (Brown *et al.*, 2013), as these beliefs are directly reflected in the quality of their instructional practices (Weibeno et al., 2013). Teachers' beliefs also

play a significant role in determining their openness to embracing innovative teaching methodologies (Naz & Murad, 2017).

Prospective biology teachers' teacher education programme is influenced by pre-existing conceptions about the teaching and learning process. The spectrum of perspectives on teaching and learning, ranging from instructive to constructivist, is delineated in existing literature (Porcaro, 2011; Zaruba et al., 2021). Prior beliefs, shaped by their educational background as students, serve as a foundation for prospective biology teachers as they embark on their teacher training. The teaching strategies adopted by prospective educators can be informed by their past educational encounters, allowing them to effectively navigate the challenges faced by their students, contingent upon their individual inclinations and personal history (Kellner et al., 2011). Engaging in practical teaching experiences enables prospective teachers to assume various roles in the classroom, such as that of a teacher or a participant observer, thereby potentially reshaping their initial perceptions of teaching and education following these experiences (Weibeno et al., 2013).

Prospective educators partake in practical experiences at the onset of their teaching career, during which they assess the correlation between theoretical knowledge obtained in academic settings and its real-world implementation (Weibeno et al., 2013). Research indicates that the classroom conduct of future teachers is shaped by their perceptions of the educational process (Dubberke et al., 2008). They demonstrate a tendency towards increased independence and enthusiasm towards the subject matter (Hartinger et al., 2006). Individuals aspiring to become educators, who retain vivid memories of their biology classes, may lean towards employing efficient pedagogical approaches from their student years, potentially enriching their academic performance. These methodologies might encompass interactive lectures, practical exercises, and scientific trials designed to maintain students' engagement throughout their educational journey.

The current study is grounded in the Constructivism Theory. Constructivism, as a learning theory, posits that knowledge acquisition is most effective when individuals engage in reflective processes and actively construct knowledge in their minds (Mascolo & Fischer, 2005). According to Constructivism,

learning is viewed as a process where learners actively construct knowledge through mental development, portraying learners as the architects and originators of knowledge and meaning (Phillips, 1995).

Constructivism asserts that learners build knowledge rather than passively receive information (Elliott et al., 2000). Through reflections on their experiences, individuals create their own mental representations and assimilate new information into their existing knowledge base (Elliott et al., 2000; Fosnot, 2005). Drawing on the foundational contributions of Piaget (1977) and Kelly (1991), Constructivism is characterized by four core principles: learning is heavily influenced by existing knowledge, new ideas emerge through adaptation and transformation of old concepts, learning entails the generation of ideas rather than mere accumulation of facts, and meaningful learning is achieved by revisiting old concepts and forming new conclusions about novel ideas (Fosnot, 2005; Bergstrom et al., 2016; Applefield et al., 2020).

Constructivist concepts regarding student learning can be influenced by the biology instruction that aspiring teachers received during their educational journey. It is essential to acknowledge that the impact of

biology education on the instructional practices of future teachers may vary based on individual experiences, the caliber of the instruction recollected, and the extent to which they integrate reflective strategies to infuse their previous knowledge into their teaching methods (Dangel et al., 2004). The effectiveness of prospective biology teachers is further enhanced through continuous professional growth and a commitment to lifelong learning (Brauer & Wilde, 2018).

Furthermore, the proficiency of aspiring biology educators is directly linked to their ability to recollect biology lessons accurately. Sousa (2000) suggested that successful retrieval relies on effective encoding, which involves establishing connections with existing knowledge to facilitate future recall. Reflecting on biology instruction allows future teachers to evaluate their academic encounters. A deep personal connection and a genuine enthusiasm for biology can be attributed to positive recollections of biology educational experiences. Students may be influenced by this enthusiasm, leading to increased interest in biology and a more dynamic learning atmosphere.

Constructivist Theory relating to student learning may be shaped by the

biology education that upcoming educators received in their formative years. It is crucial to emphasize that the influence of biology instruction remembered by aspiring teachers could differ depending on their unique backgrounds, the quality of the lessons recalled, and the degree to which they have incorporated reflective strategies into their teaching approach (Dangel et al., 2004). The effectiveness of future biology teachers can be further improved through continual professional development and a dedication to lifelong learning (Brauer & Wilde, 2018).

Moreover, the depth of understanding in biology among prospective biology instructors is directly impacted by their ability to remember their biology classes. Reflecting on biology lessons enables aspiring educators to assess their educational endeavours (Bruckermann et al., 2018). Positive recollections of biology learning encounters may be associated with a strong personal affinity and a profound interest in biology. This enthusiasm has the potential to inspire students, fostering a greater interest in biology and creating a more dynamic learning environment (Gamage et al., 2021).

Beliefs can be postulated as guiding principles that aspiring educators

uphold to be truths through which novel experiences can be comprehended. The significance of beliefs in the realm of teacher training lies in their impact on how prospective educators cultivate their interest in and decision-making processes concerning the teaching vocation. This underscores the notion that viewpoints constitute merely one component within a multifaceted framework of factors and mechanisms that influence educators' instructional practices across various subjects.

Consequently, teacher education plays a pivotal role in fostering a coherent belief system among both practicing educators and individuals aspiring to enter the teaching profession due to the intricate nature of educators' perspectives. The extent to which aspiring biology teachers can recollect their biology lessons directly influences their perspectives on learning biology. Studies have indicated a correlation between educators' pedagogical beliefs and their past instructional experiences. Therefore, the primary objective of this research was to scrutinize the impact of prior instructional encounters on prospective educators' beliefs about learning biology at the Federal College of Education, Abeokuta.

Objectives of the Study

The specific objectives of this study are to:

1. examine if relationship existed between prospective educators' previous lesson experience and their level of belief about learning biology.
2. determine whether difference exist between prospective educators' gender and their level of belief about learning biology.
3. determine whether difference exist between prospective educators' gender and their level of belief about learning biology

Hypotheses

1. There is no significant relationship between prospective educators' previous lesson experience and their level of belief about learning biology.
2. There is no significant difference between prospective educators' gender and their level of belief about learning biology.
3. Age of Prospective educators has no significant influence on their level of belief about learning biology.

METHODOLOGY

Research Design

The research design adopted was descriptive survey, a research design where the researcher does not have direct control of independent variables and there is no treatment or manipulation offered to any variables. Calderon (2006), defined descriptive research as a purposive process of gathering, analyzing, classifying, and tabulating data about prevailing conditions, practices, processes, trends, and cause-effect relationships and then making adequate and accurate interpretation about such data with or without or sometimes minimal aid of statistical methods.

Participants

The target population of the study was all the students studying Biology Education in Federal College of Education, Abeokuta. About four hundred and thirty (430) students enrolled in Biology education programmes in 2020-2021 were identified as an accessible population for the present study. A sample size of two hundred and fifty (250) students participated in the study. Simple random sampling techniques were used to select 84 NCE I, 83 NCE III, and 83 NCE III students in the Department of Biology. In all, a total of 250 Biology Students participated in the study.

Instrumentation

A self-developed questionnaire tagged: “Influence of Previous Lessons on Prospective Educators Beliefs” (IPLPEB) was used to collect data for the study. The questionnaire consisted two sections. Section A dealt with the background information of the respondents such as level, gender and age. Section B sought to determine the level of prospective teachers’ beliefs about learning Biology and the influence of prospective educators’ beliefs about learning biology. The scale consists of 30 items on a 4-point likert-type scale from strongly agree to strongly disagree.

Validity and Reliability of the Instrument

The instrument was validated for face and constructs by two expert in biology education. A trial testing of the instrument was carried out on a sample of 20 students who were not part of the targeted sample but part of the population. Cronbach Alpha reliability method was employed in establishing reliability for the instrument. A reliability coefficient of 0.712 showed that the instrument was reliable for use.

Procedure for Data Collection

Appointments were made with the class representative of Biology combination students at each level to choose free periods on the students’

lecture time table. Instructions were given to the respondents on how to fill the questionnaire. The instrument was administered directly to the respondents by the researchers with the help of the class representatives. After completion, the questionnaire was coded to ensure anonymity in the publication of results.

Data Analysis

Data collected was analyzed using the Statistical Packaging for Social

Table 1: Demographic Variables of the Students

Variable	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	114	45.6	45.6	45.6
	Female	136	54.4	54.4	100.0
		250	100.0	100.0	

Academic Level	NCE I	84	33.6	33.6	32.2
	NCE II	83	33.2	33.2	66.8
	NCE III	83	33.2	33.2	100.0
Age Group	16-18yrs	62	24.8	24.8	
	19-21yrs	140	56.0	56.0	
	22-25yrs	48	19.2	19.2	
		250	100.0	100.0	

Results presented in table 1 revealed the demographic variables of the students. It was observed that 45.6% of the students were male while the remaining 54.4% were female. This indicates that the majority of the

Sciences (SPSS) version 23.0. The descriptive statistical analysis was used to compute the mean, standard deviation, percentage, and frequency of the respondent’s demographic profile. The benchmarks for determining the respondents’ positive responses to the items was 2.50.

RESULTS

students were female and they constituted the large population of the study.

The results also revealed the level of the prospective educators. The number and percentage of the

selected prospective educators from NCE I, II, & III were 84 (33.6%), 83 (33.2%), & 83 (33.2%) respectively. It shows that NCE I students constituted the large population of the study.

Results further revealed the respondents age bracket; 16-18 years was 62 representing 24.8%, 19-21yrs was 140 representing 56.0%, while

22-25 years was 48 representing 19.2%. Age 19-21% constituted the large population of the study.

Test of Hypotheses

Hypothesis One: There is no significant relationship between prospective educators’ previous lesson experience and their level of belief about learning biology.

Table 2: Correlation between Prospective teachers’ previous lesson experience and their level of belief about learning Biology

		PLE	BLB
Previous Lesson Experience	Pearson Correlation	1	.521**
	Sig. (2-tailed)		.000
	N	250	250
Belief about Learning Biology	Pearson Correlation	.521**	1
	Sig. (2-tailed)	.000	
	N	250	250
Mean			47.62
45.98			
Standard Deviation			6.025
5.412			

****. Correlation is significant at the 0.05 level (2-tailed).**

PLE- Previous Lesson Experience, BLB- Beliefs about Learning Biology

Result presented in table 2 shows the relationship between prospective teachers’ previous lesson experience and their level of belief about learning biology. The relationship value of 0.521 indicated that there is a positive relationship between prospective educators’ previous lesson experience and their level of belief about learning biology. Similarly, the two variables are statistically significant at $p = 0.000$, $p < 0.05$,

while the N represents the study sample that is 250. This means that good and effective previous lesson experience enhanced prospective educators’ belief about learning biology. Hence, the hypothesis was rejected. Therefore, it was concluded that there was a significant relationship between prospective educators’ previous lesson experience and their level of belief about learning biology.

Hypothesis Two: There is no significant difference between prospective educators' gender and

their level of belief about learning biology.

Table 3: Difference between Prospective Educators' Gender and Their Level of Belief about Learning Biology

Variables	Gender	N	Mean	Std.D	Df	T	Sig.	Remark
Beliefs About Learning Biology	Male	114	31.10	6.259	248	.048	.336	NS
	Female	136	32.12	6.619				

Findings (table 3) above revealed that there was no significant difference between prospective educators' gender (male and female) and their level of belief in learning biology ($t(248) = 0.576, P = 0.565$). This means that prospective educators'

gender is not a factor in determining the level of beliefs about learning biology.

Hypothesis Three: Age and level of prospective educators had no significant influence on their belief about learning biology.

Table 4: One -Way Analysis of Variance (ANOVA) on Prospective-Educators Characteristics and Their Level of Belief about Larning Biology

Variables	Sources of variations	Sum of Squares	Df	Mean Square	F	Sig.
Prospective Educators' Age	Between Groups	91.956	2	45.978	1.269	.283
	Within Groups	8947.180	247	36.223		
	Total	9039.136	249			
Prospective Educators' Level	Between Groups	3313.001	2	1656.501	71.454	.000
	Within Groups	5726.135	247	23.183		
	Total	9039.136	249	the		

Summary of the Analysis of Variance (ANOVA) of prospective educators' level and their level of belief about learning biology is as presented in table 4. The result revealed that there was a significant difference in prospective educators' academic level (NCE I, NCE II, and NCE III) and their level of belief about learning biology ($F_{(2, 247)} = 71.454, P < 0.05$).

In addition, a significant difference was observed between prospective educators' in NCE III, who had the highest mean value ($\bar{X} = 51.81, SD = 4.942$) of their level of beliefs about learning biology followed by NCE I ($\bar{X} = 48.12, SD = 4.908$). In contrast, prospective educators in NCE II had the lowest mean value ($\bar{X} = 42.912, SD = 4.983$) and the mean difference

was statistically significant at 0.05 significance. This result indicated that there was significant difference in the academic level and level of beliefs of prospective educators. However, the result showed that there was no significant difference in the prospective educators age bracket and their level of beliefs about learning biology $F(2, 247) = 1.269, p = 0.283$. The mean difference observed was statistically significant at a 0.05 level of significance. Hence the hypothesis was not rejected. This means that age is not a potent factor in determining the level of belief in learning biology.

Discussion

The hypothesis test one demonstrated a positive and significant correlation between the prior teaching experiences of potential educators and their attitudes towards learning biology at Federal College of Education, Abeokuta. This suggests that a strong and effective teaching background can bolster the educators' confidence in learning biology. These results align with various academic investigations carried out within teacher training programmes (Mansour, 2009; Kellner et al., 2011; Fives et al., 2015) which have highlighted the profound impact of past learning experiences on educators' beliefs, shaping their approach to creating conducive learning environments for their students. This is also in line with the

assertion of Da-Silva et al. (2007) that experiences from previous lesson have impact on how teachers view the learning of their students. Similarly, the results of hypothesis two demonstrated that the gender of prospective educators does not play a role in determining their beliefs about learning biology. This finding contradicts the research by Polat (2019) and İpek et al. (2015), which suggested that female prospective students held more positive beliefs about the teaching profession compared to their male counterparts. However, it aligns with the argument made by Kesen and Polat (2014) that the beliefs of prospective educators do not vary based on gender. Moreover, the findings indicated a significant disparity in the academic level and beliefs of future teachers. This contrasts with the studies conducted by Tunçeli (2013) and Akgün and Özgür (2014), which found that classroom variables did not have a notable impact on the beliefs of prospective teachers regarding the teaching profession. Similarly, the absence of a significant difference in the age range of prospective educators and their beliefs about learning biology supports Woodcock et al. (2023) assertion that there is no significant correlation between educators' age and their self-beliefs.

CONCLUSION

According to the outcome of this study, prospective educators at Federal College of Education, Abeokuta, have strong belief in learning Biology. The study also found a positive and significant relationship between educators' previous lesson experience and their belief in learning biology. This suggests that a good teaching background enhances teachers' confidence in teaching biology. These findings align with previous academic investigations that highlight the influence of past learning experiences on educators' beliefs and their approach to creating a conducive learning environment for students.

RECOMMENDATIONS

- i. Seminars and workshops should be organized for potential educators to engage in introspection regarding their beliefs on teaching and learning, facilitating their professional development and enhancing the quality of teacher preparation.
- ii. Both the administration of educational institutions and teaching staff have a responsibility to consider these belief systems more deeply, with a specific

emphasis on teachers' perspectives on learning.

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MANAGING DYSMENORRHEA AMONG FEMALE UNDERGRADUATES IN THE UNIVERSITY OF ILORIN, NIGERIA

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ABSTRACT

This study determined whether home remedies and non-steroidal anti-inflammatory drugs (NSAIDs) were used to manage dysmenorrhea among female undergraduates of University of Ilorin, Nigeria. Descriptive research of the survey type, utilizing 400 female undergraduates of University of Ilorin, Nigeria, was adopted in the study. A researcher-constructed questionnaire was used as the instrument to collect data for the study. Percentile and frequency statistical methods were used to analyse the data in the study. The findings revealed that 81.2% of the respondents utilize home remedies while 85.5% of them use NSAIDs in the management of dysmenorrhea. The study concluded that home remedies such as heating pad, massage and rub as well as NSAIDs such as Ibuprofen and naproxen are used for the management of dysmenorrhea among female undergraduates of University of Ilorin. It was recommended that female undergraduate should ensure they take adequate rest and stay away from stressors that can cause menstrual cramps when on campus. Also, there is a need for female undergraduates to be sensitized on how to make use of home remedies in management of menstrual cramps in Nigerian Universities.

Keywords: Dysmenorrhea, Management, Female undergraduates, Menstrual cramps

INTRODUCTION

The onset of menstruation represents a landmark event in pubertal development of the adolescent girl. Menstruation and the menstrual cycle are characterized by variability in

volume, pattern and regularity, which at the earlier stages of the development of the adolescent can create emotional discomfort particularly to the poorly informed

girl (Adinma & Adinma, 2008). According to Ologele et al. (2021), menstrual cramp or painful menstruation is a condition that disrupts daily functioning of young ladies and women. More so, discomfort experienced by young ladies and women in relation with menstrual cycles is referred to as dysmenorrhea. The biological symptoms of dysmenorrhea include dizziness, fatigue, sweating, backache, headache, nausea, vomiting, and diarrhoea, all occurring just before or during menstruation (Gebeyehu et al., 2017).

Dysmenorrhea is classified into primary and secondary species. Primary dysmenorrhea refers to the presence of recurrent, crampy, lower abdominal pain that occurs during menses in the absence of demonstrable disease that could account for these symptoms. It may start within 6 months after menarche because it occurs only during ovulatory cycles, which may not always be evident at menarche. Although it may occur as late as a year after menarche, it is less likely to do so later when it should raise suspicion of secondary dysmenorrhea (Ako et al., 2022). However, it may be secondary when after some years of painless menstruation, the women develop pain some few days before

the onset of the menstrual flow or during the periods.

The secondary condition indicates underlying diseases located in some organ in the woman's lower abdominal or pelvic cavity which results in pain on the affected women, and the secondary condition is usually common among older women (Ologele et al., 2021). Both types of dysmenorrhea (primary and secondary) negatively affect a woman's quality of life. In the case of university students, there are further connotations, as dysmenorrhea impacts academic performance and has been related to decreased concentration and menstrual migraine, among other symptoms, entailing greater absenteeism and presenteeism during menstruation. This situation is made worse by the fact that many young women do not consult health professionals and delay seeking care because of embarrassment, distrust of professionals, or acceptance of the presence of pain as something inevitable (Fernandez-Martinez et al., 2020).

Prostaglandins are thought to be a major factor in primary dysmenorrhea. When the uterine muscles contract, they constrict the blood supply to the tissue of the endometrium, which, in turn, breaks

down and dies. These uterine contractions continue as they squeeze the old, dead endometrial tissue through the cervix and out of the body through the vagina. These contractions, and the resulting temporary oxygen deprivation to nearby tissues, are thought to be responsible for the pain or cramps experienced during menstruation (Arslan et al., 2021). The management of dysmenorrhea varies for individuals based on their preference and health status. Some of the students resulted to home and natural remedies, some use the over-the-counter drugs to ease the pain associated with menstruation while others combined both methods.

Among home remedies that can be used to manage menstrual cramps are heating pads and diet. Eating anti-inflammatory foods such as berries, tomatoes, pineapples, turmeric, ginger, leafy green vegetables, almonds, walnuts and fatty fish can help promote blood flow, relax uterus by reducing inflammation and prevent menstrual cramps. Also, heat can help muscles relax, improve blood flow and relieve tension. This can be achieved by taking a hot shower, sitting with a heating pad and relaxing in a hot bath (HealthPartners, 2023). Menstrual cramps can be prevented through exercise and good dietary intake. Exercise releases

endorphins that make a person feel happy, reduce pain and relax the muscles. Fifteen minutes of yoga, light stretching or walking might be all the body needs to feel the physical and mental benefits of exercise. Making some changes to the diet may reduce menstrual cramping. Eating a balanced diet rich in omega-3 fatty acids, fruits, vegetables, nuts, lean proteins, and whole grains helps the body stay healthy. Increasing the intake of fluids will help the body stay hydrated. Dehydration is a common cause of muscle cramps (Mariz & Galan, 2022). According to Nwadike et al. (2023), the home remedies that can be used to manage menstrual cramps include reach orgasm, use of acupuncture to relieve cramps, massage the abdomen, soak in a tub, yoga, stay hydrated, acupressure, switch up your sleeping position, and application of heat to the abdomen.

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are the primary over-the-counter (OTC) form of pain relief recommended for menstrual pain and heavy menstrual bleeding. These drugs help lower your body's production of prostaglandin (Nwadike, 2023). Over-the-counter pain reliever is recommended if, natural home remedies do not relieve pain. These medications can relieve inflammation, pain, and menstrual cramps. It is essential to follow the

dosage directions on the bottle and speak with a doctor if the recommended dose is insufficient to relieve menstrual cramps (Mariz & Galan, 2022). NSAIDs are cost-effective analgesics and anti-inflammatory agents, most commonly used for managing primary menstrual cramps (dysmenorrhea). They are considered the cornerstone in the management of dysmenorrhea, since they inhibit the action of cyclooxygenase, which in turn, inhibits the production of prostaglandins. Therefore, NSAIDs are recommended as the first line therapy in females who prefer using analgesics or when contraceptives are contraindicated (Itani et al., 2022).

Fatima et al. (2017) investigated self-medication practice in primary dysmenorrhea among medical and paramedical students. The study reveals that dysmenorrhea was reported in 210 participants with self-medication practice among 131 (62.98%) students. The study concludes that, self-medication practice for dysmenorrhea was more among medical students probably due to the knowledge of drugs, better awareness and greater access to drug information during their curriculum. Most commonly used drugs were non-steroidal anti-inflammatory drugs which are known for its adverse drug reaction. This highlights the

importance of creating awareness among students to consume drugs only in severe discomfort after prescription by the registered medical practitioners.

Menstrual cramp cause loss of school time, shirking or absenteeism from classes and low academic performance due to the pains associated with dysmenorrhea (Mendiratta & Lentz, 2022). Faulty perceptions or misconceptions on menstruation and menstrual cycle will lead to faulty menstrual practices. Either of these may engender reproductive health problems in the adolescent, such as menstrual cramps (dysmenorrhea), gastrointestinal manifestations; depression; and reproductive tract infections which may in turn cause congestive dysmenorrhea (Adinma & Adinma, 2008).

Nie et al. (2020) investigated the comparative efficacy of over-the-counter analgesics (OTCAs) (including naproxen, ibuprofen, diclofenac, aspirin, and ketoprofen) on dysmenorrhea by conducting a network meta-analysis. The study revealed that ibuprofen is recommended as the optimal OTCA for primary dysmenorrhea, based on the efficacy and safety. This study is in line with the present study objective. Najafi et al (2018)

examined the major dietary patterns in relation to menstrual pain. This study reported that adherence to snacks is associated with an increased risk of moderate to severe dysmenorrhea during menstruation among young women. However, there was no significant association between the risk of dysmenorrhea and two other dietary patterns including mixed food items and Lacto-vegetarian. As a result of this, there is need for the present studies to re-investigate the association of dietary intake with dysmenorrhea.

Despite these studies, there are still gap yet to be filled in the literature. To the best of the researchers' knowledge, few of these studies examined (majorly outside Nigeria) whether non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac, naproxen and so on, to prevent menstrual cramps among female undergraduates of University of Ilorin. To the best of our knowledge, few of these studies suggest home remedy such as heating of pad and exercise as a way of managing dysmenorrhea among female undergraduates in University of Ilorin.

Objectives of the Study

The specific objectives of the study are to:

1. investigate whether home remedies are used to manage dysmenorrhea by female undergraduates in University of Ilorin.
2. determine whether non-steroidal anti-inflammatory drugs (NSAIDs) are used to manage dysmenorrhea by female undergraduates in University of Ilorin.

Research Questions

The following questions were answered in the study.

1. How do home remedies can be used to manage dysmenorrhea by female undergraduates in University of Ilorin?
2. To what extent will non-steroidal anti-inflammatory drugs (NSAIDs) be used to manage dysmenorrhea by female undergraduates in University of Ilorin?

METHODOLOGY

Research Design

The research design that was used in this study is a descriptive research design of survey type. According to Sharma (2019), descriptive research design is a method in research that aims to observe and describe the behavioural characteristics of subjects from a scientific viewpoint with regard to variables of a situation. This method was used because the study required the researcher to

collect information for the purpose of describing the study in details.

Participants

Population of this study comprised of all twenty-four thousand, nine hundred and seventy-two (24972) female undergraduates in University of Ilorin, Ilorin (Academic Support Services, 2023). The sample size for this study are 400 respondents. This was guided by Research Advisor (2006) which noted that for a population around 25,000, a sample size of 379 respondents is adequate at 95% confidence level and margin error of 5%. With an attrition rate of 5%, the sample size increases to 398 and approximate to 400.

A multi-stage sampling procedure was used for the study. In the first stage, clustered sampling technique

was used to categorise the population into existing group of faculties. Thereafter, in the second stage, simple random sampling technique was used to select six of the faculties in the university (Faculty of Education, Faculty of Communication and Information Sciences, Faculty of Management Sciences, Faculty of Life Sciences, Faculty of Pharmacy and Faculty of Social Sciences) out of the sixteen (16) faculties for the study. In the third stage, proportionate sampling technique was employed to select 3% percent of the female undergraduates in the selected faculties as shown in Table 1. In the final stage, simple random sampling technique was used to select four hundred (400) female undergraduates for the study.

Table 1: Distribution of Sample Size for the Study

S/N	Selected Faculties	Population	Sample Selected for the Study
1.	Education	6,930	206
2.	Communication and Information Sciences	866	25
3.	Management Sciences	2,108	62
4.	Life Sciences	2,288	68
5.	Pharmacy	235	7
6.	Social Sciences	1,103	32
	TOTAL	13,530	400

Source: Field study, 2024

Instrumentation

Researchers-constructed questionnaire was used in collecting data for this study. The questionnaire was a closed ended type, eliciting the

opinion of the respondents on the management of menstrual cramps with the response to be rated on a four (4)- point Likert format scale type of SA strongly Agree, A-Agree, D-

Disagree, SD-Strongly Disagree. The response was coded as follow; SA-Strongly Agree-4, A- Agree-3, D-Disagree-2 and SD- Strongly Disagree-1.

Validity of the Instrument

A draft of the questionnaire was subjected to both face and content validity, the copies of questionnaire were given to three experts in the Department of Health Promotion and Environmental Health Education, Faculty of Education, University of Ilorin. Their corrections and suggestions were used for the final drafted copy.

Reliability of the Instrument

To ensure the reliability of this study, split-half reliability method was used in the study. The researcher administered 30 copies of the questionnaire to respondents outside the sample of the study in Faculty of Arts, University of Ilorin. The retrieved copies of the questionnaire were collapsed into odd and even parts before using Spearman Brown Prophecy Formula to analyse the data which generated generated a

reliability coefficient value of 0.82 r. This result implied that the research instrument was reliable enough for the study.

Procedure for Data Collection

The instrument was administered with the help of three (3) research assistants. Ethical principles guiding the use of human participants in research were upheld throughout the conduct of the research. The researchers kept confidential all the information supplied by the research participants, while also ensuring the privacy of the participant. The researchers ensured where possible that completed copies of the questionnaire are collected back immediately to avoid loss.

Data Analysis

The completed copies of the questionnaire were collected, collated and analysed. Descriptive statistics of frequency and percentages was used to answer the research questions using Statistical Package for Social Science (SPSS) version 23.

RESULTS

Table 2: Demographic Characteristics of the Respondents

S/N	CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
1.	Age Range		
	15 – 20 years old	237	59.3
	21 – 26 years old	123	30.8
	27 years and above	40	10.0
	Total	400	100.0
2.	Level		

100 Level	222	55.5
200 Level	72	18.0
300 Level	53	13.3
400 Level	53	13.3
Total	400	100
3. Ethnicity		
Hausa	43	10.8
Igbo	67	16.8
Yoruba	290	72.5
Total	400	100
4. Religion		
Christianity	176	44.0
Islam	224	56.0
Total	400	100

Table 2 showed the results of the percentile analysis of the demographic data of respondents. The table reveals that respondents within the age range of 15-20 years old were 237 (59.3%) respondents, 21-26 years old were 123 (30.8%) respondents, and respondents within the age range of 27 years and above were 40 (10.0%). It was also revealed that respondents that are in 100 level were 222 (55.5%) respondents, 200

level were 72 (18.0%) respondents, 300 level were 53 (13.3%) respondents, and respondents that are in 400 level were 53 (13.3%). Furthermore, the table revealed that respondents that are Hausa were 43 (10.8%) respondents, Igbo were 67 (16.8%) respondents, and respondents that are Yoruba were 290 (72.5%). The table further showed that 224 (56.0%) respondents practices Islam and 176 (44.0%) respondents practices Christianity.

Table 3: Use of Home Remedies to Manage Dysmenorrhea

S/N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
1.	I apply heating pad to the abdomen relieve menstrual pains.	211 (52.8%)	107 (26.8%)	318 (79.6%)	77 (19.3%)	5 (1.3%)	82 (20.6%)

2.	I switch up to foetal position reduces menstrual pains.	156 (39.0%)	158 (39.5%)	314 (78.5%)	81 (20.3%)	5 (1.3%)	86 (21.6%)
3.	I message and rub my abdomen with oil or body notion to alleviate menstrual pains.	173 (43.3%)	143 (35.8%)	316 (79.1%)	75 (18.8%)	9 (2.3%)	84 (21.1%)
4.	I drink around eight 8-ounce glasses of water per day decreases menstrual pains.	209 (52.3%)	142 (35.5%)	351 (87.8%)	47 (11.8%)	2 (0.5%)	49 (12.3%)
	Mean			325 (81.2%)			75 (18.8%)

Table 3 showed that 318 (79.6%) of the respondents apply heating pad to the abdomen relieve menstrual pains, 314 (78.5%) switch up to foetal position reduces menstrual pains, 316 (79.1%) message and rub my abdomen with oil or body notion to alleviate menstrual pains, and 351 (87.8%) drink around eight 8-ounce glasses of water per day decreases

menstrual pains. It was also revealed that means positive responses by the respondents to the items is 325 (81.2%), which is greater than the means of negative responses of 75 (18.8%). This implies that home remedies are used to manage dysmenorrhea by female undergraduates in University of Ilorin.

Table 4: Use of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) to Manage Dysmenorrhea

S/ N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
5	I use ibuprofen to manage menstrual pains.	191 (47.8%)	152 (38.0%)	343 (85.8%)	46 (11.5%)	11 (2.8%)	57 (14.3%)
6.	I use diclofenac helps to manage menstrual pains.	150 (37.5%)	191 (47.8%)	341 (85.3%)	55 (13.8%)	4 (1.0%)	59 (14.8%)
7.	I use naproxen to inhibit inflammatory reaction due to menstrual pains.	146 (36.5%)	197 (49.3%)	343 (85.8%)	53 (13.3%)	4 (1.0%)	57 (14.3%)
	Mean			342			58

(85.5%)**(14.5%)**

Table 4 shows that 343 (85.8%) of the respondents use ibuprofen to manage menstrual pains, 341(85.3%) use diclofenac helps to manage menstrual pains, and 343 (85.8%) use Naproxen to inhibit inflammatory reaction due to menstrual pains. It was also revealed that means positive responses by the respondents to the items is 342 (85.5%), which is greater than the means of negative responses of 58 (14.5%). This implies that non-steroidal anti-inflammatory drugs (NSAIDs) are used to manage dysmenorrhea by female undergraduates in University of Ilorin.

Discussion

The study revealed that home remedies are manage dysmenorrhea by female undergraduates in University of Ilorin. This finding agrees with Nwadike et al. (2023) who opined that home remedies can be used to manage menstrual cramps. The home remedies that can be used include reaching orgasm which may help alleviate menstrual cramps. Vaginal orgasms involve the whole body, including the spinal cord, which signals the release of neurotransmitters. It can trigger your brain to release neurotransmitters such as endorphins and oxytocin.

The study identified NSAIDs to be effective in management dysmenorrhea among female undergraduates of University of Ilorin. This finding corroborates with Itani et al. (2022) who reiterated that NSAIDs are cost-effective analgesics and anti-inflammatory agents, most commonly used for managing dysmenorrhea. They are considered the cornerstone in the management of dysmenorrhea, since they inhibit the action of cyclooxygenase, which in turn, inhibits the production of prostaglandins.

Therefore, NSAIDs are recommended as the first line therapy in females who prefer using analgesics or when contraceptives are contraindicated. NSAIDs are highly effective in treating dysmenorrhea, especially when they are started before the onset of menses and continued through day 2. They are readily available, relatively inexpensive, and have a low side effect profile when used cautiously and in those who have no contraindications. Ibuprofen, naproxen, diclofenac, ketoprofen, meclufenamate and mefenamic acid are the NSAIDs specifically approved by the US Food and Drug Administration (FDA) for treatment of dysmenorrhea (Dong & Rivlin,

2021). Also, in the report of Rashid et al. (2023) which states that NSAIDs are extremely successful in alleviating menstrual pain, if taken early enough and in sufficient quantity. Because they are used for short periods in otherwise healthy young women, they are generally well tolerated and free of serious toxicity.

CONCLUSION

The study concluded that home remedies such as heating pad, massage and rub as well as adequate hydration are used to manage dysmenorrhea among female undergraduates of University of Ilorin. Also, non-steroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen and naproxen are used for the management of dysmenorrhea among female undergraduates of University of Ilorin.

RECOMMENDATIONS

1. Female undergraduates should be sensitized on how to make use of home remedies such as; reaching orgasm (married undergraduate), massaging abdomen and staying hydrated in management of menstrual cramps.
2. Awareness should be created by health professionals for female undergraduates on

non-steroidal anti-inflammatory drugs such as; Ibuprofen, naproxen and diclofenac that can be used in managing menstrual cramps.

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PSYCHOLOGICAL CAPITAL AND TEACHERS' JOB COMMITMENT IN SENIOR SECONDARY SCHOOLS, KWARA STATE, NIGERIA

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ABSTRACT

This study examined psychological capital as it relates to job commitment of teachers in senior secondary schools in Kwara state. Survey design of correlational type was adopted for this study. The population comprised all the 10535 teachers in private and public senior secondary schools in Kwara state. 370 out of 10535 teachers were selected using multistage sampling technique. Questionnaires titled "Teachers' Psychological Capital Questionnaire" (TPCQ) and "Job Commitment Questionnaire" (JCQ) were used to obtain data from the teachers. The mean and standard deviation were used to answer the research questions while Pearson product-moment correlation statistics was used to test the formulated hypotheses in the study. The findings of the study revealed that the level of teachers' psychological capital was moderate; the level of teachers' job commitment was high; and there was a significant relationship between teachers' psychological capital and job commitment in senior secondary schools, Kwara state. The study concluded that resilience, although moderate, had the highest correlation coefficient with job commitment among the element of psychological capital. Additionally, teachers give more attention to the students than they give to teaching and school and finally, the higher the level of teachers' psychological capital, the higher the level of job commitment of teachers in senior secondary schools, Kwara state. It was recommended that both the government and the school administrators should improve teachers' resilience through orientation on how to manage difficulty and expect the best to further improve teachers' commitment.

Keywords: Psychological capital, Job commitment, Efficacy, Resilience, Optimism

INTRODUCTION

Education is considered as a valuable instrument for attaining various levels of national progress. This is due to the fact that education is the means through which highly skilled workers can be generated. In light of this understanding, governments at all levels have dedicated a substantial portion of their budget to the sector through allocations and

grants, aiming to receive favorable outcomes in the form of high-quality graduates. If achieving quality is the goal, it is essential for the government to give more consideration to the role of teachers, who are always significant contributors in educational affairs. According to Pant and Parveen (2022), the success and achievement of an organization

depend on the quality of its human resources. The employees, particularly in the context of a school organization, play a crucial role in giving the organization a competitive advantage. Additionally, no education can rise above the quality level of its teacher (Federal Republic of Nigeria, 2014). With the level of importance attached to teachers, a qualified teacher that is positive-minded and psychologically stable is required to ensure effective teaching and learning in schools. The positive mindset that teachers possess, known as their psychological capital, is a foundation for their commitment (Luthans & Youssef, 2017). Psychological capital encompasses positive mental resources that impact teachers' actions and help them achieve goals and objectives. Just as human, social, and financial capital are crucial for educational success, psychological capital is equally important. Psychological capital, as defined by Madrid, et al. (2017) is a collection of individual traits including hope, efficacy, optimism, and resilience that have been shown to positively impact overall job performance. It represents a person's current identity and potential for growth. Psychological capital indicates “who an individual is” and “who an individual can become.”

The concept of hope is a mindset based on the anticipation that the future holds positivity and the belief that change is achievable. When an individual has a stronger sense of hope, they also typically have higher self-esteem and experience less negative self-reflection. Casad (2015) explained that hope refers to a constructive and motivating state, rooted in a mutually derived belief in successful energized pursuit of goals and systematic planning to achieve them. The desire for a better quality of life has served as a driving force for teachers, fostering increased dedication to their profession. Teachers value and prioritize a good quality

of life, which includes aspects such as financial security, health, and intellectual growth. This desire for a better quality of life strongly influences their level of job commitment. This connection between quality of life and job commitment is supported by a study conducted by Ozgenel (2021), which found that the quality of work life accounted for 52% of teachers' commitment to their organization. Nevertheless, numerous teachers in Kwara State have been disappointed as their hopes for financial stability and material prosperity in teaching are not well fulfilled. Consequently, many teachers have expressed grievances and some have openly declared their intention to quit their current job if presented with a more lucrative opportunity.

Resilience is an important aspect of psychological capital and pertains to teachers' capacity to face and overcome challenges. It involves the ability to bounce back and recover from setbacks. Ciftci and Ali-Hamedoglu (2022) asserted that resilience is exemplified by teachers who can surmount problems and sustain their success. When teachers approach their work with optimism, they are positive about achieving the school's goals both now and in the future. According to Uysal, et al. (2018), optimism involves thinking positively about the future and expecting positive outcomes to the fullest extent. While some teachers acknowledge that they cannot give what they do not possess, others believe that taking on new responsibilities will help them improve. These teachers are eager and confident when assigned new tasks, as they believe they will succeed. Efficacy pertains to the level of self-assurance a teacher possesses in successfully carrying out their duties to achieve educational goals. It is a measure of how much a teacher believes in their ability to impact students' learning outcomes (Solomon, 2017). In Kwara state, some

teachers are proud of their ability to teach any class at any given time, even without prior notice. However, there are others who lack this confidence and become intimidated by their students. To determine if teachers are effective, they must understand their responsibilities, have a clear understanding of how things operate, and effectively communicate their ideas. If teachers possess these qualities, it can positively impact their dedication to their profession and remain committed.

Job commitment pertains to a person's sense of obligation towards the objectives and aims of an organization. When it comes to educators, it refers to their feeling of responsibility towards their school, which can manifest as dedication to their students, profession, and institution. Regrettably, the state of senior secondary education in Nigeria as a whole, and particularly in Kwara state, appears to feature teachers who are displeased with their work due to unsatisfactory working conditions that do not meet their expectations. The subpar commitment of teachers to their teaching job is apparent in their frequent transfer requests, tardiness, hesitance to take on responsibility, and constant search for opportunities outside of the profession, all of which can likely be attributed to their psychological capital. Lawal (2022) study on organizational justice and teachers' job commitment in Kwara state, Nigeria provides solid evidence for the prevailing substandard level of commitment in that region. The research indicated that the level of job commitment among teachers in Kwara State is fairly moderate. If teachers possess hope, efficacy, resilience, and optimism, they are unlikely to abandon their profession. Ciftci and Ali-Hamedoglu (2022) supported this notion, as it found a correlation between the positive psychological capital levels of teachers and the effectiveness of their schools. It is based

on this background the researcher wonders if teachers' psychological capital can be a contributory factor towards teachers' commitment to school, students as well as profession in senior secondary schools, Kwara State. Thus, the study empirically examined the relationship between psychological capital and teachers' job commitment in senior secondary schools, Kwara state.

Objectives of the Study

The objectives of the study were to:

1. investigate the level of teachers' psychological capital in senior secondary schools, Kwara State, Nigeria;
2. examine the level of teachers' job commitment in senior secondary schools, Kwara State, Nigeria;
3. ascertain whether relationship exists between psychological capital and job commitment in senior secondary schools, Kwara State, Nigeria
4. determine if relationship existed between teachers' efficacy and job commitment in senior secondary schools, Kwara State, Nigeria;
5. ascertain whether relationship exists between teachers' hope and job commitment in senior secondary schools, Kwara State, Nigeria;
6. investigate if relationship existed between teachers' resilience and job commitment in senior secondary schools, Kwara State, Nigeria;
7. determine the relationship between teachers' optimism and job commitment in senior secondary schools, Kwara State, Nigeria;

Research Questions

The following research questions were raised to guide the study

5. What is the level of teachers' psychological capital in senior secondary schools, Kwara State, Nigeria?

6. What is the level of teachers' job commitment in senior secondary schools, Kwara State, Nigeria?

Research Hypotheses

- H₀:** There is no significant relationship between psychological capital and teachers' job commitment in senior secondary schools, Kwara State, Nigeria.
- H₀₁:** There is no significant relationship between teachers' efficacy and job commitment of teachers in senior secondary schools, Kwara State, Nigeria.
- H₀₂:** There is no significant relationship between teachers' hope and job commitment in senior secondary schools, Kwara State, Nigeria.
- H₀₃:** There is no significant relationship between teachers' resilience and job commitment in senior secondary schools, Kwara State, Nigeria.
- H₀₄:** There is no significant relationship between teachers' optimism and job commitment in senior secondary schools, Kwara State, Nigeria.

METHODOLOGY

Research Design

The research design that was adopted for this study was a survey design of correlational type. The survey design adopted is suitable because it provides a numerical description of trends, attitudes, or opinions of a population by studying a sample of that population. It involves the use of questionnaires for data collection with the intent of generalizing from a sample to a population (Fowler, 2009). Additionally, correlational design was considered as it is suitable in describing and measuring the degree of association or relationship between two or more variables (Cresswell, 2012). The design was adopted to find out the relationship between psychological capital

and teachers' job commitment in senior secondary schools, Kwara State.

Participants

The population of this study comprised all the 10,535 teachers in public and private senior secondary school in Kwara state as at August, 2023. The sample of this study comprised 370 out of the 10535 teachers in Kwara state. This comprised 260 and 110 out of 7416 and 3119 teachers from public and private senior secondary schools respectively in Kwara state. The sample size was obtained using Research Advisor's (2007) table. Multistage sampling technique was used to sample the teachers for this study. In the first stage, the teachers were stratified across the three senatorial districts of Kwara Central, Kwara South and Kwara North. Proportional sampling technique was used to select 260 and 110 senior secondary school teachers from public and private respectively in the second stage. Further stratification were still made in the third stage to select the teachers proportionally across the three senatorial districts in Kwara State after which convenience sampling technique was used in the last stage to sample teachers within each senatorial district.

Instrumentation

Two sets of questionnaires titled "Teachers' Psychological Capital Questionnaire" (TPCQ) and "Job Commitment Questionnaire" (JCQ) were used to obtain data from the teachers. The questionnaires were adapted. Job Commitment Questionnaire (JCQ) was adapted from the study of Thien, et al. (2014) while Psychological Capital Questionnaire was adapted from the study of Casad (2015). The questionnaires were used to obtain data which were used to answer the research questions and test the formulated hypotheses

Validity and Reliability of Research Instruments

To ensure the validity of the questionnaires, the questionnaires were given to three experts

in the Department of Educational Management, University of Ilorin to check for face and content validity. The recommendations of the experts were well incorporated and new questionnaires were produced. The questionnaires were subjected to content validity to generate the scale content validity index (S-CVI) and Relative Importance Index (RII) of the questionnaires and the items respectively. To achieve this, the questionnaires were administered on some sampled teachers who were part of the population but not part of the sample for this study to check for clarity and importance of the items in the questionnaires. The I-CVI's and S-CVI (.945) revealed that Teachers' Psychological Capital Questionnaire (TPCQ) has achieved satisfactory level of content validity and the I-CVI's and S-CVI (.883) revealed Job Commitment Questionnaire (JCQ) has achieved satisfactory level of content validity. Using Cronbach's Alpha measure of internal consistency, coefficients of 0.884 and 0.793 were generated for Job Commitment Questionnaire and Teachers' Psychological Capital Questionnaire respectively which indicated that the questionnaires were reliable.

Data Collection Procedure

The relevant authorities were approached prior to the administration of the questionnaire to seek their permission. The

respondents of this study are the teachers who rated the extent to which the items in the questionnaires are applicable to them. The researcher with three trained research assistants visited the schools of the respondents for administration and retrieval of the questionnaires. Also, a letter was delivered to Ministry of Education and Human Capital Development as well as other places where data pertaining to the number of teachers and schools used in this study was obtained. The researcher and other research assistants collected the questionnaires copies on the spot after completion

Method of Data Analysis

Descriptive statistics of mean and standard deviation were used to answer the research questions while inferential statistics of multiple regression statistics was used to test the formulated hypotheses at 0.05 level of significance. The data were coded and analyzed using Statistical Package of Social Sciences (SPSS).

RESULTS

Out of the 370 questionnaires administered, the researchers were able to retrieve 367, that is, the researchers achieved 99.18% retrieval rate.

Research Question 1: What is the level of teachers' psychological capital in senior secondary schools, Kwara State, Nigeria?

Table 1: Teachers' Psychological Capital

S/N	Variables	N	X	SD	Decision
1.	Efficacy	367	3.2992	.67084	High
2.	Hope	367	3.3248	.70503	High
3.	Resilience	367	2.9951	.65097	Moderate
4.	Optimism	367	3.1138	.60578	Moderate
	Average		3.183225	0.658155	Moderate

KEY: Very Low 1.00-1.75; Low 1.76-2.50 Moderate 2.51-3.25; High 3.26-4.00

Table 1 revealed the level of teachers' psychological capital to be moderate in senior secondary schools, Kwara State. Teachers' psychological capital in terms of

efficacy and hope with mean scores of 3.30 and 3.33 respectively were found to be high while resilience and optimism with a mean score of 2.99 and 3.11 were found to be

moderate in line with the benchmark set to determine the level.

Research Question 2: What is the level of teachers’ job commitment in senior secondary schools, Kwara State?

Table 2: Teachers’ Job Commitment

S/N	Variables	N	X	SD	Decision
1.	Commitment to School	367	3.2480	.84964	Moderate
2.	Commitment to Student	367	3.5468	.75718	High
3.	Commitment to Profession	367	2.7938	.86006	Moderate
	Average	367	3.1962	0.8223	Moderate

KEY: Very Low 1.00-1.75; Low 1.76-2.50 Moderate 2.51-3.25; High 3.26-4.00

Table 2 above revealed that the level of teachers’ job commitment to be high in senior secondary schools, Kwara State. Teachers’ job commitment in terms of commitment to school and commitment to profession with mean scores 3.25 and 2.79 respectively were all found to be moderate while teachers’ job

commitment to student with a mean score of 3.54 was found to be high in line with the benchmark set to determine the levels.

H₀: There is no significant relationship between teachers’ psychological capital and job commitment

Table 3: Psychological Capital and Job Commitment

Variable	N	Mean	Sd	r-value	p-value	Decision
Psychological Capital	367	3.18	.502	.535	.000	Rejected
Job Commitment	367	3.23	.688			

P-value<0.005

Table 3 revealed a significant r-value (.535) at 0.05 alpha level (0.000<0.05). This shows that the null hypothesis stated earlier is rejected and the alternative hypothesis retained. Thus, there is significant relationship between teachers’ psychological capital and job commitment in senior

secondary schools, Kwara State. The positive r-value (0.535) suggested that the higher the level of teachers’ psychological capital, the higher the level of teachers’ job commitment.

H₀₁: There is no significant relationship between teachers’ efficacy and job commitment

Table 4: Teacher’ Efficacy and Job Commitment

Variable	N	Mean	Sd	r-value	p-value	Decision
Teachers’ Efficacy	367	3.30	.671	.300	.000	Rejected
Job Commitment	367	3.23	.688			

P-value<0.005

Table 4 showed a significant r-value (.300) at 0.05 significant level (0.000<0.05). This implies that the earlier stated null hypothesis that there is no significant relationship

between teachers’ efficacy and teachers’ job commitment in senior secondary schools, Kwara State is rejected and the alternative hypothesis is upheld. Thus, there is

significant relationship between teachers' efficacy and job commitment in senior secondary schools, Kwara State.

H02: There is no significant relationship between teachers' hope and job commitment

Table 5: Teachers' Hope and Job Commitment

SN	Variable	N	Mean	Sd	r-value	p-value	Decision
	Teachers' Hope	367	3.33	.705	.422	.000	Rejected
	Job Commitment	367	3.23	.688			

P-value<0.005

Table 5 above revealed a r-value (.422) to be significant at 0.05 alpha level (0.000<0.05). This implies that the earlier stated null hypothesis that there is no significant relationship between teachers' hope and teachers' job commitment in senior secondary schools, Kwara State is rejected

and the alternative hypothesis is retained. Thus, there is significant relationship between teachers' hope and job commitment in senior secondary schools, Kwara State.

H03: There is no significant relationship between teachers' resilience and job commitment

Table 6: Teachers' Resilience and Job Commitment

SN	Variable	N	Mean	Sd	r-value	p-value	Decision
	Teachers' Resilience	367	3.00	.651	.469	.000	Rejected
	Job Commitment	367	3.23	.688			

P-value<0.005

Table 6 revealed an r-value of (.469) to be significant at 0.05 alpha level (0.000<0.05). This implies that the earlier stated null hypothesis that there is no significant relationship between resilience and teachers' job commitment in senior secondary schools, Kwara State is rejected and

the alternative hypothesis is upheld. Thus, there is significant relationship between resilience and job commitment of teachers in senior secondary schools, Kwara State.

H04: There is no significant relationship between teachers' optimism and job commitment

Table 7: Teachers' Optimism and Job Commitment

SN	Variable	N	Mean	Sd	r-value	p-value	Decision
	Teachers' Optimism	367	3.11	.605	.439	.000	Rejected
	Job Commitment	367	3.23	.688			

P-value<0.005

Table 7 showed an r-value of (.439) to be significant at 0.05 alpha level (0.000<0.05). This indicated that the earlier stated null hypothesis that there is no significant relationship between optimism and teachers' job commitment in senior secondary schools, Kwara State is rejected and

the alternative hypothesis is retained. Thus, there is a significant relationship between teachers' optimism and teachers' job commitment in senior secondary schools, Kwara State. The positive r-value (0.439) showed that the higher the level of teachers' optimism, the

higher the level of teachers' job commitment.

Discussion

Table 1 revealed that the level of teachers' psychological capital was moderate in senior secondary schools, Kwara State. Teachers' psychological capital in terms of efficacy and hope with mean scores of 3.30 and 3.33 respectively were found to be high while resilience and optimism with a mean score of 2.99 and 3.11 were found to be moderate in line with the benchmark set to determine the level. The findings revealed teachers' hope of the job to be the highest of all their psychological capital and resilience to be the lowest. This shows that the teacher expectations for improved quality of life in terms of good parenting, good relationship with family members as well as material wellbeing were being achieved to certain level. On the same note, teachers' ability to overcome challenge and their positivism towards work is achieved to a reasonable extent among senior secondary schools teachers in Kwara State.

Table 2 above revealed that the level of teachers' job commitment was high in senior secondary schools, Kwara State. Teachers' job commitment in terms of commitment to school and commitment to

profession with mean scores 3.25 and 2.79 respectively were all found to be moderate while teachers' job commitment to student with a mean score of 3.54 was found to be high in line with the benchmark set to determine the levels. This indicated that teachers in senior secondary schools believe students can succeed and it's their responsibility to do so and they also take it as responsibility to ensure good social relation among the students. This implies that in all the areas of commitment, teachers give more attention their students' needs compare to what was given to school as well as teaching as a profession. Commitment to profession on the other hand with the lowest mean score though moderate revealed that teachers decision to take the job over again in the midst of other opportunities; and that their decision to taking the profession is the best they have ever taken is quite average among teachers in senior secondary schools, Kwara State. The moderate level of teachers' job commitment found in this study agrees with the findings of Lawal (2022) on organizational justice and teachers' job commitment in basic schools in Kwara state, Nigeria that found the level of teachers' job commitment in Kwara State to be moderate.

Table 3 above revealed an r-value of (.535) to be significant at 0.05 alpha level ($0.000 < 0.05$). This shows that the null hypothesis stated earlier is rejected and the alternative hypothesis retained. Thus, there is significant relationship between teachers' psychological capital and job commitment. The positive r-value (0.535) suggested that the higher the level of teachers psychological capital, the higher the level of teachers' job commitment. The outcome of this research aligns with the findings of a study conducted by Ha and Ngo (2020), which also demonstrated a strong positive correlation between psychological capital and organizational commitment. Additionally, the results are consistent with the findings of Pant and Parveen (2022), who observed a positive association between psychological capital and organizational commitment specifically among secondary school teachers.

Table 4 showed a significant r-value (.300) at 0.05 significant level ($0.000 < 0.05$). This implies that the earlier stated null hypothesis that there is no significant relationship between efficacy and teachers' job commitment in senior secondary schools, Kwara State is rejected and the alternative hypothesis is upheld. Thus, there is significant relationship

between efficacy and job commitment in senior secondary schools, Kwara State. The positive r-value (0.300) suggested that the higher the level of teachers efficacy, the higher the level of teachers' job commitment. This implies that a teacher knowing what is expected of him/her, building a working unit and analyzing long term goal to find solutions can bring about their commitment to their job. The discovery aligns with the results of a study by Maureen and Kamalu (2019), which found that self-efficacy in Business Studies is related to job effectiveness and commitment. This finding corroborates with the findings of a study conducted by Pangaribuan, Pasaribu, and Manik (2020), which revealed a relationship between self-efficacy and work discipline among teachers in schools.

Table 5 above revealed a significant r-value (.422) at 0.05 alpha level ($0.000 < 0.05$). This implies that the earlier stated null hypothesis that there is no significant relationship between hope and teachers' job commitment in senior secondary schools, Kwara State is rejected and the alternative hypothesis is retained. Thus, there is significant relationship between teachers' hope and job commitment in senior secondary schools, Kwara State. The positive r-value (0.422) indicated that the higher

the level of teachers hope, the higher the level of teachers' job commitment. Practically, this implies that teachers whose job allows her good relationship with parent, siblings and others, financial security material well-being will be committed to their job. The results of this research align with the results of a previous study conducted by Olanrewaju and Kamaldeen (2022) that found a significant positive connection between hope and quality of life among tutors in Kwara State. Additionally, the findings is in support of results of Tyokyaa, Tachin, Saaondo, and Hembah (2023), which indicated a significant relationship between teachers' hope and job involvement among secondary school teachers.

Table 6 revealed an r-value of (.469) to be significant at 0.05 alpha level ($0.000 < 0.05$). This indicated that the earlier stated null hypothesis that there is no significant relationship between teachers' resilience and teachers' job commitment in senior secondary schools, Kwara State is rejected and the alternative hypothesis is upheld. Thus, there is significant relationship between resilience and job commitment of teachers in senior secondary schools, Kwara State. The positive r-value (0.469) suggested that the higher the level of teachers resilience, the higher

the level of teachers' job commitment. This implied that the higher the level of teachers' ability to bounce back from challenges, the higher their level of commitment to job will be. Practically, teachers that feel they can handle many things at a time at work; maintain mission and vision of the school; create new pursuit every time; and are able to manage difficulty one way or the other at work will be committed to their job. The outcome of this study is in agreement with the findings of Polat and Iskender (2018) which showed a positive significant relationship between teachers' resilience levels and organizational commitment. The findings of this study also agrees with the outcome of the study conducted by Olanrewaju and Kamaldeen (2022) which revealed that that there was a correlation between resilience and quality of life among Kwara State tutors.

Table 7 showed an r-value of (.439) to be significant at 0.05 alpha level ($0.000 < 0.05$). This indicated that the earlier stated null hypothesis that there is no significant relationship between optimism and teachers' job commitment in senior secondary schools, Kwara State is rejected and the alternative hypothesis is retained. Thus, there is significant relationship between teachers' optimism and

teachers' job commitment in senior secondary schools, Kwara State. The positive r-value (0.439) suggested that the higher the level of teachers' optimism, the higher the level of teachers' job commitment. This means that teachers with the belief that it is very difficult for something to go wrong for them work-wise, approach job as if every there will always be an opportunity even if very slim, and see new task as an opportunity to learn new thing will be committed to their job. The findings of the study align with the results of a previous study conducted by Tyokya, Tachin, Saaondo, and Hembah (2023), which emphasized the significance of resilience as the primary factor in predicting job involvement for secondary school teachers. Additionally, the findings also support the findings of Nelson (2012), who demonstrated a positive correlation between teachers' academic optimism and their students' academic achievement.

CONCLUSION

This study examined psychological capital and teachers' job commitment in senior secondary schools, Kwara State. Teachers' efficacy and hope were high while optimism and resilience were moderate in senior secondary schools, Kwara State. However, as average as resilience has the highest correlation

coefficient with job commitment among the element of psychological capital. Also, Kwara state teachers give more attention to the students than they give to teaching and school. Conclusively, there is significant positive relationship between teachers' psychological capital (hope, efficacy, resilience and optimism) and teachers' job commitment which implies that the higher the level of teachers' psychological capital (hope, efficacy, resilience and optimism) the higher the level of teachers' job commitment in senior secondary schools, Kwara State.

RECOMMENDATIONS

Based on the findings of the study, it was recommended that:

1. The government as well as private school owners should ensure that teachers material well-being and financial security that reinforces their hope in teaching profession are given due recognition and met.
2. Teachers' efficacy should be maintained by giving them adequate information to ensure their awareness of what is expected of them and how things really worked in the school, especially the young teachers.
3. To further improve teachers' resilience, new pursuits

should be created by the teachers every time and they should always expect the best when things seem uncertain in school.

4. Teachers should see new task as an opportunity to learn new things and be positive that they will get to the highest cadre in the profession.
5. There is need for school administrators to intensify effort in providing an enabling environment in order to maintain and further improve the level of teachers' psychological capital by giving concern to teachers' reward scale, promoting social ground, assigning duties especially classes in line with teachers' area of expertise and encouraging the teachers through orientation that all problems can be surmounted.
6. Teachers should sustain and further improve the belief that all students can succeed and it is the teachers' mission and responsibility to ensure students' success.
7. Both the government and the school administrators should improve teachers' resilience through orientation on how to manage difficulty, expect the best and maintain mission and

vision of the school to further increase teachers' commitment.

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TEACHERS' PROFESSIONAL DEVELOPMENT AS A CATALYST FOR SENIOR SECONDARY SCHOOL EFFECTIVENESS IN KOGI STATE

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ABSTRACT

This study examined teachers' professional development and senior secondary school effectiveness in Kogi State, Nigeria. The study adopted descriptive research design using correlational type. Simple random sampling technique was used to select 378 out of 21,075 teachers for this study. Instruments used for data collection were tagged Teachers' Professional Development Questionnaire (TPDQ), and Senior Secondary Schools Effectiveness Questionnaire (SSSEQ). The TPDQ and SSSEQ were validated with reliability coefficients of 0.729, and 0.791 respectively. The study revealed that there was a significant relationship between individualized support, intellectual stimulation, mentors' hip and senior secondary school effectiveness. The study concluded that teachers' professional development would facilitate school effectiveness which could enable achievement of school goals in senior secondary schools in Kogi State. Based on the findings of the study, it was recommended that education regulatory bodies should always provide opportunities and adequate resources for teachers' professional development programmes in order to enhance school effectiveness.

Keywords: Teachers' professional development, School effectiveness

INTRODUCTION

Secondary education is an essential requirement for proceeding to tertiary education, the general motive behind the establishment of secondary schools was to prepare children for the academic challenges in higher institutions, through the acquisition of knowledge, skills and values. Therefore, if students are adequately equipped with needed instructional

values at this stage, the academic activities at the tertiary levels could be less problematic (Oyeniran et al., 2016). In fact, the principal and teachers are expected to put in place a significant effort toward ensuring active teaching and learning process; in order to enhance students learning capacity. This is because without the substantial efforts of the principal and

teachers, the students might not be able to attain the full potentials necessary for higher learning, and therefore, there is tendency for deficit in harmonising the secondary education goals with that of the tertiary institutions. On the other hand, teachers are important determinants of the quality of output expected to be seen within our societies. This could be made possible by providing intensive in-service training in form of seminars, workshops and conferences for school teachers (Oduwaiye et al., 2012).

The dynamics of social change requires advancement and adjustment of every individual person as ways of adapting to the changes in the society. The teacher professional and individual improvement remain an important discourse. The word professional development is ascribed with many names such as: staff development, in-service, training, professional learning, or continuing education; in spite of this, the goal remains the same and so are the approaches for carrying out the professional development. Several forms of capacity building are required for the school personnel's knowledge, skills and attitudes advancement, so as to ensure effective teaching and learning (Peretomode & Dinzei, 2019).

Therefore, professional development is regarded as a number of educational practices school personnel engages in, for acquirement and utilization of new knowledge and skills that will facilitate improvement of their performances at work. However, while confirming the impediment of inadequate professional development programmes for teachers in Nigeria to ineffectiveness in the schools; Makinde and Bolaji (2019) opined that the progression rate of teachers' professional development activities in Nigeria is considerably insufficient when compare to their counterparts in developed world. As a result, Alabi (2002) suggested that there is need to intensify efforts on provision of professional development programmes such as: refresher courses, in-service training and further education. Consequently, these said programmes will assist tremendously in teachers' capacity building and getting them acquainted with current educational practices.

However, Nigerian secondary education is perceived to be flawed by several factors, among these factors is lack of qualified and competent teachers who have substantial knowledge of their subject matter, excellent methods of teaching and adequate assessment and monitoring of students' academic

achievement (Amadi, 2013). While acknowledging the threat of lack of qualified teachers to the achievement of secondary school goal, and finding a way to ameliorate the situation; the Nigerian government enacted through the National Policy on Education that on-the-job knowledge transfer must be incorporated in the continuing teacher education programmes (Peretomode & Dinzei, 2019). However, a number of factors have been identified to be mediating against the success of teachers' professional development programmes in Nigeria.

According to Agbionu (2009), lack of proper identification of specific professional development programmes a teacher need is top most of all the setbacks confronting every staff developmental intervention. Hence the primary concern of a school management team should be how to design and fashion out exact trainings that commensurate teachers' need. From a divergent view, Babayemi (2006) argued that several teachers lose confidence and determination perhaps after several hours or days of in-service training due to negative impression and reaction they are getting from their superiors (principals, head-teachers or supervisors). Inarguably, the school management recommendation of a

teacher for professional development programme is not enough. Also, lack of respect for the knowledge acquired by teachers from the training, and unacceptance of the fact that, other staff members could benefit from them decreases their level of confidence.

Finally, Ajani (2022) further enumerated several factors affecting professional development programmes in Nigerian secondary schools. These includes: inadequate resources for the participants of professional development programmes, absence of support and follow-up on trainings received by teachers, and lack of free will for teachers to identify areas where they need professional growth. Thus, to enable educational advancement in Nigerian secondary schools, complete and sufficient training of teachers is required, in order to ensure that teachers are optimally inspired so that, they can carry out their responsibilities adequately.

Objectives of the Study

The main objective of this study was to examine the relationship between teachers' professional development and senior secondary schools' effectiveness in Kogi State. Specifically, the objectives of this study are to:

1. examine the relationship between individualized

- support and school effectiveness;
2. investigate the relationship between mentorship and school effectiveness;
 3. assess the relationship between intellectual stimulation and school effectiveness all in the senior secondary schools

Research Hypotheses

Main Hypothesis

Ho: There is no significant relationship between teachers' professional development and senior secondary school effectiveness.

Operational Hypotheses

Ho1: There is no significant relationship between individualized support and senior secondary school effectiveness.

Ho2: There is no significant relationship between intellectual stimulation and senior secondary school effectiveness.

Ho3: There is no significant relationship between mentorship and senior secondary school effectiveness.

LITERATURE REVIEW

It is not controversial that professional development remain a sole intervention in the capacity building of school teachers; however, the most important aspect of every professional development programme, is effective planning of such professional development programme; which is central to the efforts of ensuring teachers and schools' effectiveness. According to Glickman et al. (2010), teachers' professional development has attained recognition beyond development of pedagogical skills, as a result, literatures have established several aspects covers by teachers' professional development. These includes: individual development, career development, ethical development and school development. Therefore, determination of planning professional development for teachers is to proffer support for teachers towards development and application of knowledge and skills necessary to enhance students learning ability. Consequently, planning high-quality professional development programme begins with examination of student learning needs, and ascertaining the teacher knowledge and skills required to address those learning needs (Donaldson, 2013). The immediate focus of every teachers' professional

development are directed toward improved professional practice, while the long-term goals centred on improved student performance, Donaldson concluded.

To enforce a successful professional development plan, knowledge transfer schemes such as: individualized support, intellectual stimulation and giving appropriate model have been identified as fundamental approaches (Stauffer & Mason, 2013). An effective educational administrator proffers intellectual stimulation at any difficult situation, ensure individualized support toward teachers' personal need, and serve as a good exemplary "model", in consistency with the school missions. The mode of professional development could be either school-based or individualized. Therefore, this categorization explain the basis of facilitating a professional development programmes.

The school-based professional development programs are mostly planned and executed by the school management team, either as an improvement or as a way of meeting the immediate instructional needs within the school. This type of professional development program includes: coaching; mentoring; group discussion; observation; clinical

supervision; study groups, Glickman et al. (2010). However, the mentoring services (mentorship) enables provision of necessary assistance to teachers on the application of their preceding knowledge and skills in the curricular and extra-curricular activities. The most relevant aspect of this stage, is the ability to solve specific problem with general knowledge. Research findings have proven that teachers who receives direct assistance from colleagues or administrative personnel usually content with teaching and learning activities (Mizell, 2010).

On the other hand, individualized or personal professional development plans "individualized support" helps to guide school teachers through a continuous lifetime education process; though, this process is contingent to individual teacher's needs or sometime school needs. The process includes individual reading/study/research; online modules; university or college courses; seminars; workshops (Ajoku, 2013). Generally, teachers undergo professional development programmes in either of these three stages of learning induction, incorporation and improvements.

Some of the related studies that have been carried out in this area include the study carried out by Oluwole et al.

(2017) undertaken a research study on influence of teachers' professional development on students' academic achievement in secondary schools in Benue and Nasarawa States. The study was carried out using descriptive survey research design. As a result, two research questions and two hypotheses were raised and formulated respectively for the study. The target population was 709 secondary schools (8,335 teachers) in both Benue and Nasarawa states. Thus, the number of participants in the study was 417 teachers. Data generated were analysed using descriptive statistic of mean and standard deviation to answer the two research questions, and the two hypotheses were tested using the Chi-square (X^2) test of goodness of fit at 0.05 level of significance. The research findings evidence the significant impact of teachers' participation in seminars and workshops on students' academic performance in both states.

The research study conducted by Peretomode and Dinzei (2019) on "professional development needs of public and private secondary school principals in Delta State, Nigeria", unambiguously exemplified that teacher professional development programmes enhances teachers' skills and capacity towards achievement of the established school goals. Thus,

from the pool of the target population (1,072 principals), 525 principals were randomly selected through proportional random sampling technique. The research design used for the study was descriptive survey research. Therefore, four research questions were raised and four hypotheses were formulated for this study. Cronbach Alpha was used for the reliability test of the items. Mean and standard deviation was used to answer the research question, while independent sample t-test was used to analyse the hypotheses at 0.05 level of significance. The findings indicates that there is no significant difference between principals in public and private schools on measured variables; such as, need for improving communication skill, need for skill to supervise instructional activities.

Owing to this, countless research studies have been carried out on teachers' professional development and secondary school effectiveness. To the best of researchers' knowledge, remarkably very few studies have been carried out to explore the relationship between teachers' professional development and senior secondary school effectiveness in Kogi State, Nigeria. Thus, this study shall look into the relationship between teachers' professional development and senior

secondary school effectiveness in the Kogi State senior secondary school.

Concept of Secondary School Effectiveness

Secondary education in Nigeria is regarded as the main requirement for proceeding to higher institutions. While in education, the term effectiveness refers to the extent to which the available school resources are prudently used to achieve the set objectives. Therefore, concept of educational effectiveness basically examines whether the resources allocated for the daily activities in the school positively influence the school's outputs. Effectiveness is the degree by which the intended outcomes of the organization have been met. The conceptual meaning of effectiveness as illustrated in a number of studies (Stumbrienė et al., 2022; Organization for Economic Co-operation and Development (OECD) 2013; Tatlah & Iqbal, 2012) explains the amount of effect available resources have on the achievement of the predetermined goals and objectives. Moreover, organizations that ensure the provision of resources to achieve certain target tend to facilitate a productive strategy that will enable effective utilization of these resources in attaining their goals.

Effectiveness is a very wide and broad concept that cut across many disciplines or fields of studies. Nevertheless, in the educational context, the term effectiveness refers to the extent to which the available school resources are prudently used to achieve the set objectives (OECD, 2013). According to Foskett and Lumby (2003) and Stumbrienė et al. (2022), the concept of educational effectiveness simply intends to examine whether the resources allocated for the day to day activity of the school (academic and administrative work) have positive impact on the outputs, like students' academic performance (e.g. in termly, yearly or national examination results), and the schools contribution toward the development of their immediate and large communities, and designing indicator to ascertain the extent to which those outcomes are achieved (Tatlah & Iqbal, 2012).

METHODOLOGY

Research Design

Descriptive survey design of correlational type was adopted for this study. The correlational studies are designed to investigate whether or not there is a relationship between two or more variables (Saunders et al., 2016). Therefore, descriptive survey design of correlational type was considered appropriate for this study because the study intended to

establish whether or not there was relationship between teachers' professional development and secondary school effectiveness.

Participants

The target population of the study comprised 21,075 senior secondary school teachers in Kogi state. With the use of Research Advisor (2006), the sample for the study comprised of 378 teachers who were randomly selected from the senior secondary schools, using simple random sampling technique.

Instrumentation

Two instruments were used in this study titled "Teachers' Professional Development Questionnaire" (TPDQ), and this was completed by teachers. The second questionnaire tagged "Senior Secondary Schools Effectiveness Questionnaire" (SSSEQ) was completed by principals. The items of these instruments were adapted from validated instruments of Leithwood et al. (2006), called the monitoring system (TMS).

Validity and Reliability of the Instruments

The draft of the questionnaire was validated by five lecturers in the department of Educational Management, University of Ilorin, for corrections and necessary

amendments for contents and construct validities. The split-half method was used to determine items which are internally consistent with other items. Therefore, the scale for the variables have demonstrated acceptable reliability at 0.729 for TPDQ and 0.791 for SSSEQ.

Procedure for Data Collection

The instruments for this study was administered by the researcher. The researcher adopted direct delivery and on the spot method of collection. This method enabled the researcher to gather required response from the respondents, and also ensured high rate of return and reduced errors that were likely to occur owing to misconception about the research questionnaire.

Data Analysis

The inferential statistics of Spearman correlation was used to analyse the data at 0.05 level of significance using Statistical Package of Social Science (SPSS) version 27.0. The Spearman correlation measures the relationship between variables that are placed on an ordinal or categorical scale of measurement (Saunders et al., 2016).

RESULTS

Table 1: Individualized Support and Senior Secondary School Effectiveness

Variable	N	\bar{X}	SD	Cal. r-value	p-value	Decision
Individualized support	378	2.37	0.84	-.353	.000	Ho1 Rejected
School effectiveness	378	1.15	0.38			

p-value<0.05

Table 1 shows the calculated r-value of -.353, while the p-value (0.000) is less than (0.05). Thus, the hypothesis which stated that there is no significant relationship between individualized support and senior

secondary school effectiveness in Kogi State was rejected. This signifies that there was a significant relationship between individualized support and senior secondary school effectiveness in Kogi State, Nigeria.

Table 2: Intellectual Stimulation and Senior Secondary School Effectiveness

Variable	N	\bar{X}	SD	Cal. r-value	p-value	Decision
Intellectual stimulation	378	2.53	0.80	-.133	.010	Ho1 Rejected
School effectiveness	378	1.15	0.38			

p-value<0.05

Table 2 shows the calculated r-value of -.133, while the p-value (0.010) is less than (0.05). Thus, the hypothesis which stated that there is no significant relationship between intellectual stimulation and senior secondary school effectiveness in

Kogi State was rejected. The implication is that there was a significant relationship between intellectual stimulation and senior secondary school effectiveness in Kogi State, Nigeria.

Table 3: Mentorship and Senior Secondary School Effectiveness

Variable	N	\bar{X}	SD	Cal. r-value	p-value	Decision
Mentorship	378	2.49	0.91	-.311	.000	Ho1 Rejected

School effectiveness	378	1.15	0.38
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p-value<0.05

Table 3 shows the calculated r-value of -.311, while the p-value (0.000) is less than (0.05). Therefore, the hypothesis which stated that there is no significant relationship between mentorship and senior secondary school effectiveness in Kogi State was rejected. This implies that there was a significant relationship between mentorship and senior secondary school effectiveness in Kogi State, Nigeria.

Discussion

As illustrated in table 1, the inferential statistics of Spearman correlation shows the calculated r-value of -.353, while the p-value (0.000) is less than (0.05). Thus, the hypothesis which stated that there is no significant relationship between individualized support and senior secondary school effectiveness in Kogi State was rejected. This finding is in line with the view of Ajoku (2013) that teachers who receives high level of individualized support are most likely to carry out their duties diligently in such a way that school goals would be easily achieved. In addition, Mizell (2010) asserted that the importance of individualized support to the achievement of the school goals

cannot be underrated; that is, effective principals proffer individualized support toward teachers’ personal need.

Table 2 shows the calculated r-value of -.133, while the p-value (0.010) is less than (0.05). As a result, the hypothesis which stated that there is no significant relationship between intellectual stimulation and senior secondary school effectiveness in Kogi State was rejected. This finding agrees with the view of Awodiji, et al. (2020) that the intellectual stimulation assist teachers to combine a number of previous knowledges for creation of new learning, in order to enhance instructional activities for the achievement of school goals.

As revealed in table 3, the statistical findings show calculated r-value of -.311, while the p-value (0.000) is less than (0.05). Therefore, the hypothesis which stated that there is no significant relationship between mentorship and senior secondary school effectiveness in Kogi State was rejected. The finding corroborates the assertion of Glickman et al. (2010) that mentorship creates a theoretical background that support thoughtful interference of senior colleagues

(experienced teachers) into the instructional activities of subordinate staff (e.g. newly recruited teacher).

CONCLUSION

As generally acknowledged, no nation grows beyond the quality of its teachers. Thus, overall educational effectiveness is subjected to the intellectual capacity of the school personnel, specifically teaching staff. Nigerian secondary education is encountering setback as a result of insufficiency of teachers' capacity building. This situation could be attributed to inadequate resources for the participants of professional development programmes, absence of support and follow-up on trainings received by teachers, and lack of free will for teachers to identify areas where they need professional growth. This study thus examined teachers' professional development and senior secondary school effectiveness in Kogi State, Nigeria. According to the study's results, it has been passably affirmed that teachers' professional development has a significant relationship with senior secondary schools in Kogi state.

RECOMMENDATIONS

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

1. The educational regulatory bodies and school principals ought to take proactive measure toward ensuring active learning environs, and facilitate continuous in-service training (workshops and seminars) for the teachers.
2. The school management should design workable strategies and restructure the schools to enable significant input that will enhance individualized support of teachers in order to enable school effectiveness.
3. Conclusively, the results of this research study recommended that the school management should ensure excellent coordination among staff members; so that an experienced staff member (mentor) helps a new staff (mentee) to develop as an expert, and to achieve school effectiveness.

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REGULAR TEACHERS' RESPONSES ON THE SUPPORT AND PROVISION BY SCHOOL ADMINISTRATORS IN INCLUSIVE SCHOOLS IN BAUCHI STATE

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ABSTRACT

This paper investigated the impact of administrative support and provision on working performance of regular teacher in some selected secondary schools in Bauchi state. The purpose of the study was to identify how administrators render moral support and material provisions toward inclusive education. The research design used was a survey design; the populations of the study consisted of 147 teachers out of whom 15 teachers were sampled. A closed-ended questionnaire was used in data collection. The findings indicated that majority of the administrators render moral and academic support to the teachers towards their work in the schools under study. The study concluded that administrators' support is crucial for teachers' success in inclusive schools. It is therefore recommended that the state government should provide the school administrators with more working materials, facilities and allot additional incentives for them so that they can render more support and motivation to their staff.

Keywords: Teacher, Support, Administrator, Inclusive schools

INTRODUCTION

Inclusive education, a model where students with disabilities are educated alongside their non-disabled peers in inclusive/integration schools, has garnered significant attention in recent years. The success of inclusive education depends not only on the commitment of educators but also on the support and provisions provided by school administrators. The European Agency for Development

in Special Needs Education (2012) indicated that administrators are in charge of planning as well as setting out standards, provision of instructional guidance, encouraging curriculum improvement, teacher development through in-service, resources management and collaboration. According to Ainscow et al. (2006), school principals are duty bound to determine the focus and direction of work in their schools.

Therefore, school principals are in an essential position when making inclusion/integration work in their schools.

Kesalahti (2014) stated certain procedures needed from administrators to foster inclusive education in their schools as: to encourage an in-service training, workshops, and seminars on inclusive education; support parents and learners to participate in school activities; initiate changes and strongly support any positive change proposed by teachers; establish good rapport with the staff through collaborative problem solving, teamwork, as well as encourage sharing of ideas in teaching and learning among staff; make sure parents, teachers and students interact effectively and understand each other.

Many studies have demonstrated administrative support as a critical aspect for a successful inclusion program and an effective way of providing good results for both students. Villa et al (1996) examined six hundred and ninety teachers across Canada and the US. Their findings indicate that administrators' support is one of the features related to more positive attitudes towards inclusive education. While on the other hand, inadequate support was identified as a factor leading to failure

of including students with disabilities. Slee (2018) stressed that can encourage collaboration among teachers through peer mentoring where educators can share experiences and best practices. Guzman (1994) stressed that a successful implementation of Integration/Inclusive education depends on the principals' efforts, they are responsible for the organization of professional development and training of their staff, supervision of ongoing programs and serve as correspondence with the higher authorities.

Through observations and interviews, Mamlin (1999) identified effective leadership as being an element in making inclusive education program a reality. He, therefore, concluded that a strong leadership style is a factor which every leader requires in achieving successfully and having the capability of guiding his staff towards understandings ways which could lead to success. Stanovich & Jordan (2002) emphasized that principals' influence is a major factor leading to the successful inclusion of individuals with special needs in inclusive classrooms. To build an excellent inclusion environment, administrators' support is essential (Villa et al, 1996; Heflin & Bullock, 1999). The support of administrators

is highly required to offer schools with chances for teamwork and professional development to train staff on particular services and understanding of including students with special needs (Guzman, 1994). Without adequate support from the administrators, the inclusion of students with special needs can fail (Heflin & Bullock, 1999).

The effective implementation of inclusive education in Bauchi State is therefore contingent upon the level of support and provision offered by school administrators. However, the specific impact of school administrators' support and provision on the successful inclusion or integration of students with diverse needs in Bauchi State remains inadequately understood. It is based on the above that the researcher intends to find out the level of support and provisions given to the teachers by the administrators in support of inclusive education implementation in Bauchi State.

In Nigeria, the National Policy of Education (NPE, 2013) stipulates for integration/inclusion of all learners with special needs into general education classroom and free education for all exceptional students at any level. Based on the above, only few states moved for the implementation of inclusive

education in the country; other states have started by creating piloting schools and units in some schools. It's without doubt that, the success of any educational program will depend on many factors among which administrative support serves as a huge pillar. Students in both regular and inclusive schools may face many challenges that will hamper their effective learning when their teachers are not well supported and provided with the basic material and equipment by the administrators.

Several studies have yielded positive results on the administrative support and strong leadership as critical factors for successful inclusion/integration programs that also serve as effective ways of providing good results for students, (Villa et al. 1996). Administrators' moral and academic supports are crucial components for ensuring the smooth implementation of inclusive education practices. Inclusive education aims to provide equal opportunities for all students, including those with disabilities, by creating learning environments that accommodate diverse needs. This literature review explores the role of administrators in providing the necessary moral and academic support to the staff for effective running of inclusive education.

Various studies have highlighted the crucial role of school administrators in fostering an inclusive environment. According to Avramidis and Norwich (2002), administrators play a pivotal role in setting the tone for inclusive practices within schools. Their support and commitment to inclusive education influence the attitudes and behaviors of teachers and staff members. Additionally, administrators' understanding of inclusive education policies and their ability to effectively communicate these policies to stakeholders are vital for successful implementation (Sharma & Desai, 2017).

Furthermore, the provision of resources and infrastructure by school administrators is essential for accommodating diverse learning needs. Research by Forlin et al. (2011) emphasizes the importance of adequate funding, specialized equipment, and trained personnel in facilitating inclusive practices. School administrators must allocate resources effectively to ensure that all students receive the support they require to succeed academically and socially. Moreover, the leadership style adopted by school administrators can significantly impact the implementation of inclusive education. Transformational leadership, characterized by vision, support, and

collaboration, has been associated with positive outcomes in inclusive settings (Elhoweris & Alsheikh, 2017). Administrators who demonstrate a commitment to inclusive values and prioritize collaboration among staff members are more likely to create an inclusive school culture.

Despite the potential benefits of school administrators' support and provisions, several challenges such as limited funding, inadequate training opportunities for educators and societal attitudes towards disability may hinder the effective implementation of inclusive education (Adedoyin & Soyemi, 2018). Additionally, administrative turnover and lack of continuity in leadership can disrupt efforts to sustain inclusive practices over time. Numerous studies have emphasized the importance of moral support from administrators in promoting teacher well-being and effectiveness in inclusive classrooms. According to Florian and Black-Hawkins (2011), teachers who perceive high levels of support from their administrators are more likely to exhibit positive attitudes towards inclusive education and demonstrate greater resilience in addressing the needs of diverse learners. Moral support, characterized by empathy, encouragement, and recognition of teachers' efforts,

contributes to a positive school climate where collaboration and professional growth thrive (Hoffman, 2016).

Administrators play a crucial role in fostering a culture of inclusion by advocating for the rights of students with disabilities and promoting a sense of belonging for all members of the school community (Loreman et al., 2011). By articulating a clear vision for inclusive education and providing ongoing encouragement and guidance, administrators create an atmosphere where teachers feel supported in their efforts to implement inclusive practices (Soodak & Podell, 1996). Moreover, administrators who actively involve teachers in decision-making processes and recognize their contributions to inclusive education initiatives foster a sense of ownership and commitment among staff members (Bennett, 2014).

Additionally, moral support from administrators can help mitigate the challenges associated with inclusive education, such as increased workload, lack of resources, and resistance to change (Ludlow et al., 2015). By acknowledging the unique needs and concerns of teachers and offering practical assistance and resources, administrators can empower teachers to overcome

obstacles and enhance their capacity to meet the diverse needs of their students (Goh et al., 2020).

Without sufficient support from the administrators, including students with special needs in regular classrooms may result to total failure (Heflin & Bullock, 1999). According to Ainscow, Booth and Dyson (2006) the responsible individuals in determining the focus and direction of any school inclusive education at the bedrock stage is the principal of that school. Therefore, school principals possess an essential task in making inclusion work in their schools. Kes-Alahti (2014), stressed that administrators are in charge of planning as well as setting out standards, provision of instructional guidance, encouraging teacher learning and development, curriculum improvement, resources management and collaboration building both in and outside the school.

Therefore, the success of inclusive education in any schools depends heavily on the support and provisions provided by school administrators. By fostering an inclusive school culture, allocating resources effectively, and demonstrating transformative leadership, administrators can create environments where all students,

regardless of ability, can thrive. There is a scarcity of literature on the impact of administrative support on inclusion/integration of persons with special needs in Bauchi state. This research, therefore, addressed the missing gap.

Objective of the Study

To examine the administrative support given to teachers towards the education of students in inclusive classrooms.

Research Question

What support do administrators give to teachers towards the education of students in inclusive classrooms?

METHODOLOGY

Research Design

In this study, survey research design was used. According to Best & Khan (2011), survey research is a technique of gathering information through asking questions. In some instances, interviews can be conducted face-to-face with the targeted respondents of the study in school, at home, or at work, other times inquiries may be sent to the respondents via mail to respond and mail back. In this study, the researcher contacted the people under study face-to-face and administered the survey questionnaires concerning their feelings on administrative moral support and material provision for

smooth and effective facilitation of inclusive education.

Participants

The populations of the study consisted of 147 teachers from the schools under study out of whom 15 teachers (i.e. 10%) were sampled. The sampling technique used was a simple random sampling. A survey questionnaire was used in data collection and the result was analyzed using a descriptive statistic. The result was finally presented in frequency distribution tables and percentage.

Instrumentation

The questionnaire used for data collection was Questionnaire on Assessment of the Administrators' Support towards Inclusive Education (QASIE)

Validation of the instrument

This questionnaire (QASIE) was validated through a pilot testing. Pilot testing means administering the questionnaire to a small sample of the respondent who have same characteristics with population. This process helped in identifying unclear and ambiguous items as well as the required time for completion of the study.

Reliability of the instrument

The study used test-retest method to ensure reliability. This method of assessing the reliability of data

involves administering the same instrument to the same group twice. A Pearson’s Product Moment Correlation Coefficient formula for the test-retest was employed in computing the correlation coefficient in establishing the extent to which the contents of the questionnaire were consistent in eliciting the same responses every time the instrument was administered. A correlation coefficient of 0.8 was achieved, and that was enough evidence in judging the instruments as reliable for the study.

Data Collection Procedure

Data in this study was collected from the respondents using a Questionnaire on Assessment of the Administrators’

Table 1: Responses of Regular Teachers on the Administrators' Support for Their Work

Extent: 1 = Yes 2 = No	1		2	
	F	%	F	%
1. Our Principal acts kindly towards me	10	66.67%	5	33.33%
2. The principal is easy to contact	13	86.67%	2	13.33%
3. He gives me full attention when I am talking	11	73.33%	4	26.67%
4. The principal is frank and straightforward with the staff	10	66.67%	5	33.33%
5. Shows genuine concern for me and my students	9	60%	6	40%
6. Shows appreciation for my work	11	73.33%	4	26.67%
7. Offers positive comment after observing my teaching	14	93.33%	1	6.67%
8. Provides frequent response about my performance	8	53.33%	7	46.67%
9. Provides supportive information for improving personal managing skills	7	46.67%	8	53.33%

Support towards Inclusive Education (QASIE). The respondents were met in their various schools where they filled and returned the questionnaires to the researcher instantly.

Data Analysis

The result was finally presented in frequency distribution tables and percentage

RESULTS

The Table below enquired whether the teachers agree with various statements suggested to them which relate to administration support towards their work.

10. Provides information on conversant teaching methods	9	60%	6	40%
11. Assists with appropriate identification of special education students who may require additional concern	14	93.33%	1	6.67%
12. The principal is available to help when needed	11	73.33%	4	26.67%
13. Establishes ways of communiqué between general and special education teachers and other professionals.	8	53.33%	7	46.67%
14. Helps me during parent confrontations if needed	7	46.67%	8	53.33%
15. Provides time for various extra-curricular responsibilities	10	66.67%	5	33.33%
16. Provides enough planning time	13	86.67%	2	13.33%
17. Provides material and resource needed	8	53.33%	7	46.67%
18. Participates and encourages relevant meetings, and conferences on children's educational needs	9	60%	6	40%
19. Works with me to plan specific goals and objectives for many program	14	93.33%	1	6.67%
20. Provides additional support when I become overloaded	10	66.67%	5	33.33%

The findings in Table above established that majority 66.67% of the respondents indicated that the administration's Acts friendly towards them. 86.67% of the respondents indicated that it was easy to approach the administration. 73.33% of the respondents indicated that they are not given undivided attention when they are talking. 66.67% indicated that the principal is honest and straight forward with the staff. Findings also affirmed that majority 60% of the respondents indicated that the administration show genuine concern for my

program and students. 73.33% indicated that they showed appreciation for my work. 93.33% indicated that the administration did not offer constructive feedback after observing my teaching. 53.33% indicated that principals provide frequent feedback about my performance. 46.67% of the respondents indicated that the administration Provides helpful information for improving personal coping skills.

The administration does not provide information on up-to-date

instructional techniques this was affirmed by 60%. Whereas on the other hand, 93.33% of the respondents indicated that principals assists with proper identification of special education students and also affirmed by 73.33% that the principal is available to help when needed. 53.33% indicated that principals establish channels of communication between general and special education teachers, and other professionals. 46.67% indicated that the administration helps them during parent confrontations when needed. 48 (64%) of the respondents indicated that the administration Provides time for various nonteaching responsibilities.

Respondents indicated that the administration does not Provides adequate planning time confirmed by 66.67%. 53.33% indicated that they are Provided with material, space, and resource needed. 60% also indicate that the administration Participates and encourage relevant meetings and conferences. 93.33% indicated by the majority of the respondent states that the administration works with them to plan specific goals and objectives for my program and students.

Lastly, 66.67% indicated that the administration Provides extra assistance when they become overloaded. From the finding of this study, it has been found that more

than 59.9% of the respondents indicated that their principals effectively support them in dealing with students with special needs in an inclusive classroom, whereas 40.1% percent of the respondent reported that they did not get the required support needed from the administrators.

Discussion

Results of this study showed the support given by the administrators to the regular teachers in the schools under the study. The study established that more than two-thirds of the respondents indicated that their principals effectively support them in dealing with students in an inclusive classroom, whereas less than one-third of the respondent reported that they did not get the required support needed from the administrators. The result of this study is therefore in line with the findings of Mamlin, (1999) who found that the administrators were supportive to their staff and finally concluded that a strong leadership style is a factor that every leader requires in achieving successfully and having the capability of guiding his staff towards understandings ways which could lead to success. Effective leadership is therefore essential for fostering positive culture of inclusion within schools. Brown (2017) stressed that

principals who demonstrated supportive leadership behaviors such as collaboration, communication and empathy, create an environment where teachers feel valued and empowered. Continuous professional development is also vital for equipping teachers with the knowledge and skills necessary to implement inclusive practices smoothly. Principals can achieve this through organization of seminars, workshops and other relevant training grounds that primarily focus on areas such as behavior management strategies, differentiated instruction universal design for learning (Forlin et al. 2019).

CONCLUSION

In conclusion, moral support from administrators is essential for promoting smooth and effective inclusive education practices. By fostering a supportive school culture, moral and academic support, and providing practical assistance and encouragement to teachers, administrators can create environments where all students have equal opportunity to learn and thrive.

RECOMMENDATIONS

This study recommends that additional supports and provisions is needed from the government, so that the principals can render required

support towards teachers' work in the schools practicing inclusion or integration in Bauchi State.

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EFFECTS OF COMPUTER SIMULATION ON PERFORMANCE OF BIOLOGY STUDENTS IN SENIOR SECONDARY SCHOOLS IN OYO STATE

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ABSTRACT

This study investigated the effects of computer simulation on biology students' performance in senior secondary school in Oyo state. Also, it determined how gender and mental ability influenced Biology students' performance. Quasi-experimental research design that was based on a factorial matrix of 2x2x3 was utilised. 129 students participated in the study who were selected from three intact classes using a multistage sampling procedure. The study utilised the Students' Performance Test in Biology (SPTB) and Student Mental Ability Test (SMAT). One-Way Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA) and Independent t-test statistics were used for data analysis. The findings revealed that the pre-test mean scores of students' performance for the experimental group and the control group were not significantly different from one another. The experimental group and the control group's post-test mean scores were significantly different from one another. There was a significant moderating effect of mental ability on students' performance in biology before and after been taught with computer simulation. However, there was no significant effect of gender on students' performance in biology before and after been taught with computer simulation. The study concluded that computer simulation is effective in improving student performance. It was recommended that in order to increase students' overall performance in Biology senior secondary school teacher should adopt the use of computer simulation in teaching Biology.

Keywords: Computer simulation, Performance, Gender, Mental ability

INTRODUCTION

Science is a rational procedure that generates rationalization and forecast about the world we live in the form of novel facts. Learners gain knowledge of how to find solution to problems by observing, collecting data, and

making inference from scientific method. Through scientific method, awareness and unfathomable comprehension of concepts, laws, representations and theories are instilled in the learner. Due to

importance of science and relevance to human race, it appears the consideration in education is being giving to science (Ogunleye, 2023). Worldwide, we are living in age of scientific and technological advancements that have brought about numerous discoveries, including gene therapy as a treatment for blood cancer, state-of-the-art security devices, the greenhouse effect, highly developed methods of laboratory analysis for the detection of human diseases, and the utilization of robots to carry out formerly human-only tasks. In today's world, science permeates every aspect of human existence; after all, science is the constant messenger in nature that provides a global benchmark for evaluating a country's progress (Omotayo, 2016).

Biology is one of science subjects which examine the Structure, function, distribution and evolution of living organisms. Because of its centrality to human life, biology is one of the obligatory scientific courses for students in senior secondary school. In accordance with the National Policy on Education, the Federal Ministry of Education (FME) (2013) made it clear that the primary goal of the biology curriculum is to "empower learners with necessary laboratory and field expertise in Biology, as well as the capacity to use

their new found knowledge in the context of personal health, agriculture, and rational and effective scientific attitudes" This goal extends to both the classroom and the laboratory. As a means to these ends, it is imperative that all students study the subject thoroughly and become experts in it (Achor et.al., 2019).

The ominous performance of Nigerian senior secondary school students in Senior Secondary Certificate Examinations (SSCEs) like West African Senior School Certificate Examination (WASSCE) and National Examination Council (NECO) is worrisome, given the vital importance of biological knowledge to human survival (Ogunleye, 2023). Animasahun (2014), Ayeni (2016), Adeyemi and Awolere (2016) have identified a number of factors that have been attributed to this poor performance. These factors include the inadequacy of certified teachers, the lack of adequate practical apparatus, a negative attitude towards instructional materials on the part of teachers, the inability of students to apply scientific principles to real-world situations, and the utilization of conventional teaching methods that do not appear to be sufficient for the meaningful and effective teaching of biological concepts. It appears that conventional method of teaching leads to rote memorization rather than

critical thinking and understanding of the concepts. This seems to be against standard educational practice and global trends. This is why there is an immediate need for and promotion of more student-centered approaches to teaching.

Computer Simulation is a student-centered method to teaching which involved structured programme or model of a real-world, manipulable (theoretical) system. As a method of instruction, it concretizes a number of concepts covered in class. Additionally, it piques students' interest because they are certain to learn things that they might not have learned in a more conventional classroom. During a simulation, the instructor creates an environment that mimics the actual world so that students can learn about it. While the instructor maintains command of the framework, students actively participate in a real-world scenario designed to achieve a predetermined learning goal. For instance to illustrate the concept of predation, a teacher may play a short documentary depicting a lion hunting a zebra for its prey. This would allow the students to experience firsthand dynamic between the predator and prey (Ogunleye, 2023). In a simulation, rather than serving as a repository of information, the teacher takes on the role of a guide, an advisor, a

supporter, or a resource. Students' comprehension is significantly improved when they are able to practice abstract or challenging ideas through simulation. The use of simulations in the classroom brings theoretical concepts to life and facilitates hands-on learning. It encourages pupils to work together and helps them become more independent learners. Using a computer model to simulate a real-world scenario assists in visualizing the outcomes of that scenario (Sreelekha, 2018).

Students' gender also appears to have an effect on their academic performance. Sexism is a social construction that uses gender to categorized and privilege certain individuals based on their perceived traits, responsibilities, and opportunities. In Nigeria, there is a lot of proof that prejudice based on gender affects some occupations. The fields traditionally associated with men include farming, engineering, and construction technology, whereas the fields traditionally associated with women include teaching, nursing, and catering (Ebenezer & Owoeye, 2017). The widespread misconception that science is primarily a male-dominated discipline is a major source of concern for science educator. Although some studies have found a correlation between gender

and pupils' performance (Adepoju, 2011; Omotayo et. al., 2014; Ebenezer & Owoeye, 2017), reported no such correlation (Eya et. al., 2020, Ogunleye et. al., 2024). Given these discrepancies, further investigation into the impact of gender on students' performance is warranted.

It has been reported that students' mental ability has an effect on their performance. Ability to think critically refers to students' capacity to show what they know in response to specific questions posed by course content and the context in which they are learning. Students' mental ability, then, is defined as their degree of intelligence or cognitive development, which determines how well they do in school. Having an inadequate mental level of understanding and application makes it hard for the majority of students to apply what they learn in class to life situation (Ogunleye, 2019). Students' performance on intelligence tests, measured in terms of concrete cognitive abilities, is significantly correlated with their academic success (Ogunleye, 2023, citing Olagunju & Chukwuka, 2008). Formal reasoning, which ignores context in favour of abstraction, is heavily promoted in educational settings. According to Sangodoyin (2011), pupils' lack of formal operational thinking could be the

explanation behind their low performance in science classes.

Also, Examiner reported from 2015 to 2021 of senior secondary certificate examination results (SSCE) conducted by WAEC & NECO showed a persistent downward trend in performance of student in Biology, despite widespread attempts to improve the performance in the subject. Inadequate laboratory equipment, inefficient use of instructional materials in secondary schools, students' negative attitude towards Biology, teacher-centered teaching methods, students' gender and mental ability, and other factors could all contribute to students' persistently low performance in Biology. As a result, Biology educators are always on the lookout for new ways to boost their students' performance and eliminate the gender gap in performance in Biology. To implement innovative, student-centered pedagogical in the field of biology require investigation. In light of this background, the purpose of this study was to investigate the effects of Computer Simulation on the performance of students in Biology. This research also investigates the ways in which gender and mental ability interact with instructional approaches to shape the performance of students in Biology.

Purpose of the Study

The purpose of this research is to investigate the effects of computer simulation on the academic performance of students in the subject of Biology in Oyo state. It was specifically designed to examine whether;

1. difference exist in the pre-test and post-test of students in computer simulations and conventional teaching method.
2. gender influences the performance of students in the two groups: computer simulation and conventional instruction
3. students' mental abilities affect students' performance when exposed to the Computer Simulation.

Research Hypotheses

The following null hypotheses guided the study:

1. There is no significant difference between pre-test mean score of students' performance in experimental group and control group
2. There is no significant difference in pre-test and post-test mean score of Students' performance taught with computer simulation and traditional teaching method.
3. There is no significant moderating effect of gender on students' performance in biology before and

after been taught with computer simulation.

4. There is no significant moderating effect of mental ability on students' performance in biology before and after been taught with computer simulation.

METHODOLOGY

Research Design

This study employed a quasi-experimental design with a control group and experimental group using a 2x3x2 factorial matrix. A quasi-experimental design is used to determine a cause and effect relationship between an independent and dependent variable when the variable cannot be totally controlled. Since the variable in this study cannot be totally controlled it is suitable research design for this study.

Participants

The population of the study comprises all the senior secondary schools Biology students in Oyo state. A total of 129 students from three intact classes were involved in the study. The participants were obtained by a multistage sampling technique from three public secondary schools in Oyo State, Nigeria. First, we used a basic random sample method to choose

three LGAs (Local Government Areas) in Oyo State. After deciding on three LGAs, three public secondary schools were picked using a stratified random sample technique. Then from each of the three schools chosen for the study, an intact class was picked using a cluster sampling technique. Keeping in mind that schools with electrical supplies, computers, and computer accessories were included in the fourth stage, which entailed using a purposive sample strategy to divide the schools into separate experimental and control groups.

Instrumentation

Two instruments namely 'Students' Mental Ability Test (SMAT) and the Students' Performance Test in Biology (SPTB)', were used to collect data for the study. Twenty multiple-choice questions with options (A–D) make up the Students' Performance Test in Biology (SPTB), which the researcher developed to evaluate students' performance in the subject. The cognitive domain's knowledge, understanding, and application levels were used to construct the instrument. The instrument was used for both the pre- and post-tests. One point was given for each right answer on the SPTB. The final tally for every student was the sum of all the

correct answers. The test had a maximum possible score of 20 points. The Students' Mental Ability Test (SMAT), was a multiple-choice question adapted from the ACER Ability Test, a standardized test developed by the Australian Council for Educational Research. Thirty items make up the test.

Validity of the Instruments

Before being used in this study, the instruments were re-validated by determining their discriminating level with SS2 students from a school that was different from the participants in the research. The highest possible score that a student could achieve was 30. High mental ability level students were those with scores of 21 or above, medium mental ability level students were those with scores between 12 and 20, and low mental ability level students had scores below 12. Educational technologist, biology teachers, and test and measurement expert helped to ensure the instruments' content and face validity.

Reliability of the Instruments

Kuder Richardson (KR20) was used to ascertain the reliability of the instruments and reliability coefficient of 0.77 was obtained for

SPTB while reliability coefficient of 0.78 was obtained for SMAT.

Procedure for Data Collection

There were a total of ten weeks in the study, divided evenly between the three phases: eight weeks of treatment and one week each for pre- and post-tests. During the first week of the study, the researcher met with school administrators to secure approval and trained research assistants. Following the training, the researcher checked for group homogeneity by administered the pre-test to the experimental and control groups. During the second stage, which lasted eight weeks, the research assistant administered the treatments to experimental group while the researcher monitored their

adherence to the operational guideline. The third and final stage, known as "post-treatment," lasts for one week and involves administering to the students SPTB again to see how the treatment worked.

Data Analysis

One-Way Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA) and Independent t-test statistics were used for data analysis. All null hypotheses were tested at 0.05 level of significance.

RESULTS

Hypothesis 1: There is no significant difference in the pre-test mean score of students’ performance in experimental group and control group

Table 1: Difference in Pre-Test Mean Scores of Students in Experimental and Control Groups

Groups	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.11	1	3.55		
Within Groups	536.10	188	2.85	1.24	0.29
Total	250.456	190			

$P > 0.05$

Table 1 showed that at the 0.05 level of significance, the p-value is $(0.29) > 0.05$, hence the 1.24 F-cal value difference is not significant. Therefore, the null hypothesis is not rejected. This means that the pre-test mean scores of students in the traditional teaching method and

computer simulation groups are not significantly different. Upon beginning the study, all of the students in the groups were homogeneous.

Hypothesis 2: There is no significant difference in the pre-test and post-test

mean score of Students' performance taught with computer simulation and traditional teaching method.

Table 2: Comparison of Students' Mean Scores on the Pre- and Post-Tests in Different Groups

Source	sum of square	df	Mean Square	F	Sig.
Corrected Model	674.144 ^a	2	224.715	239.668	0.000
Intercept	777.028	1	777.028	828.736	0.000
Pre-test	15.000	1	15.000	15.998	0.000
Methods	672.245	2	336.123	358.490	0.000
Error	175.332	127	.938		
Total	16501.000	129			
Corrected Total	849.476	129			

a. R Squared = .794 (Adjusted R Squared = .790)* P < 0.05

Table 2 showed that the groups (computer simulation and control) had significantly different pre-test and post-test mean scores (F (2,187) =358.490, P <.05, q2 =.079). 79% effects size is much. As a result of this the null hypothesis was not accepted.

By implication there is significance difference in the pre-test and post-test mean score of students' performance in experimental group and control group. To find out the magnitude of the group performance mean scores differences table 3 is shown

Table 3: Estimated Marginal Mean of the Experimental and Control Groups on Students' Performance in Biology

Treatment Groups	N	Mean	Std Error
Computer simulation	80	9.413	.108
Conventional Teaching Method	49	6.048	.139

According to the estimated marginal mean, the traditional teaching technique has the lower post-test mean score (6.048) and computer

simulation has the higher post-test mean score (9.413). As a result, computer simulation outperformed traditional teaching method.

Hypothesis 3: There is no significant moderating effect of gender on students' performance in biology

before and after been taught with computer simulation.

Table 4: Comparing the Pre- and Post-Treatment Scores of Male and Female Students Taught with Computer Simulations

Group	Gender	N	Mean	Std. D	df	t _{cal}	P.
Before	Male	50	6.0000	1.72615	78	0.245	0.807
	Female	30	6.1000	1.82606			
After	Male	50	9.4000	.53452	78	0.278	0.781
	Female	30	9.3667	.49013			

P>0.05

Table 4 shows that t-value of 0.245 before treatment and 0.278 after treatment are not statistically significant as the corresponding P values (0.807 and 0.781) are greater than the significance level of 0.05. As a result of this the null hypothesis is not rejected. Therefore, there is no significance effect of gender on

students' performance in biology before and after been taught with computer simulation.

Hypothesis 4: There is no significant moderating effect of mental ability on students' performance in biology before and after been taught with computer simulation

Table 6: Difference in Students' Mental Abilities Effect on Biology Performance with Students Taught with Computer Simulations

Groups	Sum of Squares	df	Mean Square	F	sig.
Between Groups	2.166	2	1.083	4.430	.015
Within Groups	18.822	77	244		
Total	20.988	79			

P<0.05

Table 6 indicated that F-cal value of 4.430 difference and is significant because the p value (0.015) <0.05 at 0.05. Therefore, the hypothesis was not accepted. Hence, there is significant moderating effect of mental ability on biology students' performance taught with computer simulation

Discussion

The finding of the study indicated that there was no significant difference in the biology students' performance of pre-test mean scores across the two strategies (experimental and control groups). Base on this finding, the experimental and control groups were

similar before the study began. This means that the results are significantly different because of the treatment and not by chance.

The results of this study demonstrate that students who were exposed to computer simulation and traditional teaching method had significantly different post-test mean scores. Students' Biology performance was significantly improved by the use of computer simulations. On average, students taught with computer simulation performed better than those who are taught with traditional method. What this means is that the experimental group outperformed the control group, who did not get any treatment. The results corroborate those of several previous studies that found that students taught using learner centred methods performed better than those taught with traditional methods (Ogunleye et.al., 2024, Ogunleye 2019, Kingdom et.al. 2019, Didimus and Duran 2014, Emmanuel et.al. 2013, and Vandattra 2013) are few of the works that fall into this category. This improved performance might be as result of students' enhanced capacity to conceptualize complex ideas through computer simulation which encouraged them to be more engaged and thoughtful. It might also that it offers the learner the chance to repeat the complete process and helps them

display a clear grasp of the idea. Another possible reason may be simulation allows students more leeway in terms of how and when they learn, which in turn improves their experience and keeps them more interested in the concept. The result is in agreement with others studies that shown that students perform better when taught by simulations than conventional method (Sreelekha, 2018; Olorukooba et. al., 2016; Mengistu & Kahsay 2015; Umoke & Nwafor 2014; Ezeudu & Ezinwanne 2013) but is in contrast to Kaheru (2014) report who found no significant effects of computer simulation on students' academic performance.

The traditional teaching method may have performed poorly on the post-test compared to the computer simulation because it exposed students to rely heavily on the teacher-given information. Since the teachers dominated the class and rarely interacted with their colleagues, the students may become passive and relegated to merely listening to the teacher's wealth of information. It appears that the technique encourages memorization rather than comprehension, leaving students unable to fully grasp the concept. The same low performance seen in earlier research of (Ogunleye et.al., 2021; Kingdom et.al., 2019;

Obadipe et. al., 2019; Sreelekha, 2018; Didmus & Duran, 2014; Oladiran, 2014) have surfaced once more. To guarantee effective teaching and learning, it is necessary to apply current, learner-centered approaches in everyday classroom interactions, such as computer simulation.

The finding showed there is no significant moderating effect of gender on students' performance taught with computer simulation which is in line with previous findings (Olorukooba et. al., 2016; Ezeudu & Okeke, 2013), who reported that there was no significant difference in the performance of mean score between male and female students who were subjected to computer simulation. The fact that both sexes have equal access to the learning opportunities provided by the computer simulation may explain why there is no significant difference. Because there was zero tolerance for gender bias in the classroom, students of all sexes were able to fully engage in and benefit from the learning experience. However it contradict the findings of Uwaleke (2013) who found that female perform better than male in science.

Regarding the hypothesis that there is no significant moderating influence of mental ability on the academic performance of students exposed to

computer simulation, the study's findings revealed that mental ability does have a significant moderating effect on academic performance of students exposed to computer simulation. This could imply that when students study independently, their particular mental capacities have been shown to have a significant impact on their academic performance.

CONCLUSION

Students' performance in Biology was enhanced when conventional teaching methods and computer simulations were used. Computer simulation was more effective than conventional method. Computer simulations do not favour one gender over another and when students work on their own, it becomes clear that their mental abilities have a significant impact on their academic performance.

RECOMMENDATIONS

Base on the finding of the study the following suggestions were made;

1. To improve student performance in biology, senior secondary schools should adopt computer simulation for the study of biological concepts.
2. In order to help current Biology teachers improve their skills in implementing modern pedagogical tools like computer-based simulations, the government should

collaborate with organisations such as the Science Teachers Association of Nigeria (STAN), the National Union of Teachers (NUT), the All Nigeria Conferences of Secondary School Principals (ANCOPSS), and the faculties/institutes of education in universities to organise in-service training programmes, workshops, conferences, and seminars.

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ASSESSING TECHNOLOGICAL COMPETENCIES OF PRE-SERVICE MATHEMATICS TEACHERS IN KWARA STATE COLLEGES OF EDUCATION, NIGERIA

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ABSTRACT

This study assessed the technological skills of future mathematics educators in Colleges of Education in Kwara State, Nigeria, particularly focusing on their Technological Content Knowledge (TCK) and Technological Pedagogical Knowledge (TPK). A descriptive survey research design was utilized. The population comprised of pre-service teachers across Kwara State's Colleges of Education. 40 mathematics pre-service teachers constituted the sample in the study. Data were collected using questionnaire as descriptive statistics were employed for analysis to answer research questions. Findings indicated that pre-service mathematics teachers acknowledged the importance of their technological content knowledge (TCK) and technological pedagogical knowledge in selecting suitable technology for specific content and in adopting diverse approaches for subject concept representations. Consequently, it is suggested that stakeholders should promote the integration of technology into pre-service teachers' content and pedagogical knowledge through adequate training and workshops to improve their skills and enhance professional development.

Keywords: Technological competence, TPACK, Pre-service teacher, TPK, TCK

INTRODUCTION

One of the main goals of teacher education worldwide has been the advancement of instructors' expertise

to enhance instruction and student learning (Meier, 2021). Programs, policies, procedures, and resources

created to give teachers the knowledge, attitudes, behaviours, approaches, techniques, and skills they need to carry out their duties in the classroom, school, and larger community are collectively referred to as teacher education or teacher training (Ilyas, 2015). The majority of educators think that incorporating technology into lessons improves both teaching and learning. Although effectively incorporating into the teaching of specific courses is a tough endeavour, it can enhance and increase student learning (Herring et al., 2016). Shulman (1987) proposed curriculum knowledge, content knowledge, learner knowledge, context knowledge, knowledge of educational goals, pedagogical knowledge (PK), and pedagogical content knowledge (PCK) as the seven major types of knowledge educators should have proficiency.

The idea of PCK has spread throughout teacher education, particularly in the fields of science and mathematics where a lack of subject knowledge has been a problem. This makes PCK even more implicit than it is for qualified teachers, which presents new challenges for its development (Melanie, 2020). The studies have shown that high impacts on PCK during learning and instruction can be observed if technology is

incorporated in standard teaching and learning. Chamorro and Rey (2013) observed that many educators generally agree with the fact that technology integration, which is providing an opportunity for learners and teachers to explore endless options with their multiple devices, enhances the process of learning. Furthermore, the proficiency and reproduction of technologies by teachers among educators have continually proven to be a crucial factor in education research (Jita & Sintema, 2022; Thohir et al., 2021). Additionally, Chien and Lajium (2016) observed that since technology has become everybody favourite as an instrument for effective teaching and learning, the researchers should propagate it properly for better utilization. This aligns with the viewpoint expressed by Ahmad et al. (2019), who argued that the emergence of technology has brought about positive changes in education, particularly in the way teaching and learning are perceived and conducted. Consequently, it's evident that technology has become ubiquitous in various spheres of life, including education (Ogunlade et al., 2019).

Therefore, to improve teaching and learning endeavors, educators must possess the skills to effectively integrate technology into their

classrooms (Segal et al, 2021). In addition, according to Salas-Rueda (2020), technology utilization as a means of teaching-learning should be done when both teachers who are responsible for the introduction of technology have heightened their skills in using technology as well as in the teaching art generally. As for the TPACK framework the TPCK model proposed by Mishra and Koehler (2006) counted among the most relevant when talking about successfully applying technology in education. The TPACK model, which is the expanded version of Shulman's (1986) PCK model, looks at the interconnectivity between pedagogy, technology and content as the three teachers' professional knowledge and focus at improving teacher's capacity to use them for instruction as cited in Cetin-Dindar et al. (2018). This form the TPACK theory that suggested that PCK can be fused with technology to facilitate effective teaching and learning. TPACK identifies how, for students to have skillful learning in a technologically enhanced world, both technical skills and content mastery cannot be enough. What it reminds here is that the right technology, appropriate pedagogy and the proper content knowledge all interact with each other and the sum of their interactions leads to a unique learning situation. Figure 1 illustrates the TPACK model and its seven

components, showcasing how technology integration shapes teaching and learning in the classroom.

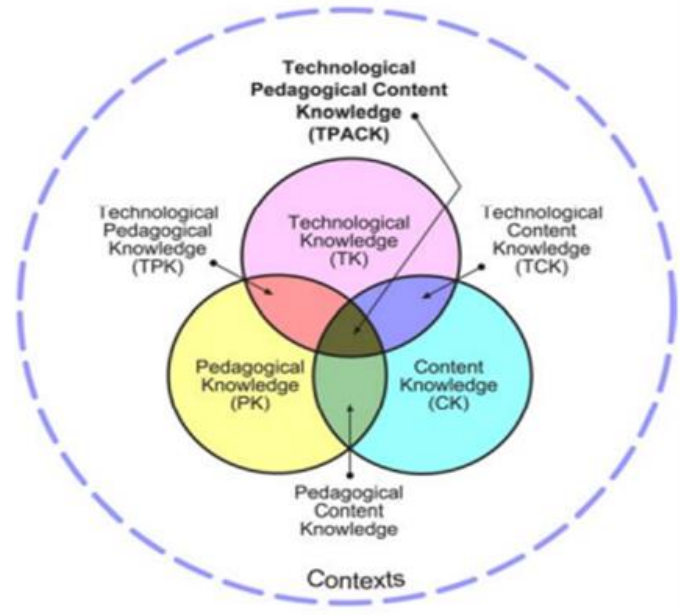


Figure 1: TPACK Framework (Koehler & Mishra, 2009)

Mishra and Koehler (2006)'s TPACK serves as an assessment tool to measure teachers' content and technology knowledge. The TPACK has become a central tool for investigators who are interested in deep understanding of the interaction between technology, teachers, and learners in both teaching and environments. Having elaborated on Shulman's (1986) idea of the PCK, Mishra and Koehler (2009)

developed TPACK which went further than the first model, since it involves all subjects' ideas of content, pedagogy, and technology. Zhang and Tang (2021) opine that the coming together of subject PCK and technological knowledge forms an integrated whole. The TPACK as a framework showcase the interplay among the understanding of teachers in the area of pedagogy, content and technology of their subject expertise as well as their interactions, such as TPK, PCK and TCK.

Therefore, a teacher who can navigate between those interrelations acts better as an expert who is different from a teacher of a whole subject matter on pedagogy, or technology (Mishra & Koehler 2006). But this study is only interested in technological knowledge of mathematics teachers in the area of pedagogy and content, i.e. TPK and TCK are true case in point. The TCK implies that an instructor has mastered that technology to form unique representations representing the specific content of uses. In contrast to TPK, which includes the knowledge about how to employ various technologies to teaching and learning situations, PCK is about understanding how different concepts of different subjects can be transformed into knowledge. Technical Content Knowledge

(TCK), on the other hand, deals with the accompanying technology and tools that try to present the subject in a new way. As a result, sometimes technology can restrict the presentation of a particular matter. Yet, new technologies provide a chance for variety in how CK might be represented and presented. On the flipside, however, Technological Pedagogical Knowledge (TPK) happens to be the term that is used to describe the processes, in which people are really aware of the fact that the particular technologies can really enhance the educational processes or they can even alter these processes by the application of adequate tools (Zhang & Tang, 2021).

Hence, it is essential to understand how to inculcate technology into lesson plans to promote easy learning and teaching of mathematics by the 21st century educators. Therefore, this study specifically sought to:

- i. examine the level of TCK among pre-service mathematics teachers in KWSCO, Nigeria.
- ii. determine the extent of TPK among pre-service mathematics teachers in KWSCO, Nigeria.

Research Questions

1. What is the level of Technological Content Knowledge (TCK) among pre-service Mathematics teachers in KWSCO, Nigeria?

2. How do pre-service Mathematics teachers in KWSCOE, Nigeria demonstrate their Technological Pedagogical Knowledge (TPK)?

LITERATURE REVIEW

Nature and Concept of Teacher's Education in Nigeria

Most nations view Education as a means of fostering national development, and in the face of globalization, no country can thrive today unless its inhabitants receive high-quality training and education (Daminabo, 2020). Particularly in Nigeria, there are series of teacher Education programmes, commissions and bodies; namely, National Colleges of education Commission (NUC) National Commission for Colleges of Education (NCCE) and National Teachers Institute (NTI), for degree, and National Certificate in Education (NCE) and Teachers' Grade II, to ensure sound academic attainment for Nigerian teachers.

The value of the teacher education programs provided by Nigeria's many postsecondary institutions influences and defines the class of educators who will be in charge of providing high-quality instruction in the world's biggest Black nation's educational system. As a result, it's commonly believed that a country's educational system is shaped by the calibre of its teacher pool. Those in positions of

authority should make sure that the goals of teacher education, as stated in the National Policy of Education (NPE) (2014), are pursued with a clear sense of purpose and without regard to political, religious, or ethnic affiliations, as education is seen as a tool for national development. Education at all levels could be perceived to involve training and re-training of teachers to make the rudiment of teaching effectively. According to Guadalupe (2019), teachers are the main agents of educational systems since they have direct control on the learning experiences of their pupils. The general public and the government view education as a mechanical production system where inputs produce results.

Concept of Technology Integration in Teaching

Technology has undoubtedly transformed many facets of human life. The quality of human life has witnessed a remarkable improvement, with achievements once deemed impossible now within reach. Everything in our life has been impacted by technology. From this vantage point, the field of education is not exceptional and has also been influenced by the magic of technology (Emre, 2019). A literature study on the incorporation of computer technologies in classrooms

was conducted by Islam and Gronlund in 2016. They claimed that there had been an improvement in the pupils' drive, engagement, computer proficiency, and capacity for both solitary and group study. It was also mentioned that flexible teaching, teamwork, and professional growth were advantageous to teachers.

The Centre for Applied Research in Educational Technology conducts thorough examinations of instructional technology utilization. Here are the findings from one such review: (i) Student Learning: Technology proves beneficial for student learning when it aligns with assessed curriculum objectives, offers performance feedback to both teachers and students, promotes student collaboration, and expands the curriculum through activities like project-based learning; (ii) Curriculum and Learning: The alignment of project or lesson content with state content standards serves as a crucial initial step. Moreover, allowing students to familiarize themselves with instructional software before instruction enhances their conceptual understanding of content; (iii) Online Teaching and Learning: Online content should be accurate, up-to-date, and in alignment with state curriculum standards. It should also be structured appropriately, providing

opportunities for collaboration and employing diverse approaches to assessment; (iv) Professional Development: Professional development in educational technology can be optimized through sustained learning over time, on-site guidance, practice, and continuous feedback; (v) Assessment and Evaluation: Automated digital scoring can facilitate the assessment of high-order thinking skills and open-ended responses; and (vi) Technology Integration in Education: According to Khatoony and Nezhamehr (2020), technology integration in education is the transformation of classroom practices to modern system with the introduction of effective method and up-to-date technology in the teaching and learning processes.

Uslu and Usluel (2019) and Niess (2015) supported the notion that many governments worldwide recognize the significance of technology in education and are thus prepared to heavily invest in equipping schools with technological tools to enhance both teacher and student performance. However, while numerous researchers acknowledge the positive impact of technology in education, some argue that the success of technology integration depends on various factors (Daya & Laber, 2019). Drijvers (2015)

identified teacher-related factors as crucial, given that teachers play a significant role in integrating technology into education. Consequently, efforts have been directed towards enhancing teachers' ability to foster learning using technology, as teachers are pivotal in shaping their students' futures. Research suggests that teacher knowledge influences both teaching practices and student learning outcomes (Abedi, 2023; Dubinsky et al., 2022). Despite ongoing debates regarding the categorization of teacher knowledge, it is often classified to facilitate improvement across various fields (Bueno et al., 2023). Notably, research in geometry education consistently highlights a lack of teacher knowledge in effectively teaching geometry with technology, particularly in Mathematics and science subjects (Saralar-Aras, 2022).

Mathematics is a foundational discipline, often referred to as the language of the universe (Zhang et al., 2024). Mathematics provides a way to describe, analyse and predict patterns and relationships while fostering problem solving skills on logical reasoning (Colletti et al., 2023). Mathematics is currently posing significant challenges for both teachers in their instructional methods and students in their learning

processes. The increasing failure rates in this subject have raised concerns among all stakeholders in education, including governments, parents, students, curriculum developers, and schools (Beauchamp et al., 2018; Ahmed & Ezeife, 2013). Many countries are witnessing a gradual decline in students' participation and performance in mathematics. Some attribute the failure in mathematics to the curriculum, while others believe it stems from inadequate teaching approaches by educators. Additionally, some suggest that students' aversion to this subject contributes to the problem (Beauchamp et al., 2018).

Although technology is widely acknowledged as an effective teaching aid, numerous teacher preparation programs prioritize developing technology skills rather than integrating technology into pedagogy for a more comprehensive approach to student teaching (Biletska et al., 2021). According to a study conducted by the Trends in International Mathematics and Science Study (TIMSS), academic performance in science and mathematics is declining globally. Only a handful of countries achieve scores above the significant TIMSS scale average of 500, while the majority of countries fall below this threshold (Guhn et al., 2024).

Mathematics as a field, where numbers and figure are used to measure continues to play roll in the development of every society in all aspect of human life, intellectually, scientifically, socially and technologically (Umbara et al., 2021). With the help of technology, a lot of science and Mathematics software application, mathematics packages, and math apps were developed mathematically. Mathematics software application such: Gerbera, X function, math editor, maxima, Math apps, frictional apps, Garboard apps, math clock apps, and math vocabulary cards app, money pieces' app, Number line app, number chart app (Noster et al., 2024).

METHODOLOGY

Research Design

This study adopted a descriptive survey research design, which involves gathering data from a representative sample of the population and then extrapolating the findings to the entire population (Siedlecki, 2020). The study was carried out on Colleges of Education pre-service Mathematics teachers in three state owned Colleges of Education in Kwara State, Nigeria. The study was aimed to assessing Technological Competencies of Pre-service Mathematics Teachers in Kwara State Colleges of Education, Nigeria. Self-structured questionnaire

was used to collect data and the data was analysed descriptively.

Participants

The study comprised of all pre-service Mathematics teachers in Colleges of Education in Kwara State, Nigeria. Specifically, the study used three out of four government-owned Colleges of Education purposively due to the fact that mathematics education always having low enrolment and it is only in government-owned Colleges of Education the researchers can access reasonable number of respondents. Also the respondents are sampled among the NCE II and III, NCE I excluded because they have not undergone any teaching practice exercise and may not be able to give adequate information needed for the study. The Colleges are: College of Education (Technical), Lafiagi, Kwara State College of education, Oro, and Kwara State College of Education, Ilorin. A total of 50 NCE II and III pre-service mathematics teachers, comprising 24 males and 26 females, were purposively sampled from these Colleges. NCE II and III students were chosen because they already have experience in teaching practice exercises. But out of the 50 participants, only 40 were finally considered suitable for the study using inclusive and exclusive criteria.

Instrumentation

Data collection in this study involved the use of a structured self-developed questionnaire titled Technological Competencies of Pre-service Mathematics Teachers in Kwara State Colleges of Education Questionnaire (TCPSMTKSCOEQ) administered to the participants. The questionnaire comprised two sections: Section A gathered demographic information, including gender and school name, while Section B consisted of constructs assessing Technological Pedagogical Knowledge (TPK) and Technological Content Knowledge (TCK). Section B contained a total of 11 items, with 6 items dedicated to TPK and 5 items to TCK. The response format for the questionnaire utilized a four-point Likert scale, with options ranging from "Strongly Agree" to "Strongly Disagree," assigned values of 4, 3, 2, and 1, respectively.

Validity of the Instrument

The questionnaire used for this study was scrutinized by three experts in science education department, test and measurement and a senior mathematics teacher in Al-Hikmah University, University of Ilorin, Government Day Senior High School, Ilorin respectively. Their corrections and observations were taken into consideration in drafting the final copy of the instrument for administration.

Reliability of the Instrument

Its reliability was determined through the inter-rater reliability method, utilizing data obtained from 10 pre-service mathematics teachers from a Nigerian Army School of Education (NASE) Ilorin the was involved in pilot study, as these 10 pre-service mathematics teachers were not included in the study areas nor part of the sample. The reliability coefficient of 0.79 was obtained using Cronbach's Alpha.

Procedure for Data Collection

After preliminary survey of the respondents, out of 55 NCE II and III pre-service mathematics students only 15 ready to partake in the study at Lafiagi, while 14 out of 45 ready at Oro and 19 out of 56 give their consent at Ilorin totaling 50 pre-service mathematics teachers available for the study. A total of 50 copies of the instrument were administered directly by the researchers with the help of two research assistants. With careful monitoring, a 100% return rate was recorded for the instrument from the respondents but only 40 were screen good for data analysis using inclusive and exclusive criteria.

Data Analysis

Utilizing the Statistical Package for Social Sciences (SPSS) computer software package, 23.0 version. Frequency, percentages, mean, and

SD were employed to answer the research questions.

RESULTS

The results of the data analysis of the study are presented in Tables 1 to 4 below.

Table 1 showed that among the 40 pre-service mathematics teachers surveyed, 19 (47.5%) were male, and 21 (52.5%) were female. This

Table 1: Pre-Service Mathematics by Genders

Gender	Frequency (N)	Percentage (%)
Male	19	47.5
Female	21	52.5
Total	40	100.0

suggests that female pre-service mathematics teachers outnumbered their male counterparts in the study.

Table 2: Pre-Service Mathematics by Colleges of Education

College of education	No of Students	Available (N)	Percentage (%)
COE(T), Lafiagi	55	11	27.3
KWSCOE, Oro	45	12	29.0
KWSCOE, Ilorin	56	17	43.7
Total	156	40	100

Table 2 displayed the distribution of participants according to the colleges of education. Specifically, 11 (27.3%) of the respondents were from COE(T) in Lafiagi, 12 (29.0%) were from KWSCOE in Oro, and 17 (43.7%) were from KWSCOE in Ilorin. This indicates that pre-service mathematics teachers from

KWSCOE in Ilorin contributed the most to this study.

Research Question 1: What is the level of Technological Content Knowledge (TCK) among pre-service Mathematics teachers in colleges of education in Kwara State, Nigeria?

Table 3: Technology Content Knowledge (TCK) of Pre-Service Mathematics Teachers

SN	ITEM	Mean	SD
1.	I know about technologies that I can use for understanding & solving problems in my subject.	2.81	1.12
2.	I can choose appropriate technology to suit specific content of my subject.	3.37	1.08

3.	I am proficient in employing digital technology to utilize various representations of mathematical concepts.	2.86	1.14
4.	I can use a wide range of technologies to teach.	2.70	1.05
5.	I know appropriate technologies for teaching specific topics in my subject.	2.87	1.10
Average Mean and SD		2.92	1.10

Table 3 presented the Technological Content Knowledge of pre-service mathematics teachers, derived from participant responses. Setting a benchmark mean score of 2.00, the analysis of research question 1 indicated that the mean scores of the pre-service mathematics teachers for all five questionnaire items surpassed the benchmark. The average mean and standard deviation were calculated as (M = 2.92, SD = 1.10).

From this analysis it implies that the pre-service mathematics teachers recognized the efficacy of their TCK in enabling them to choose appropriate technology for specific content and utilize diverse representations of mathematical concepts.

Research Question 2. How do pre-service Mathematics teachers in colleges of education in Kwara State, Nigeria demonstrate their TPK?

Table 4: TPK of Pre-Service Mathematics Teachers in KWSCOE

S/N	ITEMS	Mean	SD
1.	I can choose appropriate technologies to optimize my teaching.	2.78	1.02
2.	I can choose technologies that enhance students’ learning for a lesson.	3.20	0.90
3.	I can provide leadership in helping others to coordinate the use of technologies, and teaching approaches at my school.	3.22	0.77
4.	I can use different technologies for different teaching approach for my lesson.	3.16	0.88
5.	I can use strategies, appropriate technologies & teaching approaches that I learned about in my coursework.	3.16	0.71
6.	I can choose technologies that enhance teaching for a lesson.	3.21	0.72
Average Mean and SD		3.12	0.83

Table 4 displayed the Technological Pedagogical Knowledge of pre-service mathematics teachers, derived from participant responses. Using a benchmark mean score of 2.00, the

analysis of research question 2 revealed that the mean scores of the pre-service mathematics teachers for all six questionnaire items exceeded the benchmark. The average mean

and standard deviation were calculated as ($M = 3.12$, $SD = 0.83$). This signifies that the pre-service mathematics teachers acknowledged that their TPK helped them to integrate technological and pedagogical knowledge in addressing technical challenges, facilitating learning, enhancing teaching abilities, coordinating the use of technologies, and implementing teaching approaches in mathematics.

Discussion

Table 3 highlights the Technological Content Knowledge (TCK) of pre-service mathematics teachers, with mean scores for all five questionnaire items surpassing the 2.00 benchmark. The average mean of 2.92 and a

The mean score of 2.92 reflects the pre-service teachers' competence in this area, essential for effective teaching. This is in support of Uslu and Usluel, (2019) who discovered that using diverse representations of mathematical concepts, facilitated by digital tools, caters to various learning styles and makes abstract ideas more concrete. However, the standard deviation of 1.10 indicates considerable variability in responses, suggesting that not all pre-service teachers feel equally confident in their TCK. This disparity might result from differences in resource access or levels of support

standard deviation of 1.10 suggest that these teachers have a positive perception of their TCK, recognizing its role in selecting appropriate technology and using diverse representations of mathematical concepts. Similarly, these findings support the literature emphasizing TCK's importance in education. Mishra and Koehler's TPACK framework stresses the need for integrating technology, pedagogy, and content knowledge for effective teaching (Mishra & Koehler, 2006). Research indicates that teachers with strong TCK are better at choosing suitable technological tools for content, enhancing student understanding and engagement (Umbara et al., 2021).

The 2.00 benchmark could be seen as relatively low, and setting higher benchmarks might provide a more rigorous assessment of TCK. Studies suggest that exceeding a low benchmark indicates basic competence rather than high proficiency (Zhang et al., 2024). Differentiating between self-reported confidence and actual ability is crucial. Corroborating these findings with observational data or performance assessments ensures that perceived knowledge translates into effective teaching practices (Abedi, 2023; Dubinsky et al., 2022).

Table 4 presents the Technological Pedagogical Knowledge (TPK) of pre-service mathematics teachers. Analysis shows that all six questionnaire items exceeded the 2.00 benchmark, with an average mean of 3.12 and a standard deviation of 0.83. This suggests that these teachers value their TPK in integrating technology and pedagogy, addressing technical challenges, facilitating learning, enhancing teaching skills, coordinating technologies, and implementing effective teaching strategies. The high mean score ($M = 3.12$) indicates confidence in blending technology with pedagogy, which is crucial for effective teaching, as emphasized by the TPACK framework (Mishra & Koehler, 2006). This corroborates the studies by Umbara et al. (2021) and Zhang et al. (2024) which observed that teachers with strong TPK can better manage technological issues, enriching the learning experience with diverse materials and interactive platforms.

This confidence suggests readiness to enhance teaching effectiveness through technology. However, the standard deviation of 0.83 indicates some variability in responses, suggesting not all pre-service teachers feel equally confident in their TPK. This may stem from differences in experience with

technology, resource access, or teacher education quality. The 2.00 benchmark might be low, and higher benchmarks could offer a more rigorous TPK assessment, as surpassing a low benchmark indicates basic competence rather than high proficiency (Zhang et al., 2024). Self-reported data can overestimate competence; thus, validating findings with practical assessments ensures perceived knowledge translates into effective teaching practices (Bueno et al., 2023; Koehler & Mishra, 2009).

CONCLUSION

The analysis from Table 3 suggests that pre-service mathematics teachers have a positive perception of their Technological Content Knowledge, as evidenced by mean scores significantly above the benchmark. This indicates their confidence in selecting appropriate technology and utilizing diverse representations of mathematical concepts, which are crucial for effective teaching. However, the variability in scores and the relatively low benchmark should be considered when interpreting these results. Future research could benefit from more rigorous benchmarks and additional methods of assessment to provide a comprehensive understanding of pre-service teachers' TCK. Similarly, the analysis from Table 4 suggests that pre-service mathematics teachers have a positive

perception of their Technological Pedagogical Knowledge, as evidenced by mean scores significantly above the benchmark. This indicates their confidence in integrating technology with pedagogy, addressing technical challenges, facilitating learning, and enhancing teaching abilities, coordinating the use of technologies, and implementing effective teaching approaches. However, the variability in scores and the relatively low benchmark should be considered when interpreting these results. Future research should incorporate higher benchmarks and additional methods of assessment to provide a comprehensive understanding of pre-service teachers' TPK.

RECOMMENDATIONS

Based on the findings in this study, it was recommended that:

1. The pre-service mathematics teachers should give comprehensive guidance on integrating technology into their content knowledge, to enable them be able to select appropriate technology for their respective topics in mathematics effectively.
2. It's important to ensure that all pre-service mathematics teachers are well-equipped with pedagogical knowledge, which they can integrate with

their technological content knowledge to improve their teaching skills and effectively incorporate technologies and teaching methods in their respective subjects.

3. Periodic workshops, seminars, and symposia should be organized by the Ministry and Provost to promote the integration of TPACK into teaching and learning for pre-service teachers in colleges of education and other educational institutions.

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EDUCATING LEARNERS WITH SPECIAL EDUCATIONAL NEEDS IN MAINSTREAM SCHOOLS: CHALLENGES AND PROSPECTS IN THE 21ST CENTURY NIGERIA

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ABSTRACT

For many decades, proponents of inclusive education have been pressing for a change in mindset that would allow for the integration of pupils with disabilities into regular classroom settings. Although there is less debate about the advantages of inclusive education, there are still theoretical and practical issues about its implementation. Hence, this study was designed to look at the challenges educators have when teaching pupils with disabilities in Nigerian mainstream schools. The paper shed more lights on the hurdles that teachers face when working in inclusive classroom environments. The instrument in the form of a semi-structured interview was designed to elicit information from the selected school teachers and school heads in the study. The data were analyzed using thematic analysis. Based on the thematic analysis, two themes emerged: barriers to education Learners with Special Educational Needs (LSENs) in mainstream schools and suggestions to solve the issues of teaching LSENs in mainstream schools. The study concluded that insufficient resources and assistance for teaching and learning; limited level of comprehension among pupils with LSENs and issues with stigmatization of LSENs are the barriers to teaching LSENs in mainstream schools. It was recommended that this issue can be solve, through collaboration of all pertinent parties/stakeholders; adaptable and suitable instructional strategies and techniques; recruitment of experts and setting up of professional development platforms; and supplying educational tools and materials.

Keywords: Learner, Special education need, Mainstream school, Challenges, Prospects

INTRODUCTION

Education is recognized to be valuable to all individuals irrespective of social differences, yet its relevance to children with

disability is perceived to be particularly significant. This is true not only given that it creates opportunities for new experiences but also due to the fact that education for Learners with Special Educational Needs (LSEs) can have a domino effect on the lives of households as well as the community at large (Arduin, 2015). This is based on the fact that providing education to children with special needs maximizes their personal growth and helps them become valued and contributing members of the community (DeMatthews, et al., 2020). Consequently, inclusive education and general education for children with LSEs are supported by a plethora of educational policies and guidelines (Byrne, 2019; Danforth & Naraian, 2015).

The argument for an inclusive educational system, where LSEs are integrated with regular learners in traditional learning settings, has been advanced by promoters of inclusive education for an extended period of time (Wilson, 2017; O'Rourke, 2014). Within the paradigm of inclusive education, teaching LSEs in regular classrooms alongside other students is referred to as "mainstream" (Danforth & Naraian, 2015). This means that special education classes are included with regular education. This movement is not wholly new;

rather, it is an extension of an international inclusive education model that was adopted in 1994 at the Special Education International Conference in Spain (Graham et al., 2023; Amor et al., 2019; Efthymiou & Kington, 2017). More significantly, the ultimate objective of inclusive education is to address systemic changes and ensure that learners have access to a top-notch education (Madani, 2019).

The idea of inclusive education as a philosophy expanded in popularity with the UN's drive for the "Education for All" (EFA) initiative during the 1990 summit in Thailand. In a similar vein, the Salamanca conference of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) (1994) produced a statement of principles on inclusive education that urged nations to develop educational frameworks that can accommodate learners from a variety of backgrounds, including those with disabilities (De Beco, 2014; Merrigan and Senior, 2021). Nigeria enacted decree No. 96 in 1993 to advance inclusive education with broad support for protecting and constitutional security (Mannan, MacLachlan and McVeigh, 2012; FRN, 2013). Despite the best efforts of this decree, inclusive education could not be successfully implemented in Nigeria due to

cultural hurdles and policies made by the government. Nonetheless, despite societal, political, and financial obstacles, inclusive education has advanced significantly over the past two decades (Hardy & Woodcock, 2015).

Even with its importance and constitutional mandate, inclusive education continues to be insufficiently implemented (Enyiazu, 2022; Kinuthia, 2022). Stated differently, developing inclusive education poses challenges for developing countries such as Nigeria. This means that inclusive education has not yet proven beneficial for LSENs in these countries. Thus, the purpose of this research is to emphasize the unique challenges associated with implementing inclusive education in underdeveloped countries, particularly in Nigeria.

In the past three decades, inclusion of students with disabilities is one of the concepts that has had the biggest influence on education (Kirby, 2017). While the positive outcomes of inclusive education are less controversial, there are still theoretical and practical issues regarding how to put it into practice (De Bruin, 2019; Srivastava, De Boer, & Pijl, 2013). Achieving this goal has proven to be significantly

more difficult, even with the support and regulations put in place to support the inclusion of LSENs in mainstream schools (Kirby, 2017). Implementation is especially difficult in resource-poor countries, such as developing nations like Nigeria.

Nigeria has included inclusive education in its ambitions to achieve the Sustainable Development Goals (SDGs) and the Millennium Development Goals (MDGs) by 2030. The successful implementation of inclusive education policy has been impeded by several challenges, even though the government and stakeholders have endeavoured to guarantee their establishment. According to FRN (2014), the Ministry of Education is actively implementing the Education Sector Policy on Inclusive Education for Nigeria. This follows the existing patterns observed worldwide. Nevertheless, it doesn't seem as though the inclusive education initiatives described in the previously mentioned Ministry of Education policy have been done correctly. Moreover, there is no evidence that formal evaluations of inclusive education programmes have ever been carried out. More specifically, it's unclear what challenges and barriers educators face while teaching LSENs in traditional classroom environments. In light of this

knowledge gap, implementing inclusive education effectively may be difficult. Since teachers are the primary implementers of inclusive education, the researchers felt it was imperative to look at the challenges they experienced when teaching LSENs in regular classes. For this reason, the purpose of this study was to look into the difficulties that teachers have when attempting to teach LSENs in mainstream classrooms in Ilorin, Kwara State, Nigeria.

Objectives of the Study

Specifically, this study was guided by the following specific objectives, which are to:

- a. investigate barriers encountered by teachers when teaching LSENs in mainstream classroom and how do these challenges affect the quality of education received by LSENs in mainstream schools.
- b. identify some practical ways to improve inclusive education for LSENs.

Research Questions

- a. What are the barriers encountered by teachers when teaching LSENs in mainstream classroom and how do these challenges affect the quality of education

received by LSENs in mainstream schools?

- b. What are the practical ways to improve inclusive education for LSENs in mainstream classroom?

METHODOLOGY

Research Design

The present study utilised a qualitative research methodology to analyze the problem and achieve the specific research objectives that steered the investigation. According to Tracy (2019), the foundation of qualitative research technique is the idea that social constructs shapes the reality and, as such, it facilitates a thorough comprehension of a social event or conduct from the viewpoint of the study participants. In order to analyse or comprehend events from individual's practical perspectives, qualitative researchers watch both individuals as well as objects in a variety of circumstances.

Participants

The population of this study comprised of ten inclusive educators and the head teacher of a mainstream primary school in Ilorin, Nigeria, who frequently worked with students with special education needs. A purposeful non-probability sampling technique was used due to the interpretive nature of the research investigation and the requirement to satisfy specific

criteria (Casteel & Bridier, 2021). Purposeful sampling ensures that the data acquired fits the objectives of the research topic, even though it may not precisely reflect the entire population (Palinkas, 2015). It offers the most pertinent details as a result. The researcher is confident that the sampling approaches chosen will produce data that can be effectively utilised to achieve the objectives of the study (Benoot, Hannes, & Bilsen, 2016).

Instrumentation

The interview was the particular instrument used to gather data for the study. Since interviews are a typical method of data collection for research of this kind, they are regarded as the best approach for accomplishing the study's objectives (Young, 2018). An interview enables the researcher to thoroughly understand a given subject by drawing out each participant's experiences, ideas, and points of view (Zhang & Okasawa, 2022). The study used a semi-structured interviewing technique. Semi-structured interview was used in the study's data collection to cut down on the amount of material gathered and to exclude any that might not be relevant to the research. Semi-structured interviews with instructors in inclusive classrooms were collected using a case study, which is an excellent method of

gathering detailed information on a specific event.

Procedure for Data Collection

The researcher visit the mainstream school involved in the study with the interview guide and permission letter to the school head. The 10 participants were interview physically and separately in their classrooms with the aid of the interview guide. The use of hint to probe for further information was employed in the interview conversation the researcher. This hint encourage participant to give more in-depth information on the topic of interview.

RESULTS

A thematic approach was employed in the analysis of the data. The data acquired from the interviews was meticulously analysed and structured. After the data were segmented and triangulated, themes emerged. Finding recurrent themes in collected data can be accomplished with the help of thematic analysis, which is also a great way to arrange and evaluate research. To organize and analyze the data gathered in the study, the thematic analysis was utilised. Themes that emerged under each of the research questions were organized using the analysis technique. According to Alderson and Morrow (2020), the theme-based approach has been proposed as an effective means

of "encoding qualitative data". Based on the thematic analysis, two key themes have emerged. These themes include, barriers to educating students with LSEN; and practical suggestions to improve inclusive education for LSENs. Each of the identified themes are analyzed in the paragraphs that follows.

Theme one: Barriers to educating students with disability

Three main sub-themes were identified from the compiled data based on the thematic analysis. These themes include:

- Insufficient resources and assistance for teaching and learning
- Limited level of comprehension among pupils with LSENs
- Issues with stigmatization of LSENs

Numerous academics have looked into the challenges that could affect LSEN students' education in regular classroom settings (see for instance, Sumayang et al., 2022; Baptist Okech et al., 2021; Haegele, et al., 2020; Edwards et al., 2019). Studies by Woodgat et al., (2019); Silveira-Zaldivar & Curtis, (2019) and Subban, Round & Sharma, (2018) findings correlated with the themes and sub-themes that arose in this study. According to their

research, a significant obstacle to inclusive education is the lack of resources, which many educators report being unavailable or difficult to get. In contrast, Demetriou, (2020) found in their own research that LSENs in mainstream classrooms constantly deal with the problem of stigmatization. As a result, they came to the conclusion that teacher preparation programmes and courses that lack special education skills and expertise can negatively affect the effectiveness of inclusive education for LSENs. In the paragraphs that follow in this section, each of the discovered sub-themes was examined and addressed in light of the information gathered from the study participants.

A recurrent component of the data was the view of all teachers and the head teacher regarding the lack of instructional materials and teaching and learning assistance. The insufficiency of teaching resources and aids to guarantee students' participation throughout the class, the unavailability of instructional materials, and the outdated status of teaching and learning aids were some of the primary difficulties brought to light. A participant said: *"since attention span problems are a common problem for LSENs, I feel that my school need to provide them with more modern and adaptable*

learning resources” (Participant 3). Another participant indicates that *“the educational tools used in the nation's mainstream schools are out-of-date and egregiously unsuitable for fostering meaningful teaching and learning for children, particularly for LSEs.”* (Participant 9).

Additionally, some participants believe that mainstream schools are distinguished by antiquated buildings, which are evident in their office spaces, classrooms, and laboratories as well as in their tools and equipment. This structure is in poor condition and is not functional, which makes it unsuitable and adequate to meet the needs of both teachers and pupils in terms of learning and instruction. *“Insufficient assistance provided by school owners/proprietresses in terms of teaching resources and supplies for instructors”* (School head). According to the evidence that was noted above, infrastructure and equipment in mainstream schools, together with outdated and insufficient instructional materials, have made it difficult and negatively impacted Nigeria's efforts to adopt inclusive education policies. This result supports the argument put forth by Demetriou, (2020) that it is challenging to provide for each child's needs in an inclusive classroom without the proper learning

materials. He emphasizes once more how difficult it is to address an issue of this nature given class size, student safety, fulfilment, and social inclusion (Demetriou, 2020). In addition, this lack of sufficient teaching aids and resources have made *“meeting the specific needs of pupils in the mainstream school can be challenging”* (Participant 1).

Even more so, when the difficulties teachers have in educating children with impairments were analysed, a resounding theme that surfaced was the delayed comprehension of special needs pupils. It was difficult to keep LSEs involved and focused during lessons given a number of major challenges that were brought to light, including the incapacity of educators to assist LSEs in learning, the students' slowness in writing and learning, their limited attention spans, and their communication difficulties. A participant said; *“special needs pupils' difficulty learning new ideas and concepts in the classroom”* (Participant 2) is a major hinderance to inclusive education. *“My special needs student exhibits problematic behaviours due to her limitations or communication issues. It is quite difficult to control these behaviours and sustain a supportive learning atmosphere”* (Participant 10). This suggests that one of the challenges instructors faced when implementing

the inclusive education strategy in Nigeria was the special needs children's slow comprehension level. This is as LSEs find *“it challenging to communicate their thoughts when they have to give a teacher information or complete a certain assignment in the classroom. (Participant 7)”*. Studies by Sumayang et al., 2022; Baptist Okech et al., 2021; Haegele, et al., 2020; were similar to this finding as they discovered that LSEs in mainstream classrooms experience constant shyness and struggle to react quickly to queries from the teachers. One plausible explanation for the issue was their overall slowness (Demetriou, 2020).

The data also revealed a recurrent theme shared by most participants in the study that stigmatisation of LSEs by their mainstream counterparts was a barrier that educators had to overcome when instructing special needs students in mainstream classrooms. Some of the main issues highlighted included that *“some LSEs struggle with behavioural issues, low self-esteem, and constant shyness when speaking in front of the class”*. A participant said, *“Some of them struggle to communicate when they have to give details to a teacher or complete a certain activity in the classroom due to their lack of self-confidence”*

(Participant 7). Additionally, in certain hostile classroom environments, students with special needs may face harassment and prejudice from their peers who do not have special needs, which compromises their safety in the learning environment. This suggests that one of the biggest challenges for teachers working with students with special needs in general classes was the stigmatisation that these pupils experienced. LSEs' learning in regular classrooms has been negatively impacted by their shyness and low self-esteem (Haegele & Hodge, 2016). This is especially concerning since children feel uneasy throughout the teaching and learning process in the classroom due to the stigma and labels that others have placed on them. Being unable to ask or respond to questions in class is further complicated by this classification (Cobley, 2023). In fact, the stigmatization makes it difficult for LSEs to effectively *“express themselves to a teacher or being asked to complete a certain task in the classroom, students are required to explain themselves” (Participant 6)*.

All teachers and the head teacher felt that the issues mentioned above had a detrimental impact on the standard of education available for LSEs. This was determined through an investigation of how the issues have

affected students with special needs. Several primary concerns were brought to light, such as inadequate educational quality, detrimental effects on academic achievement, unstable performance, low self-esteem, and limited capacity to fully engage in classroom learning activities. *A participant said “due to these obstacles, the majority of LSENs are unable to progress academically at the same rate as their peers without disabilities” (School head).* This was attributed to the fact that *“as LSEN fall behind in the process of learning and instruction, the standard of education they receive is diminished” (Participant 5).* Thus, the data suggests that the head teacher and the teachers believed that the difficulties and obstacles they faced when instructing LSENs in mainstream schools had a detrimental impact on the quality of education provided to students in the category.

According to research by Silver, (2020), prejudice, intimidation, and social exclusion make it harder for LSENs to get involved fully in lessons and the learning process, which results in unequal access to educational opportunities. In agreement with Silver, (2020), Richards (2023) argue that the problem of unequal access has a significant impact on students' academic performance in addition to

affecting the delivery of inclusive education. Since LSENs require specialised support to satisfy their demands, this circumstance has a particularly negative influence on their ability to learn in mainstream classrooms (Richards, 2023).

Theme Two: Practical suggestions to improve inclusive education for LSENs

In order to better meet the demands of LSENs in mainstream classrooms, the final theme looks at doable strategies for enhancing the supplies and support offered to educators. The data that were compiled revealed four sub-themes based on the thematic analysis. These themes include:

- Collaboration of all pertinent parties/stakeholders
- Adaptable and suitable instructional strategies and techniques
- Recruitment of experts and setting up of professional development platforms
- Supplying educational tools and materials

Studies by Meeks, Herzer and

Jain, (2018); Kilpatrick, et al., (2016); and Schwartz, Hopkins, & Stiefel, (2021) examine strategies to enhance the resources and assistance that educators have at their disposal to better meet the needs of LSENs. The

outcomes were consistent with what this study found. Zwane & Malale, (2018) emphasised that in order for inclusive education to succeed, its curriculum needs to be implemented by highly qualified educators. Furthermore, Haug, (2017) suggested that adopting suitable teaching strategies and techniques in addition to providing pertinent learning aids and resources will support the successful implementation of the inclusive education framework. The data collected from the study participants was used to analyse and debate each of the sub-themes that were found.

The data analysis reveals a recurrent theme; that increased collaboration among pertinent stakeholders can significantly enhance the resources and support offered to teachers, enabling them to more effectively meet the needs of LSEs in mainstream classrooms. A participant indicates that *“interaction amongst parties involved in special needs education would allow ideas, approaches, and strategies to be shared for effectively teaching LSEs, particularly in mainstream classrooms” (Participant 3)*. The information gained in this area highlights the value of cooperation and how it can support the adoption of inclusive education. By using this platform, LSEs educators can

exchange information about the difficulties they face in the classroom and come up with thoughtful, workable solutions together. This is as the school head said they *“...arrange monthly meetings with educators to speak about the challenges that each LSEs faces in the classroom and to determine which teaching methods will help them all succeed academically”* (School head). In addition to teachers working together, other stakeholders ought to be included in the endeavour to educate LSEs.

This is why a participant said, *“...working together of educators, parents, and specialists may produce comprehensive IEPs that support the accommodations, modifications, and support services LSEs”* (Participant 4) that would enhance the implementation of inclusive education. The understanding of the value of cooperation leads another participant to state *“carers for LSEs should work in tandem with their instructors and the administration of the school to guarantee their academic achievement, and educational success”* (Participant 6). This demonstrates how cooperation across pertinent parties could enhance the resources and assistance offered to educators, enabling them to better meet the demands of LSEs in regular classroom settings. According

to Meeks, Herzer and Jain, (2018), teachers should promote collaborative learning opportunities by letting LSENs work with their peers, which will help them feel belong and support one another. This will guarantee that LSENs have equal opportunity to utilise the curriculum and resources as other students in the classroom (Zwane & Malale, 2018). In addition, the collaboration would *“promote possibilities for collaborative learning by letting LSENs work alongside their peers, which will help them feel accepted and supported by one another”* (Participant 8).

The data analysed also reveals another significant sub-theme that adaptable and suitable teaching strategies and tactics would help educators better meet the needs of LSENs in regular classroom settings. Some of participants concur that the *“regardless of a student's condition or incapacity, educators may readily handle each pupil's requirements and obstacles using a flexible and suitable teaching method* (Participant 10). This is due to the fact that using a flexible strategy would allow it to fit the demands of the various learners and the educator's particular class. This make the school head said; *“in addition to making sure that the materials are effectively used to meet the educational requirements of all*

pupils, including those without disabilities, educators are to make every effort to stay within the curriculum when they are instructing” (School head). According to this, using adaptable and suitable teaching strategies will enhance the resources and support offered to educators, enabling them to better meet the requirements of LSENs in regular classroom settings. According to Zwane and Malale, (2018), educators must be patient, use a student-centered approach in their lessons, and exercise creativity. He went on to say that when courses are divided into manageable chunks and practical exercises are included with the use of visual aids, students' interest in the learning process is maintained. The educators felt that the particular pupils and general difficulties that can impede learning would be addressed when teaching strategies were flexible and well-tailored to curriculum topics, resources, and assessment techniques. Teaching professionals would benefit from adaptable and suitable methods that *“Despite of the disparities between all the pupils in the class, the teacher will modify their approach to match their needs.* (Participant 5).”

Another recurrent theme in the data analysis shows that participants believe that regular expert

recruitment and a platform where educators can receive ongoing training on the intricacies of special needs can help teachers better meet the needs of LSENs in mainstream classrooms. Educators believe that this will empower and assist them in better enforcing the integrated education policy. Furthermore, the majority of the teachers said that in order to successfully meet the needs of LSENs in a mainstream environment, the government and private school operators should look into hiring certified specialists in the sector. This made a participant said; *“to efficiently educate LSENs, non-specialist educators should be able to draw from the sufficient number of specialists that should be present in every school to meet their demands”* (Participant 4). In addition to hiring experts, the significance of ongoing training was emphasized, as demonstrated by a participant's statement that there should be *“Head teachers should receive frequent training so they can assist other educators in teaching LSENs”* (Participant 6). This suggests that hiring specialists on a regular basis and setting up a platform where instructors may receive ongoing training on the intricacies of special needs will assist meet the demands of LSENs in regular classroom settings.

Through this mean a reasonable number of *“specialists in every school would be able to meet the needs of LSENs, from whom (it is believed) non-specialist teachers may learn how to instruct these students (Participant 7).”* According to the findings of Opoku et al.'s (2021) study, providing educators with training would enhance their ability to instruct pupils and advance the goals of the inclusive education policy. In agreement with Opoku et al., Adigun, (2021) suggest that in order to improve teachers' abilities to effectively teach LSENs in mainstream schools, trainings for professionals should be held frequently rather than occasionally. The lack of experts in the majority of inclusive classrooms and schools can also be lessened by regularly hiring qualified staff members, who can help address the gap in job prospects.

Last but not least, another sub-theme in the evaluation of the primary issue was the availability of teaching and learning tools and materials. This is because the participants think that offering learning resources would make it easier to meet the requirements of LSENs in regular classroom settings. According to the respondents, having teaching and learning resources that are easily accessible would enable educators to better engage their pupils in the

classroom, especially those with special educational needs. As a result, they contend that giving LSENs access to contemporary teaching and learning materials and facilities will improve the knowledge and skills they pick up throughout their education. The unavailability of this materials in schools make the head teacher suggest that “*Funding should be made available by the government to enable them to buy the supplies and equipment required to accommodate LSENs in regular classrooms*” (Participant 2). Moreover, as the use of instructional aids is essential to achieving successful teaching, a participant thus said; “*in order to meet the needs of LSENs in the classroom, sufficient resources should be provided*” (Participant 4). It is clear from the above that providing teaching and learning tools and aids would assist mainstream classrooms better meet the requirements of their LSENs. This is as efficient provision of appropriate “*learning resources, infrastructure, and apparatus... support educators working with LSENs*” (Participant 6). In accordance with Zwane and Malale (2018) research, this finding is supported by suggestions that educators should have access to sufficient facilities and equipment, as having these resources would enable them to better prepare their LSENs for learning”.

Discussion

It was discovered through the data gathered in the study that the difficulties educators have when educating LSENs in regular classroom settings include; insufficient resources and assistance for teaching and learning, limited level of comprehension among pupils with LSENs and issues with stigmatization of LSENs in mainstream classrooms. However, all of the aforementioned challenges have negatively affected the quality of education available to learners with special needs. These findings are consistent with those of Sumayang et al., (2022); Baptist Okech et al., (2021); Haegele, et al., (2020); Edwards et al., (2019), who discovered that many educators mention that a major barrier to inclusive education is the scarcity of resources and the difficulties in acquiring them. Nonetheless, Demetriou, (2020) discovered in their own research that stigmatisation is a persistent problem for LSENs in mainstream classes. They came to the conclusion that the achievement of inclusive education for LSENs can be seriously harmed by teacher training programmes and courses that lack special education knowledge and skills.

The analysis of participants’ responses showed that the

implementation of inclusive education for LSENs can be improved through collaboration of all pertinent parties/stakeholders; adaptable and suitable instructional strategies and techniques, recruitment of experts and setting up of professional development platforms and supply of educational tools and materials. This outcome supported research by Herzer and Jain, (2018); Kilpatrick, et al., (2016); and Schwartz, Hopkins and Stiefel, (2021). Herzer and Jain, (2018) stressed that in order for inclusive education to achieve its objectives, highly qualified instructors are required to implement the curriculum. Furthermore, Kilpatrick, et al., (2016) proposed that the implementation of the inclusive education framework would be facilitated by the use of suitable teaching approaches and techniques as well as the provision of relevant learning aids and resources.

CONCLUSION

Based on the analysis of data carried out in the previous section, the following are the summary of the findings:

- The difficulties educators have when educating LSENs in regular classroom settings include; insufficient resources and assistance for teaching and learning, limited level of

comprehension among pupils with LSENs and issues with stigmatization of LSENs in mainstream classrooms. However, all of the aforementioned challenges have negatively affected the quality of education available to learners with special needs.

- The implementations of the inclusive education for LSENs can be improved through collaboration of all pertinent parties/stakeholders; adaptable and suitable instructional strategies and techniques, recruitment of experts and setting up of professional development platforms and supply of educational tools and materials.

RECOMMENDATIONS

The study provides these suggestions:

1. All LSENs should have data gathered or records maintained so that appropriate, proactive, and practical plans can be established for their education in conventional educational settings.

2. The federal, state, and local governments must to step up their efforts to raise awareness among parents and carers of LSENs about the necessity of enrolling them in mainstream schools, irrespective of the nature of their condition.
3. Programmes for preparing teachers must be improved in order to provide future teachers with the skills, knowledge, and dispositions needed to implement inclusive teaching methods. Teachers would function more effectively if they are aware of the policies and procedures guiding the implementation of inclusive education in Nigeria.
4. Most special education schools in Nigeria are found in urban areas, big cities, and provincial administrative hubs. The majority of LSENs who live in rural locations don't have access to these schools. Thus, elucidate the necessity of establishing inclusive schools in rural areas. In addition to building schools in isolated locations, appropriate teaching aids and resources should be made accessible to support children's teaching and learning, and competent educators should be hired to educate them.
5. The public should be involved in the promotion of inclusive education, and government agencies and non-governmental organisations should work together. This kind of cooperation ought to result in the availability of pertinent materials that would facilitate learning for LSENs in regular classrooms.

Implications for future research

In order to establish inclusive education in Nigeria, this study has only speculatively suggested a few potential strategies. These recommendations are meant to inform future research and practice and be utilised by other professionals. Future research should, however, make examine the efficacy of the various inclusive education policies from the perspectives of other pertinent programme stakeholders, including representatives from the ministry of education, educational agencies, and a few other non-governmental organizations.

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